KONGIWE

Valterra PLATINUM

THE RUSTENBURG PLATINUM MINE'S AMANDELBULT TSF DAM 2 TAILINGS RECLAMATION AND PROCESSING PROJECT NEAR NORTHAM IN THE THABAZIMBI MUNICIPALITY, LIMPOPO PROVINCE

FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT

DMPR REFERENCE NUMBER: LP 30/5/1/2/2/48 MR

December 2025

mineral & petroleum resources
Department:
Mineral and Petroleum Resources
REPUBLIC OF SOUTH AFRICA

FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FOR SECTION 102 PROCESS AND NEMA LISTED ACTIVITIES ASSOCIATED WITH THE RUSTENBURG PLATINUM MINES LIMITED RECLAMATION AND PROCESSING OF DAM 2 OF THE AMANDELBULT TAILINGS STORAGE FACILITY COMPLEX, SITUATED ON THE FARM AMANDELBULT 383 KQ AND MIDDELLAAGTE 382 KQ, IN THE THABAZIMBI MUNICIPAL AREA LIMPOPO PROVINCE

APPLICATION FOR ENVIRONMENTAL AUTHORISATION (EA):

SUBMITTED FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107, 1998) (AS AMENDED), THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT (ACT 59, 2008) (AS AMENDED), AND THE NATIONAL WATER ACT (ACT 36, 1998) (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT MAY BE TRIGGERED.

Name of Applicant: Rustenburg Platinum Mines Limited (Amandelbult Mine).

Tel No: 011 373 6111

Postal Address: P O Box 62179, Marshalltown, 2107

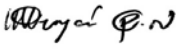
Physical Address: 144 Oxford Rd, Rosebank, Johannesburg, 2196

Document prepared by: Kongiwe Environmental (Pty) Ltd

Document Date: December 2025

FINAL ENVIRONMENTAL IMPACT ASSESSMENT

Project	The Reclamation and Processing of the Amandelbult TSF
Report Title:	Environmental Authorisations, Waste Management Licence, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province.
DMPR Reference No.	LP 30/5/1/2/2/48 MR
Client:	Rustenburg Platinum Mines Limited (Amandelbult Mine)
Project No:	AAPL#001
Compilation Date:	December 2025
Status of Report:	Final for submission to DMPR

Verification	Capacity	Name	Signature	Date
By Author	EAP: Reg EAP 2011/4297	Phathutshedzo Munyai		04 December 2025
Reviewed by	Principal Environmental Consultant	Umeshree Naicker		10 December 2025
Authorised by	COO	Grant Cornish-Bowden		11 December 2025

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SECTION 1:

ENVIRONMENTAL IMPACT ASSESSMENT REPORT OVERVIEW

Important Notice

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of Regulation 16 (3) (b) of the Environmental Impact Assessment Regulations 2017, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of Regulation 17 (1) (c) the Competent Authority must check whether the application has considered any minimum requirements applicable or instructions or guidance provided by the Competent Authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an Environmental Authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore, please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulations and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner (EAP) must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

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Objective of the Environmental Impact Assessment Process

1) The objective of the Environmental Impact Assessment process is to, through a consultative process —

(a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
(b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
(c) identify the location of the development footprint within the preferred site based of an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
(d) determine the –

I. nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
II. degree to which these impacts –
- ❖ can be reversed;
- ❖ may cause irreplaceable loss of resources; and
- ❖ can be avoided, managed or mitigated;

(e) identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
(f) identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
(g) identify suitable measures to manage, avoid or mitigate identified impacts; and
(h) identify residual risks that need to be managed and monitored.

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Public Review Period for the Draft EIA/EMPr Report

The Draft Environmental Impact Assessment (DEIA) was made available (Table A) to members of the public, local communities, stakeholders and interested and affected parties on the website of Kongiwe Environmental (Pty) Limited (Kongiwe) for a 30-day comment period from **Friday, 26 September 2025 to Monday, 27 October 2025.** Notification of the availability of the documentation for review was distributed on **Friday, 19 September 2025.** The report was made available at the following:

Table A: Places where the Draft EIA/EMPr and Non-Technical Summary reports were circulated

Location	Physical Adress	Contact Person
Draft EIA/EMPr		
Corporate Affairs and Sustainability (previously Social Performance) Office	Amandelbult Mine, Main Office, R510, Office Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm
Non-Technical Summary		
A non-technical summary of the Draft EIA/EMPr was compiled and distributed through community representatives and also couriered to stakeholders who sent a request to the stakeholder engagement team. The hard copy was accessed at the following library and the Corporate Affairs and Sustainability area:		
Amandelbult Corporate Affairs and Sustainability (previously social performance) Office	Amandelbult Mine, Main Office, R510, Office Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635 Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, Assistant Librarian Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm
Smash Block Community (Thabang Children Centre)	Smashblock – Front opposite Chromite Primary School Thabang Dropping Centre Main street Smashblock, Stand No 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00

Location	Physical Adress	Contact Person
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine Mlanje Sav, Behind Chrome Plant R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Amandelbult - Dishaba Mine Entrance (Jabulani residents)	Amandelbult Mine- Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Amandelbult Mine - Rethabile village entrance and Recreation Club	Amandelbult Mine- Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Amandelbult Mine)	Mr Kaitumela Letebele (Corporate Affairs and Sustainability) Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00
Electronic Copies		
Kongiwe Environmental Website	**https://Kongiwe.com/project/**	**Vannessa Viljoen/Thuli Phakathi**
An electronic copy of the Draft EIA/EMPr was made available upon a request directed to the stakeholder engagement team. Stakeholders are encouraged to contact the stakeholder engagement team (Vanessa Viljoen/Thuli Phakathi), Tel: (010) 140 1725 / (010) 140 1726, email: stakeholders@kongiwe.com should they require assistance with accessing Draft EIA/EMPr or have queries regarding the Proposed Project.		

Comments received from the public throughout the Draft EIA/EMPr phase of the project have been included in Appendix C9 of the Comments and Responses Report.

Comments received during the 30-days public review of the draft impact assessment phase were incorporated into the Final Environmental Impact Assessment and Environmental Management Programme reports.

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Executive Summary

Kongiwe Environmental (Pty) Ltd (Kongiwe) has been appointed by Rustenburg Platinum Mines Limited Amandelbult Mine (AMB), as the independent Environmental Service Provider (EAP) tasked with conducting the Scoping and Environmental Impact Assessment (S&EIA) process which is aimed at critically evaluating the potential environmental and social impacts of the proposed **Reclamation and Processing of Dam 2 of the Amandelbult Tailings Storage Facility** Complex (hereafter the Proposed Project). Rustenburg Platinum Mines Limited is a wholly owned subsidiary of Valterra Platinum Limited (previously known as Anglo American Platinum).

The application process for Environmental Authorisation (EA), waste management, and the Section 102 amendment which is formally lodged with the Department of Mineral and Petroleum Resources (DMPR) which is the Competent Authority (CA) for the Proposed Project, on **17 June 2025.** The DMPR accepted the Application on **19 July 2025**. The Final Scoping Report (FSR) was accepted by the DMPR on **02 September 2025.**

The Draft EIA was circulated for a 30-day comment period from **26 September 2025** to **27 October 2025**. During this period, Open Day meetings were held in October 2025 and November 2025. Comments received during this period have been recorded on the Comments and Response Report (CRR).

Introduction and Project Background

The Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) is situated in the Thabazimbi Local Municipal area (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province and extends over some 20 km from east to west. It is located approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

The main activity at AMB is mining of both the Merensky and UG2 reefs using underground and open pit mining methods. The mine area is divided into western, central and eastern sections. The mine consists of three different operational areas including Tumela Mine, Dishaba Mine and the AMB Concentrator and associated tailings storage facility (TSF) complex located centrally within the mine.

The AMB Concentrator itself consists of two (2) operational plants, namely UG2 1 and UG2 2, that treat mainly UG2 reef and one (1) non-operational plant, namely the Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon non-use of the Merensky Concentrator plant, UG2 Open cast and low-grade ore are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult TSF consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with the current arisings being deposited mainly on 3B, but also on 3A from time to time. AMB is currently undertaking a Feasibility study, with the objective to explore and investigate the possibility of reprocessing historical tailing dam material from the Amandelbult TSF to recover Chrome and Platinum Group Metals (PGMs) Test work completed has indicated that Dam 2 is currently the priority dam in

terms of viable ounces to be reclaimed.

AMB now proposes to reclaim and process the tailings from Dam No. 2. This would also allow for the reuse of this TSF footprint, once reclamation has ceased for future tailings deposition, negating the need for a green fields site. Reclamation activities will reduce rehabilitation and closure liabilities of the TSF complex. This project may be referred to as the Amandelbult TSF Reclamation and Processing Project.

Project Rehabilitation and Future Land use

The main objective of rehabilitation, as outlined in this document, is to align with the closure plans and Environmental Management Programme Reports (EMPRs) of Amandelbult (AMB). The Amandelbult TSF is located on land currently owned by Rustenburg Platinum Mine (RPM).

After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will be included in the AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB will focus on optimising production by implementing safe operating practices that enhance profitability, without introducing unnecessary risk.

Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

Project Alternatives

The Proposed Project seeks to recover Chrome and Platinum Group Metals (PGMs) from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of PGMs and Chrome. The project investigated several possible plant locations located to the northeast of the current Concentrator plant as well as three possible process water sources. The construction of 2 alternative PCDs as well as the use of existing has also been investigated. AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities, these alternatives have been considered during the development of the project and have informed the decision to select the currently proposed option as the most viable. The preferred option described below maximises the use of existing infrastructure and has significantly reduced the final footprint and resultant impacts by largely reusing existing infrastructure.

In the final preferred option, AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex. Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically

reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The proposed project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

No alternatives have been investigated in terms of location of the Amandelbult TSF complex Dam 2, as it is an existing site designated for reclamation. Layout, technology, and activity alternatives for the Proposed Project

are detailed in Section 4.

The proposed reclamation activity will require authorisation in terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA), the National Environmental Management: Waste Act, 2008 (Act No 59 of 2008), Category B Activities and Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002).

Environmental Policy Considerations

The Project will endorse the relevant policies implemented on site at Amandelbult, which is committed to governing the management of environmental, social and cultural impacts for all projects. These policies ensure the protection of these resources in alignment with Valterra Platinum corporate office.

AMB conducts its business in an ethical and responsible manner and as such acknowledges the potential impacts that its operation may have on the environment as well as the safety and health of their employees.

AMB owns and is accountable for the Safety, Health and Environmental management of its activities, products and services. The relevant board committee has oversight of the implementation of the environmental management policy and status of environmental performance.

AMB aims to conserve and protect the local environment from harm and degradation through, the efficient use of energy and water, assessment and management of physical climate change and extreme weather risk, minimisation of waste and reduction in pollution. The Environmental policies further indicate that AMB will aim to demonstrate active stewardship of the land and the atmosphere, water resources, biodiversity, culture and heritage resources of its activities, product and services within their control. AMB will comply with all applicable environmental legislation and other requirements to which they subscribe and develop a culture of improvement of environmental performance.

AMB will continue to raise internal and external stakeholder awareness on environmental matters. AMB aims to promote open and honest communication with all its stakeholders to encourage an environmentally responsible culture and sustainable development that reflects the intent of the policy.

The Safety, Health and Environmental Management (SHE) Policy describes AMB's environmental vision, which is to be a leader in Environment, Social and Governance (ESG) practices, which requires compliance with legislation and alignment to best practice in order to support long term sustainability of the business through effective management of resources and to reduce impact on the environment and communities. Underpinning this vision are four core principles:

- **Zero mindset:** AMB is committed to avoid, minimise, mitigate and protect the environment against impacts from its activities, products and services, aiming to prevent pollution;
- **No repeats:** AMB is committed to proactively applying a risk-based approach to reduce or prevent environmental impacts, incidents, non-conformances so to prevent recurrence and to share these across the operations to ensure learnings from incidents; and
- **Non-negotiable standards and rules**: AMB aims to strive for continual improvement of environmental

management through simple standards and systems to enhance performance through the setting and monitoring of objectives and targets.

Project Background and Motivation

The following points below summarise the project motivations:

- Rustenburg Platinum Mines Limited makes use of sophisticated metallurgical processes which would make it viable to retreat and process the historical Amandelbult TSF and extract the residual Chrome and Platinum Group Metals (PGMs). With the upturn of the Chrome and Platinum Group Metal's price, the grade in the Amandelbult TSF has become economically viable to process.
- Rustenburg Platinum Mines will align to the National Environmental Management Act (Act 107, 1998) EIA 2014 Regulations, as amended, in accordance with the One Environmental system for the reclamation of historical mine residue tailings.
- The removal of the Amandelbult TSF Dam 2 removes a historical pollution point source and avails land to be used for redeposition of tailings into the future without developing on a greenfields site.

Environmental Impacts of the Amandelbult TSF Reclamation and Processing Project

The table overleaf represents a summary of the significance of impacts identified during the project lifetime for each environmental aspect. Impacts are expected to occur predominantly during the construction and operation phases, and to a lesser extent during decommissioning, post-decommissioning and closure. The following positive benefits are expected:

- Job Security for staff and contractors currently contracted or employed by Rustenburg Platinum Mines Limited;
- Skills Development for those employed for the project;
- Economic growth and contribution to the economy;
- Improved groundwater and surface water quality over time;
- Improve soil stability over time; and
- Improved ecosystem health and functioning over time.

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Risk Matrix of Assessed Project Impacts

Specialists Name	Impact Description	Before Mitigation Significance	After Mitigation Significance
Socio-Economic	**Construction Phase**		
	Employment and Income	Low +	Medium +
	Informal influx of job-seekers	Low -	Low -
	Nuisance factors	Low -	Low -
	Operational Phase		
	Employment and Income	Medium +	Medium +
	Informal influx of job-seekers	Medium -	Medium -
	Nuisance factors	Medium -	Medium -
	Community health and safety	Medium -	Medium -
	Impact on adjacent farmers	Medium -	Low -
	Post- Closure		
	Land Restoration	Medium +	Medium +
	Cessation of employment	Medium -	Medium -
Air Quality	**Construction Phase**		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -	Medium -
	Operational Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medum -	Medum -
	Post-Closure Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medum -	Medium -
Terrestrial Biodiversity	**Construction Phase**		
	Environmental and Groundwater Pollution	Low -	Low +
	Introduction of alien and invasive species, especially plants	Low -	Low +
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	Low -	Low -
Soil and Agriculture	**Construction Phase**		
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Medium -	Low -
	Operational Phase		
	Loss Land Capability	Medium -	Low -
	Decommissioning Phase		
	Loss Land Capability	Low -	Low -
Heritage	**Construction Phase**		
	Destruction of cultural heritage resources	Medium -	Low +
	Impact on cultural landscape	Medium -	Medium +
Noise	**Construction Phase**		

Specialists Name	Impact Description	Before Mitigation Significance	After Mitigation Significance
	Future Daytime construction activities – Scenario 2	Low -	Low -
	Future Night-time construction activities – Scenario 2	Low -	Low -
	Operational Phase		
	Future Daytime Operational Activities – Scenario 2	Low -	Low -
	Future Night-time Operational Activities – Scenario 2	Low -	Low -
	Worst-case daytime operational activities	Low -	Low -
	Worst-case night-time operational activities	Medium -	Low -
Groundwater	**Construction Phase**		
	Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.	Low -	Low -
	Operational Phase		
	The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying formations, but the additional recharge should be neglectable.	Low -	Low+
	Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.	High -	Medium -
	Decommissioning Phase		
	Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected	Medium +	Medium +
	The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.	Medium +	Medium +
	Post- Closure Phase		
	The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed.	Medium +	Medium +
Surface water	**Construction Phase**		
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Medium -	Low -
	Operational Phase		
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	High -	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	High -	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Medium -	Low -
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	High -	Low -
Wetlands	**No Impact**		

Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
	No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible. It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.		

Conclusions

Based on the information contained in this report, it is the opinion of the EAP that the negative environmental impacts resulting from the Project can be mitigated to within acceptable limits and that the Project should be authorised. This opinion holds provided all the recommendations proposed in the specialist studies and the EIA and EMPr report as well as legislative requirements are implemented and adhered to.

An impact assessment has been undertaken using qualified specialists, who have incorporated extensive consultation with and participation of interested and affected parties. Applying the hierarchical approach to impact management, alternatives were firstly considered to avoid negative impacts, but where avoidance was not possible, to better mitigate and manage negative impacts. Where impacts were found to be potentially significant, various mitigation measures to manage and monitor the impacts of the project have been proposed.

The findings of the impact assessment have shown that the Amandelbult Project would conclusively result in certain negative impacts during the operational phase on the environment, however, none of the specialist studies objected to the project. Scientific specialist mitigation measures have been included into this EIA and EMPr report to reduce the significance of all the identified negative impacts. Most of the negative impacts from the Project can be reduced through the implementation of mitigation measures. Moreover, by eliminating alternatives and choosing the preferred scenario primarily relying on existing infrastructure the environmental impact has been significantly reduced.

In conclusion, the EAP is of the reasoned opinion that **the project should be authorised to proceed** provided that the conditions of this EIA and the mitigation measures and objectives proposed by the EMPr are implemented by Rustenburg Platinum Mines Limited (Amandelbult).

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Appendices

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- Appendix D8 – Heritage & AMB Chance Find Procedure
- Appendix D9 – Screening Tool Report

Appendix E: Environmental Management Programme (EMPr)

Abbreviations

Abbreviation/ Symbol	Description
AMB	The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine
BID	Background Information Document
CA	Competent Authority/Authorities
CARA	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)
CBA	Critical Biodiversity Area
COP	Code of Practice
CRR	Comments and Response Report
CRP	Chrome Recovery Plant
DALRRD	Department of Agriculture, Land Reform and Rural Development
DEIAr	Draft Environmental Impact Assessment
DEA	Department of Environmental Affairs
DFFE	Department of Forestry and Fisheries and Environment
DMPR	Department of Mineral and Petroleum Resources
DoH	Department of Health
DPWI	Department of Public Works and Infrastructure
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioner Association South Africa
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme Report
ESG	Environment, Social and Governance
ESA	Ecologically Sensitive Areas
FEIAr	Final Environmental Assessment Report
FSR	Final Scoping Report
GDP	Growth Domestic Product
Ha	Hectare
HMA	Heavily Modified Area
I&AP	Interested and Affected Parties
IA	Important Area / Irreplaceable Area
IDP	Integrated Development Plan
Km	Kilometre
KTPM	Kilo tonnes per month
LDARD	Limpopo Department of Agriculture and Rural Development
LEDET	Local Economic Development, Environment and Tourism
LOO	Life of Operation
m	Metre
MAP	Mean Annual Precipitation
Mm	Millimetre

Abbreviation/ Symbol	Description
MHSA	Mine Health and Safety Act, 1996 (Act No. 29 of 1996)
MMA	Moderately Modified Area
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NBSAP	National Biodiversity Strategy and Action Plan
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No.10 of 2004)
NEM:PAA	National Environmental Management Protected Areas Act, 2003 (Act No. 57 of 2003)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NEMLAA	National Environmental Laws Amendment Act, 2014 (Act No. 25 of 2014)
NEMLAA4	National Environmental Laws Amendment Act, 2022 (Act No. 2 of 2022)
NPAES	National Protected Area Expansion Strategy
NEPAD	New Partnership of Africa's Development
NFEPA	National Freshwater Ecosystem Priority Area
NGO	Non-Governmental Organisations
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NNR	National Nuclear Regulator
NWA	National Water Act, 1998 (Act No. 36 of 1998)
ONA	Other Natural Area
PA	Protected Area
PGM	Platinum Group Metals
PM	Particulate Matter
PAOI	Project Area of Influence
POPIA	Protection of Personal Information Act, 2013 (Act No. of 2013)
PPP	Public Participation Process
RPM	Rustenburg Platinum Mines
RQO	Resource Quality Objectives
SCC	Species of Conservation Concern
SANBI	South African National Biodiversity Institute
S&EIA	Scoping and Environmental Impact Assessment
SAHRA	South African Heritage Resources Agency
SEIA	Socio-Economic Impact Assessment
SMME	Small, Medium and Micro Enterprises
SOP	Standard Operating Procedure
SHE	Safety, Health and Environmental
SR	Scoping Report
STR	Screening Tool Report
TLM	Thabazimbi Local Municipality
TSF	Tailings Storage Facility
WDM	Waterberg District Municipality
WMA	Water Management Area
WML	Waste Management Licence
WUL	Water Use License

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SECTION 2:

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

1 INTRODUCTION

1.1 Structure of this Environmental Impact Assessment report (EIA)

The nature and extent of the **Amandelbult TSF Reclamation and Processing Project** (the Project), as well as the potential environmental impacts associated with the construction, operation and decommissioning are assessed and presented in this Environmental Impact assessment / Environmental Management Programme (EIA/EMPr). This EIA has been compiled in terms of the provisions of Appendix 3 and Appendix 4 of the EIA Regulations 2014, as amended, and the Directive set out in the template prescribed by the DMPR. Table 1-1 cross-references the various sections in this report with these requirements.

Table 1-1: Structure of the Final EIA Report in line with the Appendix 2 of the EIA 2014 Regulations

NEMA Regulation Requirement		Report Section
(a)	**Details of -**	Section 1.2 Appendix A
(iii)	The EAP who prepared the report and;	
(iv)	The expertise of the EAP, including a CV	
(b)	**The location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including:**	Section 2 Section 2.1.1
(i)	The 21-digit Surveyor General code of each cadastral land parcel	
(ii)	Where available, the physical address and farm name	
(iii)	Where the required information in terms of (i) and (ii) is not available, the coordinates of the boundary of the property or properties	
(c)	**A plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is –**	Section 3.5.8 Figure 3-4 Appendix B
(i)	A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken	
(ii)	On land where the property has not been defined, the coordinates within which the activity is to be undertaken	
(d)	**A description of the scope of the proposed activity, including –**	Section 3: Section 3.4 Section 3.5 Section 3.5.8
(i)	All listed and specified activities triggered and being applied for	
(ii)	A description of the associated structures and infrastructure related to the development	

NEMA Regulation Requirement		Report Section
(e)	**A description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context**	Section 5
(f)	**A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report**	Section 6
(g)	**A motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report**	Section 3
(h)	**A full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including -**	Section 4
(i)	Details of the development footprint alternatives considered	Section 4
(ii)	Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs	Section 7 Appendix C
(iii)	A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.	Appendix C10 Section 3.7.2
(iv)	The environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section 8
(v)	The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts – (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated	Section 9
(vi)	The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks	Section 9.1
(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community, that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section 9.2
(viii)	The possible mitigation measures that could be applied and level of residual risk	Section 9.2
(ix)	If no alternative development footprints for the activity were investigated, the motivation for not considering such	Section 4.6
(x)	A concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report.	Section 4.1
(i)	**A full description of the process undertaken to identify, assess and rank the impacts**	Section 9.1

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NEMA Regulation Requirement		Report Section
	the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including-	
(i)	A description of all environmental issues and risks that were identified during the environmental impact assessment process	Section 9.2
(ii)	An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures	Section 9.2
(j)	**An assessment of each identified potentially significant impact and risk, including-**	Section 9
(i)	Cumulative impacts;	
(ii)	The nature, significance and consequences of the impact and risk;	
(iii)	The extent and duration of the impact and risk;	
(iv)	The probability of the impact and risk occurring;	
(v)	The degree to which the impact and risk can be reversed;	
(vi)	The degree to which the impact and risk may cause irreplaceable loss of resources; and	
(vii)	The degree to which the impact and risk can be mitigated;	
(k)	**Where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report**	Section 9.3
(l)	**An environmental impact statement which contains-**	Section 9
(i)	A summary of the key findings of the environmental impact assessment:	Section 9.4
(ii)	A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and	Section 8 Appendix B
(iii)	A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	Section 9.4
(m)	**Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation**	Section 10.3
(n)	**The final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;**	Section 4
(o)	**Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation**	Section 10.2
(p)	**A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed**	Section 10.1
(q)	**A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation**	Section 10.5
(r)	**Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity**	Section 2.2.1

NEMA Regulation Requirement		Report Section
	will be concluded, and the post construction monitoring requirements finalised	
(s) (i) (ii) (iii) (iv)	**An undertaking under oath or affirmation by the EAP in relation to-** The correctness of the information provided in the reports The inclusion of comments and inputs from stakeholders and I&APs The inclusion of inputs and recommendations from the specialist reports where relevant Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties	Section 12
(t)	**Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post-decommissioning management of negative environmental impacts;**	Section 11
(u)	**An indication of any deviation from the approved scoping report, including the plan of study, including-**	N/A
(i)	Any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and	
(ii)	A motivation for the deviation;	
(v)	**Any specific information that may be required by the competent authority**	Section 10.2
(w)	**Any other matters required in terms of section 24(4)(a) and (b) of the Act**	N/A

1.2 Details of the Independent Environmental Assessment Practitioner (EAP)

Founded in 2016, Kongiwe is a contemporary problem-solving consultancy specialising in solving real world environmental challenges. We pride ourselves on using the latest technology available to realise pragmatic solutions for our clients. The company's purpose is: '*To solve environmental and social challenges by providing expert bespoke solutions that promote current and future sustainability globally*'.

Based in Johannesburg with offices in the mining and finance hubs of the United Kingdom and Canada, our team of professional Environmental and Social Scientists are highly trained in various environmental disciplines and have significant, hands-on experience in an array of projects across various industries. The company has extensive environmental and project management experience in multiple sectors, with significant experience in South Africa, as well as internationally.

1.2.1 Contact Person and Corresponding Address

Details of the Environmental Assessment Practitioner (EAP) who prepared the report are presented below.

Table 1-2: Details of the EAP

Name of Practitioner	**Phathutshedzo Nelson Munyai, Kongiwe Environmental (Pty) Ltd**
EAP No.	Reg. EAP 2021/4297
Tel No.	+27 (10) 140 6508
Fax No.	072 1815 416

Email Address	pmunyai@kongiwe.com

1.2.2 Expertise of the EAP

Phathutshedzo Munyai has a BA in Environmental Management degree from UNISA and is a Registered EAP (2021/4297). Qualification is Appendix A.

Phathutshedzo Nelson Munyai is an Environmental Consultant at Kongiwe Environmental. Phathutshedzo has over 3 years of experience as an environmental consultant, predominantly in the mining industry. He is a seasoned EAP and consultant with extensive experience in conducting Environmental Impact Assessment (EIA) studies. His expertise spans various projects, including mining prospecting rights, mining permits, Audits, mining rights, and infrastructure and non-infrastructure developments. Phathutshedzo Munyai worked under direct supervision of Grant Cornish-Bowden. The Report was Peer Reviewed and approved by Ripfumelo Macevele who is also registered with the EAPASA as a Professional EAP as set out inTable 1-3.

1.2.3 Summary of the EAP's Past Experience

Ripfumelo Macevele is an Environmental Assessment Practitioner at Kongiwe Environmental. He is EAPASA Registered Environmental Assessment Practitioner (2019/1051) as well as registered with SACNASP as Environmental Science Candidate Natural Scientist (128491) and has extensive experience in executing the application process of Environmental Approvals through Environmental Impact Assessments; as well as and conducting Environmental Monitoring, Auditing & Reporting, Developing Environmental Management Plans as well as Water Use Licence applications and Public Participation. Qualifications in Appendix A.

Table 1-3: Details of EAP

Name of Practitioner	Ripfumelo Macevele, Kongiwe Environmental (Pty) Ltd
EAP registration No.	2019/1051
Tel No	+27 (10) 140 6508
Cell No	079 178 9655
Email address	rmacevele@kongiwe.com

1.2.4 Additional Project Team Members

Team members that have been integral in the successful production of this Environmental Impact Assessment and Environmental Management Programme (EIA/EMPr) are represented below.

Table 1-4: Details of the Kongiwe Project Team.

Team Member	Position in the Company	Role and Responsibilities
Bradly Thornton	Chief Executive	Client Liaison and Project Director
Grant Cornish- Bowden	Chief Operation Officer	Client Liaison and Project Manager
Umeshree Naicker	Principal Environmental Consultant	EAP Project Leader
Hilton Sparks	Engineering Manager	Quality Management, Conceptual Stormwater management and Engineering

Team Member	Position in the Company	Role and Responsibilities
Phumla Mngwengwe	Senior Environmental Consultant	IWULA
Vanessa Viljoen	Stakeholder Consultant	Stakeholder engagement and all other public participation requirements.
Thuli Phakathi		
Anela Fixi		
Zubher Omar	Geospatial Consultant	Geographic Information System (GIS) mapping.
Chelsea Strooh		

1.2.5 Independent Specialist Team Members

A number of independent specialist consultants have been appointed as part of the S&EIA team to adequately identify and assess potential impacts associated with the Proposed Project. The specialist consultants have provided input into this EIAr as well as EMPr (Refer to Appendix D).

Table 1-5: Details of the Specialist Team

Specialist Study	Specialist Company	Specialist Name	Peer Reviewer
Terrestrial Biodiversity Compliance Statement	The Biodiversity Company	Carami Burger (Pr. Nat. Sci. 121757)	Martinus Erasmus (Pr. Nat. Sci. 118630)
Soil and Agricultural Compliance statement	The Biodiversity Company	Rian Pienaar (SACNASP 135544) and Masilabela Seepamore (SACNASP 113907)	Mattew Mamera (SACNASP 116356)
Wetland Impact Assessment	The Biodiversity Company	Rian Pienaar (SACNASP Pr. Sci. Nat. 135544)	Divan van Rooyen (SACNASP Pr. Sci. Nat. 151272)
Heritage Impact Assessment	PGS Heritage Archaeologist	Nicholas Fletcher	Coen Nienaber
Air Quality	Gondwana Environmental Solutions	Anja van Basten and Njabulo Luyanda Mahlobo	Martin van Nierop
Hydrological study	Hydrospatial (Pty)Ltd	Andy Pirie (Senior Hydrologist, M.Sc., Pr.Sci.Nat.114988)	Foord Ceronio
Groundwater study	Groundwater Abstract (Pty) Ltd	Lucas Smith and Irene Lea (Principal Hydrogeologists – M.Sc. and Pr. Sci. Nat)	Renee – OMI Solutions
Socio-Economic Impact Assessment	Southern Economic Development (SED)	Anna Sophia Kritzinger (Masters Economics)	Foord Ceronio
Noise Impact Assessment	Enviro Acoustic Research (EAR)	M. de Jager (B. Ing (Chem); PriSci Nat, 117253; SAIOSH, 72765282)	Johan Maré (M.Sc. (Microbiology), PrSci. Nat – SACNASP No: 400092/91)

1.3 The History of Platinum Group Metals and Chrome Mining in South Africa

In South Africa, the discovery of the first platinum nuggets dates back to 1924. The geologist Hans Merensky's follow-up work resulted in the discovery of two deposits, each around 100km in length, which became known as the Bushveld Igneous Complex. This discovery started with test work in the area around Mashishing

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(formerly known as Lydenburg). Based on successive encouraging findings, Merensky approached a circle of friends to raise funds to investigate any payable platinum deposits. He used the farm Maandagshoek as a base and later secured 23 claims and worked quickly to locate other platinum occurrences in the area. Merensky's work resulted in the naming of the Merensky reef. In 1925 follow-up work resulted in the identification of the eastern limb of the Bushveld Complex. The mines on this geological structure have for many years produced more than 75% of the world's output (Minerals Council South Africa , 2025).

Historically, mining activities in the Thabazimbi area date back to the early 20th century, with the first recorded mining operations commencing in the 1920s. However, it was not until the 1960s and 1970s that large-scale mining operations began to take shape, with several major mining companies establishing operations in the region. These companies included, among others, Impala Platinum, and Lonmin Platinum (Minerals Council South Africa , 2025).

Platinum mine production has grown continuously in response to new applications being developed for the metals. A significant new use of platinum was in the petroleum industry where platinum catalysts were introduced to increase the octane rating of petroleum and to manufacture important primary feedstocks for the growing plastics industry. This was followed in the 1960s by growing demand for platinum jewellery – given its purity, colour, prestige and value.

In the latter half of the 20th century, the platinum sector in South Africa was dominated by Gencor, JCI and Lonrho. Corporate actions eventually saw the mines in these groups housed under Implats, Amplats and Lonmin respectively, the majors in the sector, and responsible for producing up to 80% of the world's Platinum Group Metals (PGM) supplies.

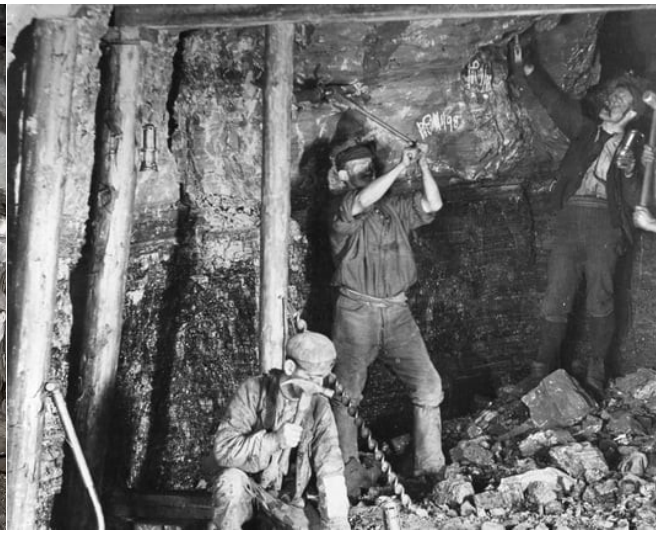

Figure 1-1: Historic mining activities.

In the Thabazimbi area, the platinum reefs were found to be incredibly rich, with some of the highest concentrations of PGMs in the world. The introduction of advanced mining technologies, such as cementation, enabled safe and efficient shaft sinking through the challenging geological formations in the area.

As a result, several world-class platinum mines were developed in the Thabazimbi area, including the Thabazimbi Mine, which is known for its high-grade platinum ore. The mine's reefs are characterised by their complex geological structure, which requires specialised mining techniques to extract the platinum ore safely and efficiently (R, Bartholomew., 1985).

South Africa's chrome mining industry began in the early 20th century, with exploration starting in 1917. The growing demand for chrome, used in stainless steel and alloys, drove the search for deposits, marking the industry's development. The exploration efforts eventually paid off, and the first official production of chrome ore was recorded in 1921. This milestone marked the industry's start (Oreways Mining South Africa, 2024).

South Africa holds over 70% of the world's total chrome reserves, most of this comes from the Bushveld Igneous Complex. Chrome mining is a cornerstone of South Africa's economy, contributing significantly to employment, export revenue, and overall economic development. These deposits are mined by a number of local and international chrome mining companies dominate in the industry ensuring stable production. The predominant Chrome Mining Regions are Mpumalanga, Limpopo and North West Province (Oreways Mining South Africa, 2024).

1.3.1 The Origin of Mine Dumps

Most of the Provinces in South Africa such as Gauteng, Limpopo, North West, Mpumalanga, Northern Cape landscapes are littered with mine dumps bearing testament to South Africa's rich mining heritage. The rising demand for minerals, and the needs to exploit larger and lower-grade deposits to help satisfy demands, led to mining operations increasing in scale and size. During this time, mining and platinum, chrome and other minerals recoveries were left largely unregulated. A number of mine dumps began to define the landscape, a result of mining operations where large volumes of ore were mined and brought to the surface where it was crushed and extracted (Jackwell Feris, 2013).

In laymen's terms the phrase 'mine dump' refers to an area where excess material, containing forms of mineral(s) that are either valuable or not, is left by the person who has won the minerals from the earth in accordance with his/her right or entitlement to mine. Prior to the enacting of legislative controls such as the Mines and Works Act, 1956 and its Regulations and later still the Minerals Act, 1991 and finally, the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002) ("the MPRDA"), which came into effect on 1 May 2004, mine dumps were placed in convenient positions adjacent to mining operations. This was often along fault lines, or within wetland areas. It is the legacy of these mine dumps, or Tailings Storage Facilities (TSFs), within sensitive areas that has caused the environmental and health effects that are felt today (Jackwell Feris, Director, Dispute Resolution, Cliffe Dekker Hofmeyr, 2013).

The Thabazimbi geological formation refers to the unique geological structure underlying the Thabazimbi area in the Limpopo Province of South Africa. This formation is characterised by a complex sequence of volcanic and sedimentary rocks, which have been metamorphosed over millions of years to form a rich repository of mineral deposits. The Thabazimbi formation is particularly renowned for its high-grade PGM and chrome deposits, which have been mined extensively in the region (Bruce Cairncross, Allan Fraser & Stuart MacGregor, 2016).

In recent years, there has been a growing trend towards the reclamation of platinum and chrome from mining dumps in the Limpopo Province. This is driven in part by the increasing economic viability of reprocessing tailings and dumps, as well as the need to rehabilitate and restore mined land. These projects are expected to not only generate significant economic benefits but also contribute to the environmental rehabilitation of the region. Over the last two decades there have been further advances in mining and metallurgical technologies and an evolution in the country's environmental policy and legislation. This, as well as increasing platinum and chrome prices, has further incentivised the reclamation of TSFs. Today, Limpopo's physical landscape is once again in a state of transition due to the demand for the reclamation of historic mine dumps (Mining World.com, 2024).

Through the process of reclamation, platinum and chrome recovered from the TSF is made available for domestic and international markets. This means that the continual reclamation of mine residue material will result in additional platinum and chrome supplies into the metals market – which has been experiencing a downward trend over the last few years (Mining World.com, 2024).

1.3.2 Trends in The Current Gold Industry

The PGMs market is experiencing significant growth in 2024, driven by increasing demand from various industries, including catalysis, automotive emission control, electronics, and jewellery. The market is influenced by factors such as industrial demand, macroeconomic trends, and supply dynamics. Platinum Market is estimated to increase at a growth rate of 4.8% CAGR over the forecast period from 2024 to 2030 (USD Analytics, 2024).

Key drivers of the platinum market include:

- Growing demand for platinum as a catalyst in green hydrogen production, driven by the global push towards decarbonization and renewable energy.
- Increasing demand for platinum in automotive catalyst applications, particularly in the transition towards stricter emission standards and cleaner vehicles.

Despite facing challenges such as fluctuating commodity prices (which have had substantial financial impact on RPM, where many thousands of workers had to be retrenched during 2023/2024) and environmental regulations, the platinum market is poised for sustained demand, offering opportunities for value creation and technological advancement across diverse sectors. The global platinum market is highly competitive, with key companies operating in the industry including, Impala Platinum, and Sibanye Stillwater, among others. (USD Analytics , 2024).

1.4 Project Introduction

A The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. The mine area is divided into western, central and eastern sections. The mine consists of the three different operations units:

- Tumela Mine consisting of a vertical shaft (Tumela shaft, previously known as No. 1 shaft) and a number of other incline and decline shafts, located north of the main vertical shaft;
- Dishaba Mine consisting of a vertical shaft (Dishaba shaft, previously known as No. 2 Shaft) and a number of other incline and decline shafts, located north of the main vertical shaft; and
- The AMB Concentrator and associated TSF complex.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult TSF consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with tailings being deposited mainly on 3B, but also on 3A from time to time.

Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021.

The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000.The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility. Refer to Figure 1-2 below:

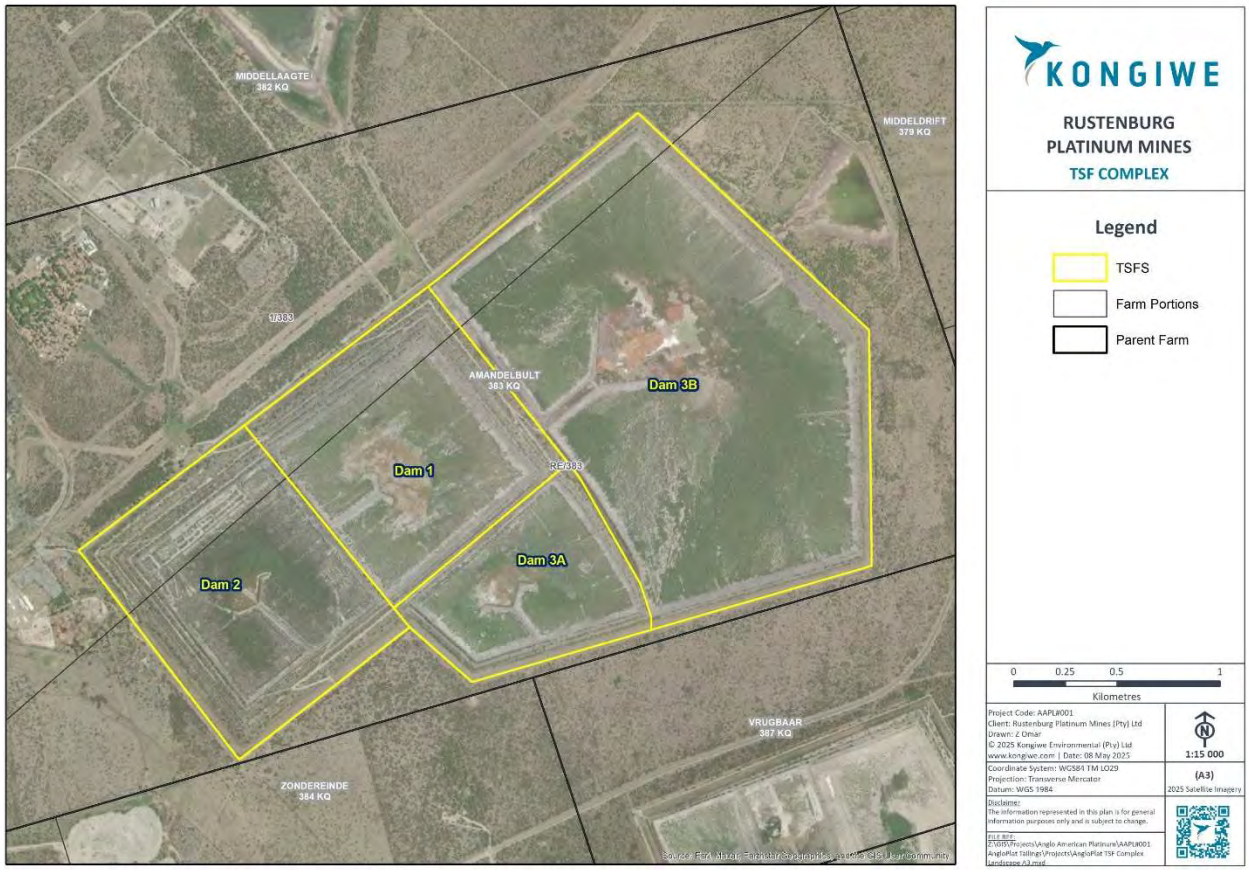

Figure 1-2:Amandelbult TSF configuration

The Project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to

increase the production of PGMs and Chrome. The reclamation will also potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

The following infrastructure is encountered in the area:

- Roads;
- Railways;
- Power lines;
- Mine worker accommodation;
- Amandelbult shafts;
- Rustenburg Platinum Mine Amandelbult operation;
- Amandelbult Central workshops and, salvage yards;
- Amandelbult concentrators;
- Amandelbult mine town;
- Loading points;
- Central Service;
- Chrome Recovery Plant;
- TSF comprising Dam 1, Dam 2, Dam 3A and Dam 3B; and
- Pump stations.

Once the TSF, Dam 2 has been reclaimed and processed the footprint will be reused for new tailings deposition preventing the development of a new TSF on a greenfields area.

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2 DESCRIPTION OF THE PROJECT LOCATION

The Amandelbult Mine and it associated TSF is situated approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt Figure 2-1. The site is located approximately 4 km Northeast of Amandelbult Town. The area is predominantly surrounded by mining infrastructure, disturbed land and open land.

The Project is located on the Remaining Extent and Portion 1 of the farm Amandelbult 383 KQ, and the Remaining Extent of the farm Middellaagte 382 KQ (Figure 2-2). The project is situated in Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province.

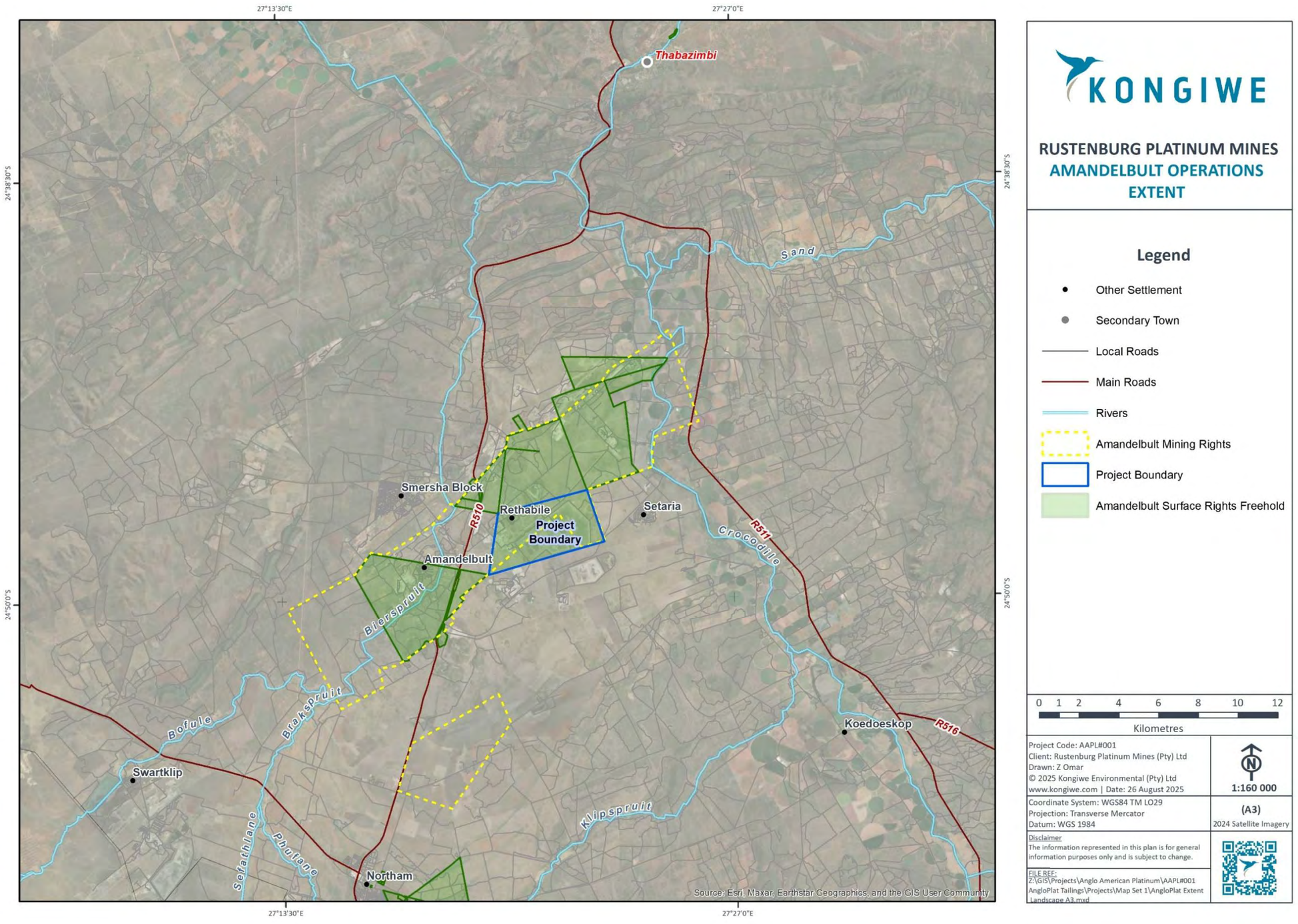


Figure 2-1: Locality map of the Amandelbult Mine Proposed Project

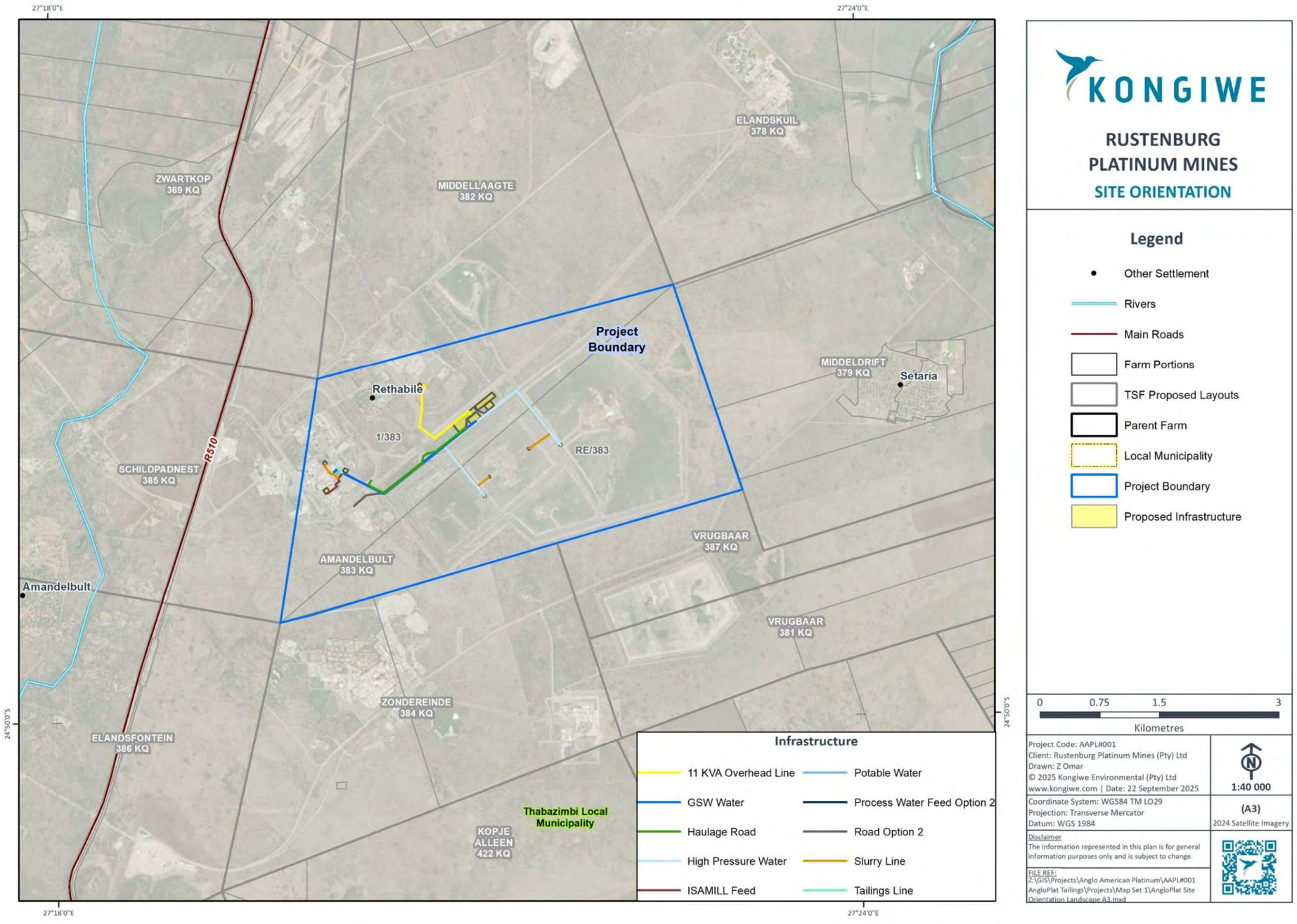


Figure 2-2: Locality orientation map of the Proposed Project

2.1 Description of the Properties affected by the Project

The entire Project will be undertaken on the existing footprint of the Amandelbult Mine, this is illustrated in Figure 2-2 above. This S&EIA process is being conducted for an EA to reclaim the TSF Dam 2 as well as for the associated processing of the reclaimed tailings material. This project will be confined to Portion 1 and the Remaining Extent of Amandelbult 383 KQ and the Remaining Extent of Middellaagte 382 KQ. The project boundary has been developed to include the entire area that will encapsulate the TSF Dam 2 and the associated infrastructure proposed for the reclamation and processing. Despite the proposed preferred or considered alternatives and the suggested way forward, the overall project area footprint has reduced as a result of the preferred alternative scenario. This area is illustrated above in Figure 2-1.

This is a “Brownfield Project" as it is the reclamation of an existing mineral storage deposit within the TSF and partly using existing infrastructure. The potential negative and positive impacts of the Project on the environmental and social aspects will be objectively considered though studies undertaken by specialist professionals during the EIA phase.

Refer to Table 2-1 and Figure 2-3 below for additional information on the property details with regards to the Project and Table 2-2 for the directly and indirectly affected properties.

Table 2-1: Property Details

Application Area (ha)	The Proposed Reclamation site, the new proposed plant area and additional infrastructure as indicated in this report covers an area of approximately 104 Ha and project activities 18 Ha (Overall 122 Ha)
Magisterial District	Ward No: 6 and 11 of the Thabazimbi Local Municipality (TLM) within the Magisterial District of Waterberg.
Distance and Direction from Nearest Town	The site is located approximately 15 km North of Northam and 30 km Southwest of Thabazimbi.

Table 2-2:Description of the Directly and Indirectly Affected Properties

Farm Name	Farm SDG Code	Farm Portion	Farm owner
Directly Affected Properties			
Amandelbult 383 KQ	T0KQ00000000038300000	R/E	Rustenburg Platinum Mines Ltd
Amandelbult 383 KQ	T0KQ00000000038300001	1	Rustenburg Platinum Mines Ltd
Middellaagte 382 KQ	T0KQ00000000038200000	R/E	Rustenburg Platinum Mines Ltd
Indirectly surrounding Affected Properties			
Middeldrift 379 KQ	T0KQ00000000037900000	R/E	Northam Platinum Ltd
Middeldrift 379 KQ	T0KQ00000000037900003	3	Northam Platinum Ltd
Middeldrift 379 KQ	T0KQ00000000037900004	R/E 4	Northam Platinum Ltd
Schildpadnest 385 KQ	T0KQ00000000038500000	R/E	Baphalane Ba Mantserre Community Development Trust
Vrugbaar 387 KQ	T0KQ00000000038700000	R/E	Northam Platinum Ltd
Zondereinde 384 KQ	T0KQ00000000038400000	R/E	Northam Platinum Ltd

Farm Name	Farm SDG Code	Farm Portion	Farm owner
Zondereinde 384 KQ	T0KQ00000000038400002	2	Northam Platinum Ltd
Middellaagte 382 KQ	T0KQ00000000038200001	1	Middellaagte Holding Pty Ltd
Elandskuil 378 KQ	T0KQ00000000037800001	1	Rustenburg Platinum Mines Ltd
Zwartkop 369 KQ	T0KQ00000000036900024	24	Rustenburg Platinum Mines Ltd
Zwartkop 369 KQ	T0KQ00000000036900018	18	Trollope Prop Pty Ltd

2.2 Description of the Current Land Uses Applicable

The current land uses of the surrounding areas are typified by mining and agricultural activities; dispersed settlements; and mine dumps (Tailings Storage Facilities).

2.3 Known Mining Rights held in the Area

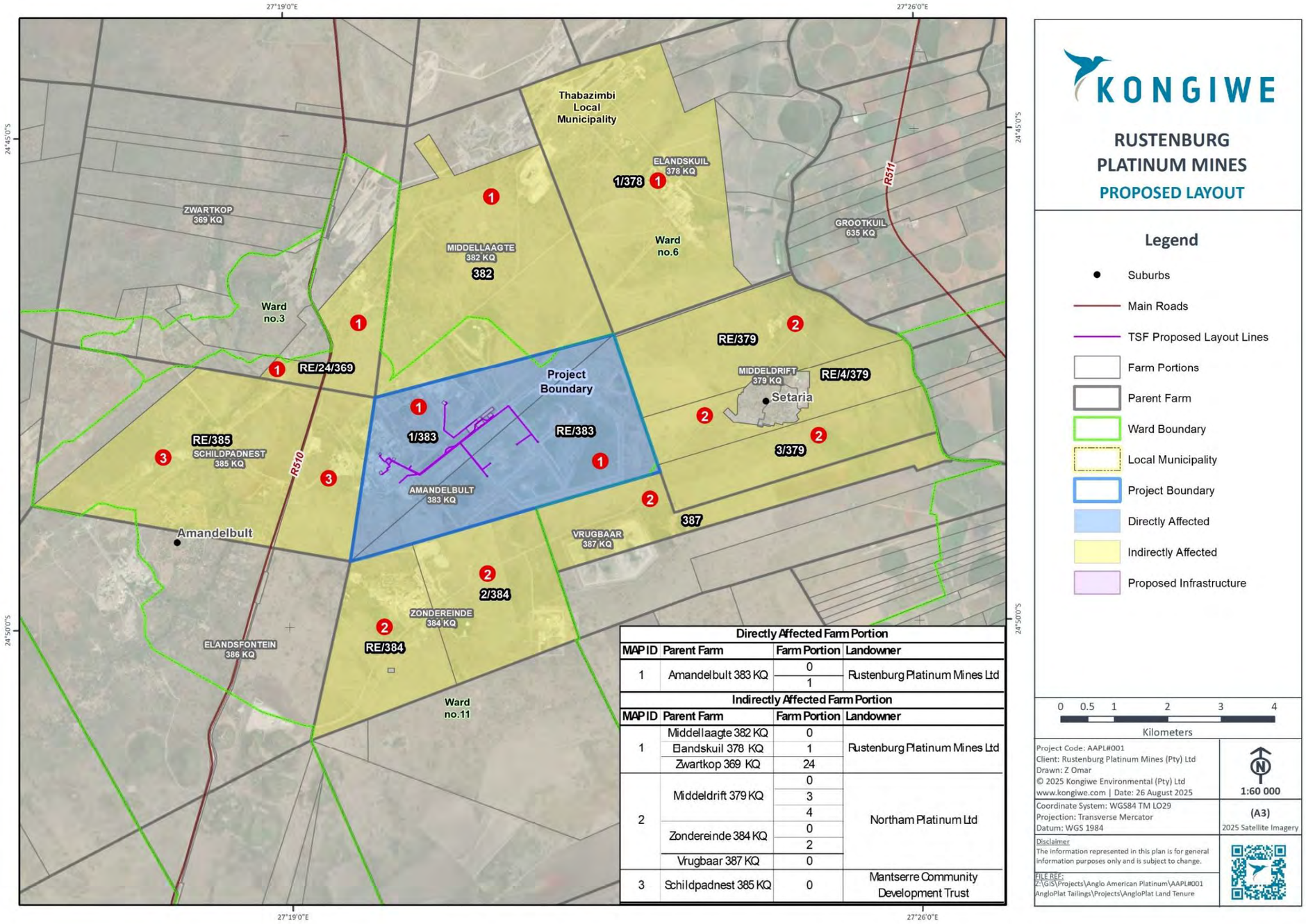
The assessment of cumulative impacts is required under the EIA Regulations 2014, as amended, promulgated in accordance with Section 44 of the NEMA. In support of the above, Kongiwe has assessed the impact of the Project in context of other similar activities in the local area.

The Project area is surrounded by several historic and active mining activities. This includes active underground and open pit mining activities. AMB holds the following Mining Rights: LP 30/5/1/2/3/2/1 (048) EM and LP 30/5/1/2/2/48 MR, in respect of-

- A portion of Portion 4, a portion of Portion 1, a portion of Portion 2, and a portion of Portion 3 of the farm Haakdoorndrift 374 KQ;
- Portion 2, Portion 3, Portion 4 Portion 5 and the Remaining Extent of the farm Elandskuil 378 KQ;
- Portion of R/E Portion 1, portion of R/E Portion 9 and portion of Portion 2 of the farm Grootkuil 376 KQ;
- The Remaining Extent of the farm Middellaagte 382 KQ;
- Portion 1 of the farm Amandelbult 383 KQ;
- R/E Portion 24, R/E Portion 17 and portion of Portion 28 of the farm Zwartkop 369 KQ;
- Portion of the Remaining Extent of the farm Elandsfontein 386 KQ;
- Portion of the Remaining Extent of the farm Schildpadnest 385 KQ; and
- Portion 1 and a portion of the Remaining Extent of the farm Moddergat 389 KQ.

Northam Platinum's Zondereinde mine (DMPR Reference: LP37MR) is located South of the operation. Afraks Vlakpoort mine is located west of the operation. Limberg Mining Company's Thaba chrome mine (LP30/5/1/2/3/2/1 (115) EM) is located North of the Project area.

AMB is also the surface owner of Portion 1 and the Remaining Extent of the farm Amandelbult 383 KQ, and the Remaining Extent of the farm Middellaagte 382 KQ and, in addition to various other properties within the Mining Right area.



Directly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Amandelbult 383 KQ	0	Rustenburg Platinum Mines Ltd
		1	

Indirectly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Middellaagte 382 KQ	0	Rustenburg Platinum Mines Ltd
	Elandskuil 378 KQ	1	
	Zwartkop 369 KQ	24	
2	Middeldrift 379 KQ	0	Northam Platinum Ltd
		3	
		4	
	Zondereinde 384 KQ	0	
		2	
	Vrugbaar 387 KQ	0	
3	Schildpadnest 385 KQ	0	Mantserre Community Development Trust

Figure 2-3: Current Land Tenure Map

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3 PROJECT DETAILS

This chapter of the EIA provides a description of the requirements for authorisation, the EIA process, project methodologies, infrastructure, life-cycle, layout selection of the Project.

3.1 Requirements for Environmental Authorisation

The Department of Environmental Affairs Forestry and Fisheries (DFFE), in consultation with the Department of Mineral Petroleum Resources (DMPR) identified the need for the alignment of Environmental Authorisations (EAs) and promulgated a single environmental system under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). This has resulted in simultaneous decisions in terms of NEMA, the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and other specific environmental management Acts.

As from 2 September 2014 the statutory dispensation regarding environmental management on mines changed with the implementation of the One Environmental System and the commencement of the National Environmental Management Laws Amendment Act, 2014 (Act No. 25 of 2014) (NEMLAA). In line with the One Environmental System the Environmental Impact Assessment Regulations (EIA 2014 Regulations) were promulgated and came into force on 8 December 2014. The EIA 2014 Regulations have subsequently been amended on the 7th of April 2017 and 21th June 2021. With reference to the aforementioned, this S&EIA, prepared in support of the EA application, will comply with the requirements of the EIA 2014 Regulations, as amended.

The Project requires an EA in terms of the NEMA which will follow a S&EIA process in terms of the EIA 2014 Regulations, as amended. The aforesaid regulations enforce a strict timeframe and require a decision by the Competent Authority (CA), the DMPR, within 300 days from submission of the EA application.

The nature and extent of the Proposed Project, as well as the potential environmental impacts associated with the construction, operation, decommissioning and rehabilitation of a facility of this nature is assessed and presented in this Environmental Impact Assessment Report (EIAr).

3.2 Overview of the Environmental Impact Assessment (EIA) Process

3.2.1 Overview of the Environmental Impact Assessment (EIA) Process

Kongiwe has been appointed by Rustenburg Platinum Mines Limited (Amandelbult Mine) (AMB) to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Project as part of an application for EA. The S&EIA and specialist studies were undertaken to support the applications for the required approvals. The following applications have been made to the DMPR for the Proposed Project:

- **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R9841 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
- **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) is submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme.
- **Application for a waste management licence (WML)** authorising waste management activity listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).

The EIA findings, including specialist findings, are used by the EAP, Applicant and Authorities to obtain an objective view of the potential environmental and social impacts that could arise during reclamation and processing operation of the Proposed Project. Measures for the avoidance or mitigation of negative impacts and enhancement of positive impacts are proposed.

The period of EA being applied for is 20 years for the reclamation period. It is envisioned that the plant will remain operational beyond the reclamation of the Amandelbult TSF complex Dam 2. Additionally, the TSF will remain operational after the Reclamation activity.

3.2.2 The National Web Based Environmental Screening Tool

According to Regulation 16(1)(b)(v) of the EIA 2014 Regulations (as amended), it is a requirement for an EA application to be submitted with a screening report generated by the National Web Based Environmental Screening Tool (Screening Tool). This requirement took effect from October 2019.

The Screening Tool allows the EAP to screen the proposed project site for any environmental sensitivities. It serves as a guide to identify related exclusions and/or specialist studies that may be a requirement for a proposed project.

The Screening Tool Report (STR) for the Proposed Project, acquired through the Screening Tool, has been undertaken as part of this project. This has been included in Appendix D The site sensitivity has been evaluated as part of the specialist assessments included in appendix D and in Section 8 below.

3.2.3 Methodology applied to conducting the Environmental Authorisation Process

The figure below indicates the methodology that has been applied in conducting the S&EIA process.

[1] These Listing Notices have been amended by GN R327, GN R325 and GN R324 of 7 April 2017 and GN R 517 of 11 June 2021

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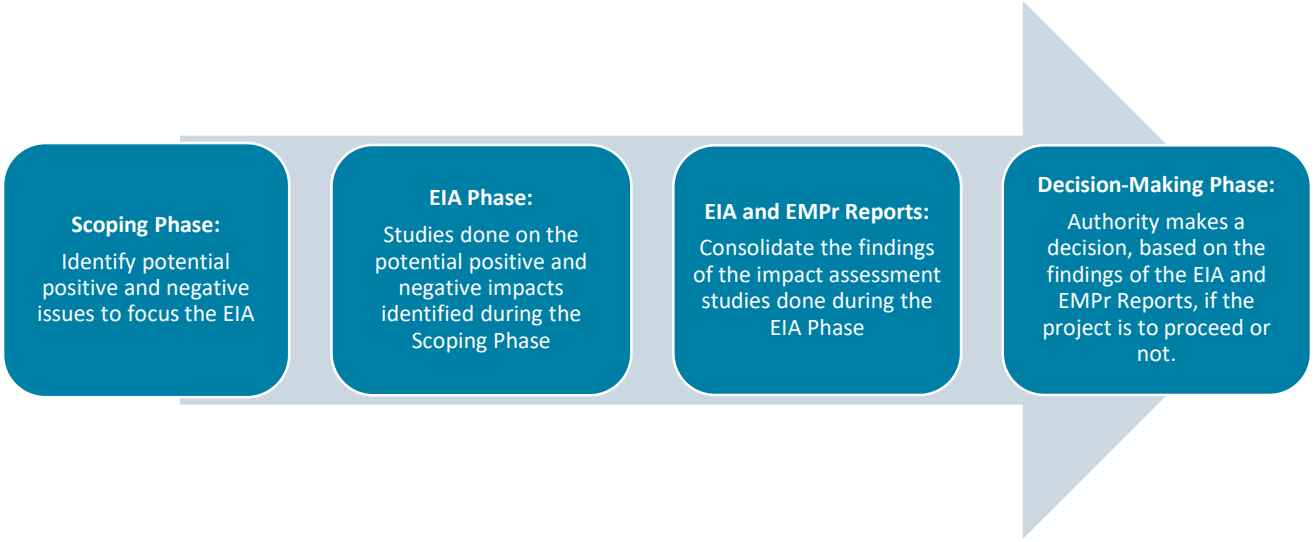

Figure 3-1: Methodology applied to conducting a S&EIA process

3.2.4 S&EIA Timeframes

- The **Draft Scoping Report (DSR)** is submitted and made available for a 30-day public review period. The comments received during this period are captured in a Comments and Responses Report (CRR) that is submitted with the FSR. This task has been completed.
- The **Final Scoping Report (FSR)** is submitted to the CA. The CA must either accept or reject the Scoping Report within 43 days. Once confirmation of acceptance has been received from the CA, the EIA Phase commences and will run for a period of 106 days, in which time stakeholders will be afforded a 30-day period in which to review and comment on the S&EIR documentation. This task has been completed.
- Upon submission of the **Environmental Impact Assessment / Environmental Management Programme (EIA/EMPr) document**, the CA will have 107 days to reach a decision on the project (Record of Decision (RoD)). The RoD is otherwise referred to as the EA which authorises the activities to proceed. The decision to grant the EA may be appealed (within 20 days) by any party, including the Applicant, following the process outlined in the National Appeal Regulations (GNR 993 of 8 December 2014) published in terms of the NEMA.

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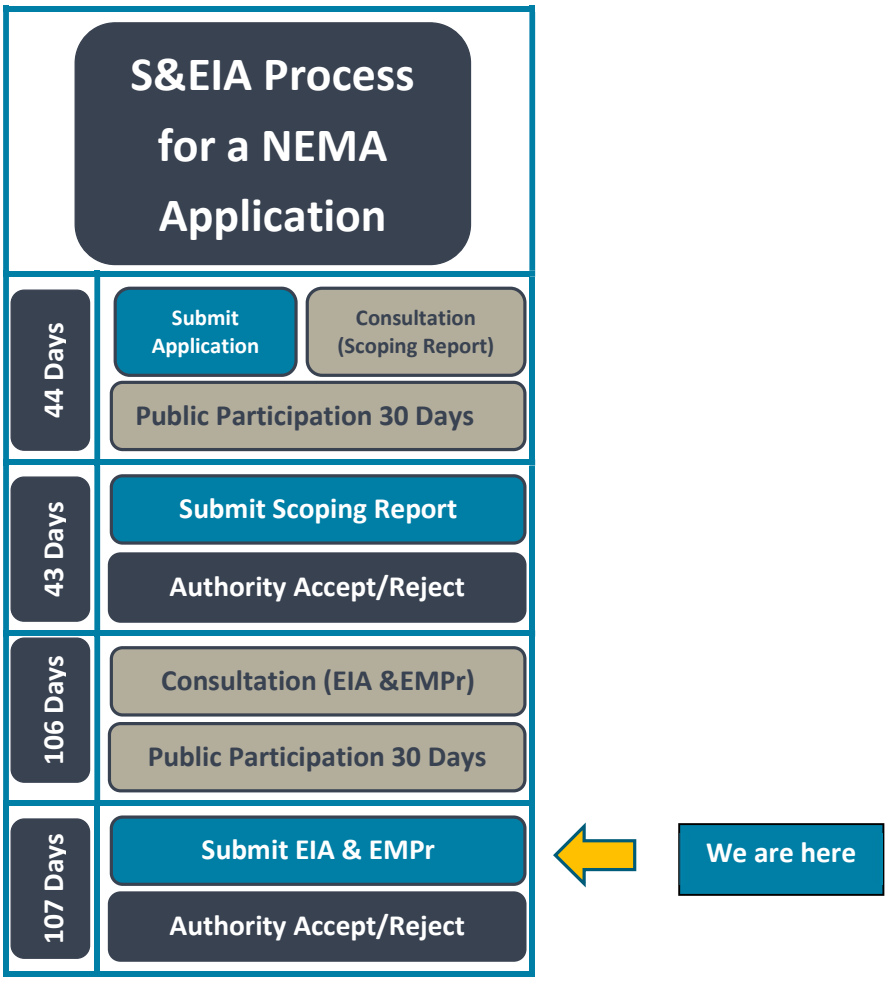

Figure 3-2: S&EIA Timeframes

3.2.5 Public Participation Process

The Public Participation Process (PPP) has been designed to comply with the regulatory requirements set out in the EIA Regulations of 2014 (as amended). The PPP provides the opportunity for communication between agencies making decisions and the public. This communication can be an early warning system for public concerns, a means through which accurate and timely information can be disseminated, and can contribute to sustainable decision-making (IAP2, 2006).

Kongiwe encourages stakeholders to provide input into the S&EIA. The sharing of information forms the basis of PPP, with an aim to encourage the public to have meaningful input into the decision-making process from the onset of the project. Stakeholders can become involved in the project in the following ways:

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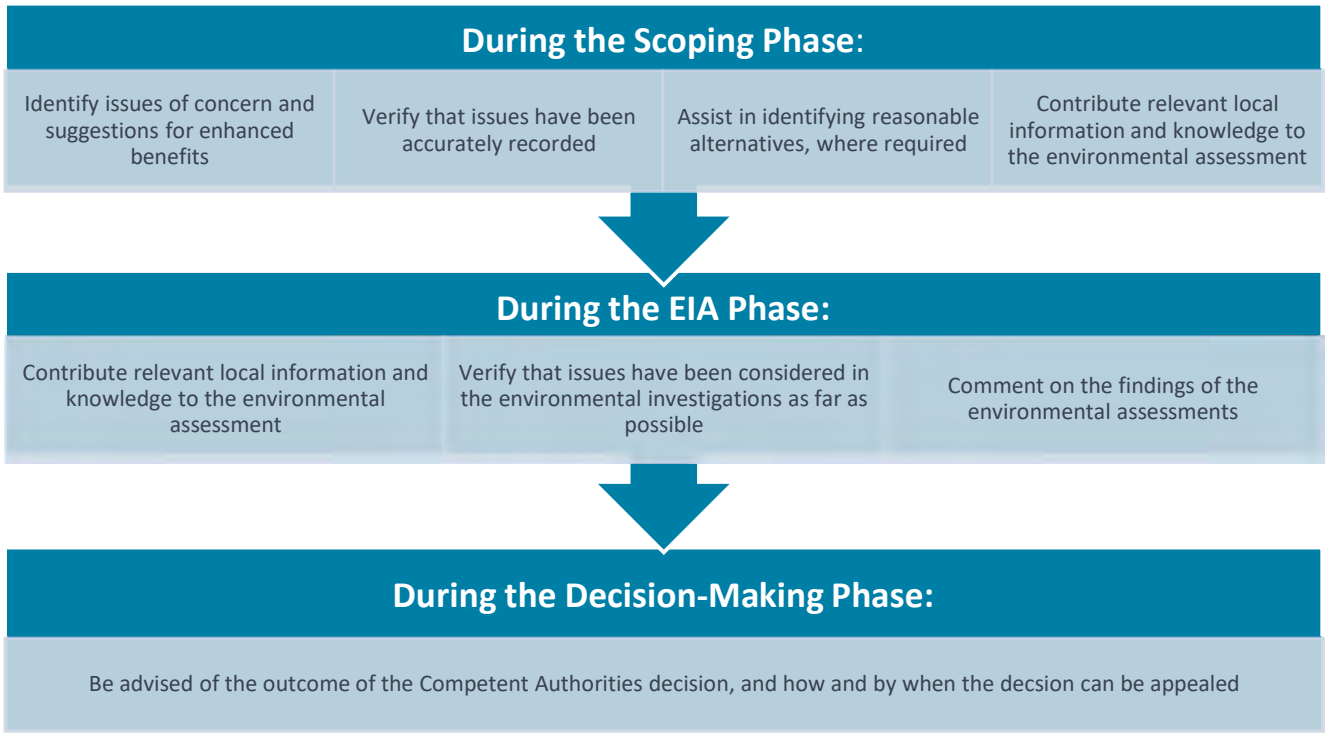

Figure 3-3:Public Participation Process

3.3 Requirements for Environmental Authorisation

Considering the average rate of deposition of reclamation materials and processing during the operational phase, the facility is expected to have a design lifespan of approximately 20 years, excluding the construction and decommissioning periods.

3.4 Listed and specified Activities

The assessment of impacts referred to in Regulation 32 of the Environmental Impact Assessment Regulations, 2014, as amended, (the EIA 2014 Regulations) will include the determination of all Listed Activities set out in Listing Notice 1, Listing Notice 2, and Listing Notice 3 (if triggered). Possible Listed Activities are set out in Table 3-1 below. Listed activities are activities identified in terms of Section 24 of NEMA which are likely to have a detrimental effect on the environment, and which may not commence without an EA from the CA.

Table 3-1 below contains all the listed activities identified in terms of NEMA, and the EIA Regulations of 2014 (GN R982 of December 2014, as amended by GNR 326 of April 2017 and GN R 517 of 11 June 2021) and Listing Notices 1, 2 and 3 (GN R983, GN R984 and GN R985 of December 2014, as amended by GNR 327, GNR 325, and GNR 324 of April 2017, respectively) which may be triggered by the Proposed Project, and for which an application for EA has been submitted. The proposed activities have been refined in line with the preferred alternatives, and the table now reflects the activities associated with the selected option. The table also includes a description of those project activities which relate to the applicable listed activities.

The **DMPR** will act as the CA on the project. The Commenting Authorities for the Project are:

- Limpopo Economic Development, Environment and Tourism (LEDET);
- Department of Water and Sanitation (DWS);
- Department of Forestry and Fisheries and Environment (DFFE);
- Department of Agriculture, Land Reform and Rural Development (DALRRD);
- Limpopo Department of Public Works and Infrastructure: (DPWI);
- Department of Health (DoH);
- Department of Transport;
- South African Heritage Resource Agency (SAHRA);
- Thabazimbi Local Municipality (TLM); and
- Waterberg District Municipality (WDM).

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Table 3-1: Listed Activities Triggered by the Proposed Project.

Name of Activity	Aerial Extent of the Activity (ha/m²)[2]	Listed Activity	Applicable listing notice	Waste Management Authorisation
Overland slurry and Process Water pipelines	The new proposed pipelines will be greater than 1000m in length. These pipelines will be placed within existing and operational pipeline routes.	The development and related operation of infrastructure exceeding 1 000 meters in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 meters or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	GNR 983 – 10	
The storage of Diesel and other Dangerous goods required for the reclamation and processing activities.	The total combined storage of dangerous goods will be 240 cubic meters	The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic meters or more but not exceeding 500 cubic meters.	GNR983 – 14	
The Activity will include the processing of reclaimed tailings material, and the inclusion of the operation of the mining activity will apply. In addition, the expansion of the Mining Right over the entire TSF.	The total area of the reclamation and associated processing areas is approximately **122 hectares.**	Any activity including the operation of that activity which requires an amendment or variation to a right or permit in terms of section 102 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity contained in this Listing Notice or in Listing Notice 3 of 2014, required for such amendment.	GNR983 – 21D	Category B, Activity 11
		Any activity including the operation of that activity which requires a mining right in terms of section 22 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or Listing Notice 3 of 2014, required to exercise the mining right.	GNR 984 - 17	Category B, Activity 11
Clearance of vegetation	Less than 20 Hectares of indigenous vegetation clearance will be required for the construction and operation of the proposed infrastructure (for reclamation activities and Processing activities, including laydown and stockpile areas). Approximately 18 Ha.	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	GNR 983 - 27	
The lengthening and widening of an existing haul road required for the reclamation and reprocessing activities.	The current existing haul road will be lengthened by more than 1 km and widened by approximately 8-9 m	The widening of a road by more than 6 meters, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 meters; excluding where widening or lengthening occur inside urban areas.	GNR983 – 56	

[2] The total area of the mining and associated areas is approximately 122 hectares. The derailed areas have been indicated above in section 2.1.

Name of Activity	Aerial Extent of the Activity (ha/m²)²	Listed Activity	Applicable listing notice	Waste Management Authorisation
Reclamation of the residue deposit known as TSF Dam No 2 within the AMB TSF Complex.	Entire extent of the TSF Dam No 2: 104 Ha	N/A	N/A	X - Category B, Activity 11

3.5 Description of Project Activities

3.5.1 Project Description

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to

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the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Please note that the project (polygon/area) area has changed due to the preferred alternatives being considered as the final scope. This illustrated on Figure 3-4.

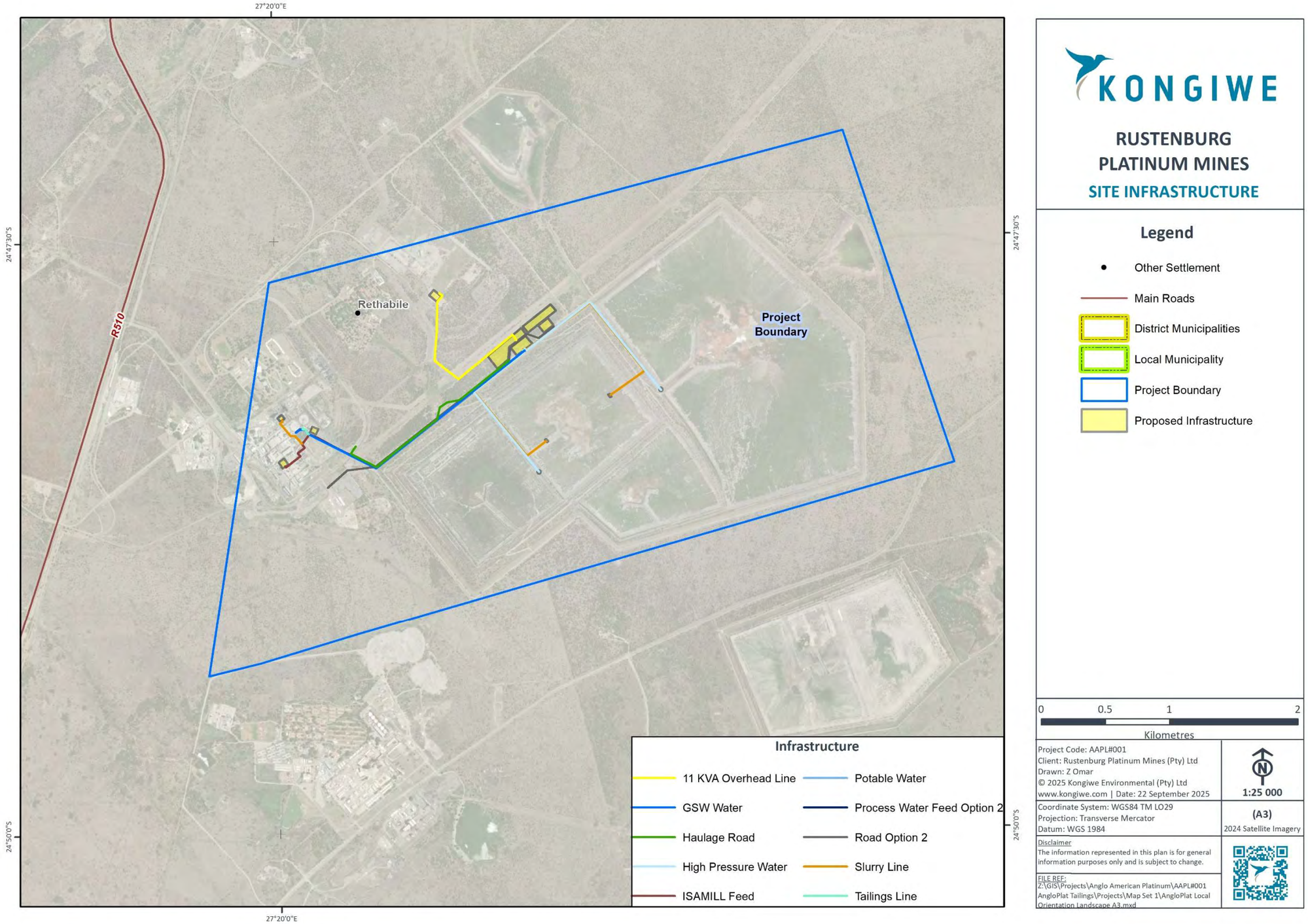

Figure 3-4: Project Infrastructure Map

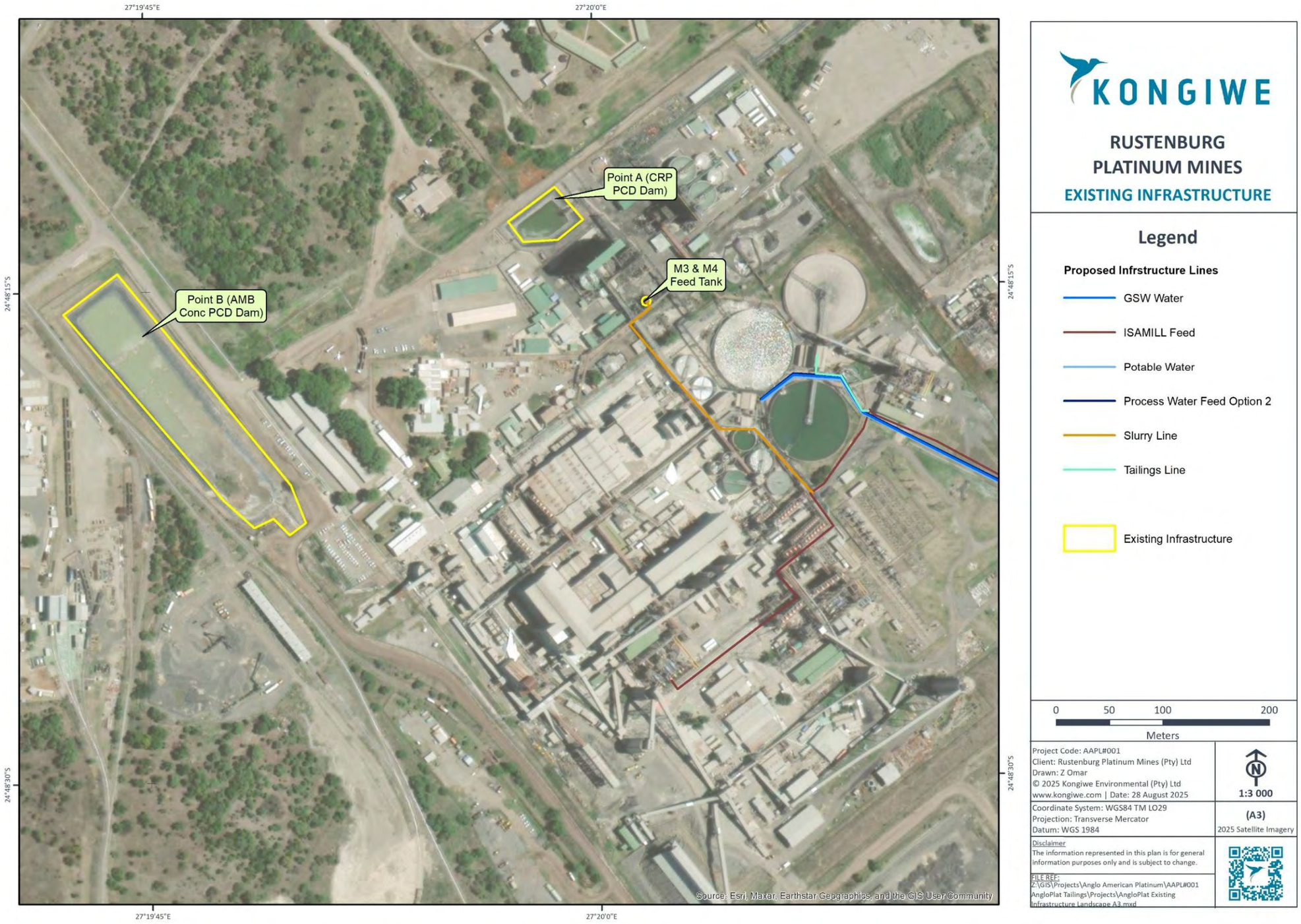

Figure 3-5: Existing Infrastructure of process water feed option 2 Map.

3.5.2 Method of Reclamation

AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Figure 3-6: Example of a truck and shovel reclamation.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as

previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed. An example of this is indicated in Figure 3-7.

Figure 3-7:Example of hydraulic reclamation.

This project will entail a mixture of both the reclamation options mentioned above, which will allow for the hydraulic and mechanical excavation of the TSF material simultaneously.

3.5.3 Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm.

Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

3.5.4 Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing

haul road adjacent to the TSF, will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m.

3.5.5 Power Supply and Potable Water

The proposed reclamation activity will require the construction of a new 11 kV powerline from the Kloof #10 shaft. Power will be supplied by Eskom and potable water will be purchased from the municipality or existing sources, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

3.5.6 Power supply, Sewage, Process Water and other requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m^3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and Conditioning system;
- Fuel monitoring devices;
- Refuelling bays.

Furthermore, an additional handling area for secondary screened out vegetation from the TSF that cannot be processed on the TSF, will be located close to the TSF Dam No.2. To allow for vehicle movement and transfer of small amounts of screenings generated at the transfer station, the vegetation handling and pick up area, will occupy a footprint of approximately 1 ha (10 000m^2). Removal of the vegetation will be done on a regular basis either daily or every second day to the composting area located on TSF1.

Residual tailings waste material from the processing plants, after extraction has taken place, will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines. Removal of the vegetation will be done on a regular basis to prevent accumulation.

3.5.7 Rehabilitation

The property on which the Amandelbult TSF is situated currently belongs to Rustenburg Platinum Mine (RPM). Rehabilitation will be in line with AMB closure plans and EMPRs.

After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability. Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the intention is to use the area for redeposition of tailings.

3.5.8 Works Schedule and Life-cycle of the Project

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2 year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18 years Life of Operation (LOO) where hydraulic and mechanical reclamation would take place. After the removal of the material from Dam 2, it is envisioned that the footprint will be reused for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB's overall Business plan and Rehabilitation strategy and Closure Plan.

3.5.9 Technical details

The following infrastructure Figure 3-4 will be used on site for the reclamation and processing of the TSF Dam 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen
- Set of cyclones
- Process water tank
- Gland service water tank
- Compressor
- MCC
- Transformers
- Substations
- Overhead Crane
- Mini workshop
- Firewater tank
- Ablution facilities
- Offices
- Control room
- Surge tank
- Concrete and Steel structures
- Pumps
- Piping
- Instrumentation

TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m^2 (0,8 Ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000L)
- Fuel dispensing system
- Fuel filtration and Conditioning system
- Fuel monitoring devices
- Refuelling bays

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction.

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Concentrator and the AMB Central Services Workshop, and another located in the Chrome Recovery Plant (CRP) area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. the area of the road will be approximately 1.1 Ha (11 000m^2)

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.
- TSF Chrome Recovery Plant – Current plant to be used - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.
- TSF Tailings Thickening Plant – Current thickening plant to be used- A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral

processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m^3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines. Information that provides perspective on the scale of the Project is presented in Table 3-2 below.

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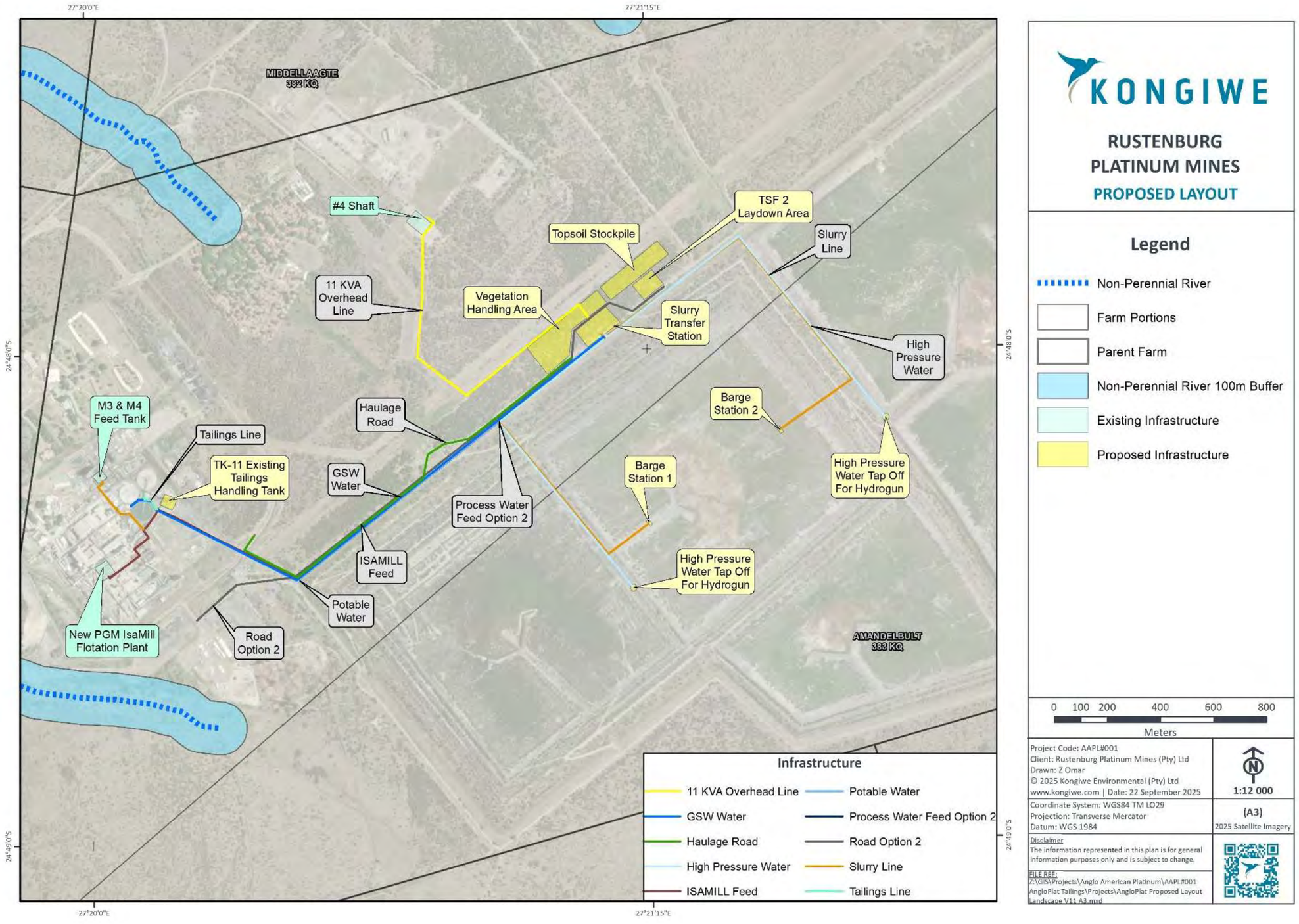

Figure 3-8 Proposed Final and Preferred Layout

Table 3-2: Project perspective and technical details.

Group	Specific	Details
Reclamation	Target Mineral	PGMs and Chrome and all associated minerals in the TSF tailings – Specifically Dam 2 of the TSF complex.
	TSF Reclaimed Area	The Proposed reclamation site and its associated infrastructure including processing covers an approximate area of 122 Ha.
	Depth of minerals	Only surface reclamation of the TSF will be taking place.
	Extent of area for infrastructure	This is described in the infrastructure section below.
	Product	PGMs and Chrome will be the primary product extracted during the reclamation process.
Water Resource use	Water demand	Process water in a closed circuit for the reclamation activities. Water will be sourced from the concentrator plant
Power Resource use	Power demand	Eskom
Employment	Staff allocation: construction	To be determined
	Operating Times	7 days a week - 24 hours a day

3.5.9.1 Estimated Project Timeframes

Table 3-3 gives an indication of the estimated timeframes in relation to the implementation of the actions, activities or processes of the mining phases (construction, operation and decommissioning) for the Proposed Project.

Table 3-3:Estimated timeframes and deadlines of the different phases associated with the Amandelbult TSF Project

Phase	Timeframe	Year Start Date
Pre-Construction and Construction for the site	1 year	2026- 2027
Operations starting at Amandelbult TSF Reclamation and Processing	18 years	2026 – 2044
Decommissioning of some of the reclamation site infrastructure if required?	5 years	2044 – 2049

3.5.9.2 Life-Cycle Phases of the Project

The following table is summary of the activities that will occur at the different phases of this project.

Table 3-4:Summary table of the Activities associated with the different phases of the Proposed Project

Activity	Description
Pre-Construction	
1	Removal of vegetation and site clearance
2	Preparation of access roads should this be required
3	Start implementing monitoring plans, Authorisation, Licensing and EMPr condition.
4	Employment of workers should this be required (minimal)

Construction phase	
5	Operation of construction machinery and vehicles
6	Construction and installation of infrastructure
7	Construction of pipelines and electricity reticulation and power line
8	Instatement of waste management and dust control measures on site
9	Instatement of traffic signage, access, parking bays
Operational Phase	
10	Reclamation Activities
11	Operation of pipes
12	Operation of Slurry transfer station and the associated infrastructure
Decommissioning	
13	Decommissioning and rehabilitation activities: Demolition of temporary infrastructure such as: screens, the slurry transfer station and pipelines, where required and Rehabilitation of the project area where this would not be used for new deposition activities.
Post-Closure	
14	Rehabilitation activities only for reclamation infrastructure and areas not to be reused

3.5.9.2.1 Construction Phase Activities

The construction phase will be short as most of the site infrastructure already exists. Employment will be allocated for the project Access roads will be prepared, and AMB is expected to erect traffic signage, construct turnings, as well as parking bays. In addition to this, AMB will appoint security guards and fence off sites that will be used for the project. During construction, temporary and mobile (park homes) site infrastructure will be established at the reclamation site with existing connections to the power grid and potable water sources. As part of construction and site preparation activities, the stormwater systems will be required/reinstated for capturing and managing dirty water around site.

3.5.9.2.2 Operational Phase Activities

Once the site preparation and construction are completed, Mechanical and hydraulic reclamation can begin as described in Section 3.5.2.

During the operational phase, continual monitoring of both surface and ground water must be conducted. This information needs to be collected and used to update specific water models, and to monitor and evaluate the impact of the operation. The existing grievance process and procedure on site must be maintained during the operation of this reclamation facility.

3.5.9.2.3 Decommissioning and rehabilitation Phase Activities

During typical decommissioning activities all project infrastructure will be removed where required. The rehabilitation should invariably be evaluated in view of the future land use. If re-development is not proposed, it may still be necessary to carry out work on land to guard against future liability.

The property on which the Amandelbult TSF is situated currently belongs to Rustenburg Platinum Mines Limited. As such, the rehabilitation will need to be in line with Rustenburg Platinum Mines Limited (AMB)'s closure plans. At present AMB's closure plan indicates that the area must be rehabilitated to wilderness.

However, once the TSF has been reclaimed, processed, and specific non-usable infrastructure or areas is rehabilitated, the area will be utilised for a new tailings deposition strategy.

3.5.9.2.4 Maintenance and Aftercare

Maintenance will specifically need to focus on the rehabilitated areas. Furthermore, groundwater and surface water monitoring will have to take place in accordance with the requirement of the specialist studies and the EMPr. The monitoring process will be used to assess whether the rehabilitation process has been successful or not and to indicate that no further deterioration on groundwater quality is foreseen.

Maintenance will specifically focus on the rehabilitated in accordance with the approved EMPr.

3.6 Health and Safety

AMB it is accountable for their own safety and the safety of others. Their managers and supervisors commit to providing effective leadership in safety while recognising that good safety behaviour is the responsibility of all those who work for us within the context of accountability. Management of every operation own and is responsible for the full and effective implementation of their safety management system in order to prevent injuries and improve their management system and safety performance (Valterra Platinum, 2025).

This requires compliance with all applicable legal and other requirements that relate to their safety risks, the allocation of appropriate resources and the provision of training, education, consultation and auditing. Valterra Platinum commits to open, transparent, communication with their employees, business partners, suppliers, other and interested third parties to encourage a safety culture that reflects the intent of this policy and fully enables psychological safety. AMB has set appropriate, progressive objectives and monitors progress against these to ensure continuous improvement towards their goal to be fatal and injury free (Valterra Platinum, 2025).

3.7 Conclusions from the Scoping Phase

The Scoping study for the Project, which commenced in July 2025, was undertaken in accordance with the EIA Regulations of 2014 (as amended), promulgated in terms of Section 24 (5) of the NEMA. The Scoping report was aimed at detailing the nature and extent of the project, detailing the possible project risks and mitigation measures as well as the plan going forward into the EIA phase.

The baseline environmental information provided in the Scoping report was compiled as a high-level desktop investigation, and the project information was sourced from existing background information, relevant to the Proposed Project. A site visit was undertaken by Kongiwe on 22 January 2025, and photographs were taken by the project team to illustrate the current site conditions. Refer to Appendix B for photographic evidence of the site visit. The final scoping report was approved, and an acceptance letter was issued by DMPR on 2 September 2025, granting permission to proceed with the EIA phase. All instructions and recommendations provided have been incorporated into the EIA/EMPr phase.

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3.7.1 Potential Impacts Identified in the Scoping Phase

Preliminary environmental impacts were determined in the Scoping Report and have been populated, herewith in Table 3-5. As part of the Plan of Study for the EIA phase, these impacts have been further refined, calculated and assessed for all the feasible alternatives identified. Mitigation and management measures have been suggested by the specialists for all impacts identified as is indicated in Section 9.

Table 3-5: Potential identified impact because of the Proposed Project.

Environmental Component	Component Type	Potential Impact (Positive and negative)	Specialist Study Planned for EIA
Physical Environment (non-living)	Hydrology (including wetlands, surface water and ground water)	❖ Potential for further Groundwater pollution, in local surface water and groundwater if runoff from operations is not adequately managed through efficient storm water management structures; ❖ Soil, surface water and groundwater contamination due to pipeline or tanks leaks/spillages/PCD leaks or seepage if inadequate preventative measures are not implemented; ❖ Potential impact on drainage lines from access runoff during the operational phase of the project; ❖ Increased bare surfaces, runoff and potential for erosion; ❖ Recharge of contaminated water by means of seepage from the TSF and any unlined storm water channels; ❖ The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality; ❖ Runoff into the downstream watercourses impacting on water quality; ❖ Erosion and wash off of contaminated soils resulting in water quality issues in the surrounding watercourses; ❖ Flooding due to increased rainfall.	Surface Water Impact Assessment Groundwater Impact Assessment
Biological Environment (living)	Ecology and Biodiversity (including fauna and flora)	❖ Displacement of animal species, increased competition in areas where carrying capacity is already compromised; ❖ Removal of invasive plant species from the TSF; ❖ Fragmentation and loss of habitats; ❖ Restriction on animal movement patterns.	Biodiversity Impact Assessment
Social and Economic Environment	Employment	❖ Continued employment (and potential increase) and job security; ❖ Potential employment opportunities during the construction phase;	Social Impact Assessment

Environmental Component	Component Type	Potential Impact (Positive and negative)	Specialist Study Planned for EIA
		❖ Continued investment in local economy; and ❖ Better management and control of the area against illegal/informal mining.	
	Land use	❖ Land use will change to an active reclamation site; ❖ Additional deposition capacity on disturbed areas.	Social Impact Assessment
	Community health and safety impacts, i.e. health impacts of noise, air and water quality, road safety.	❖ Generate dust, potentially causing respiratory issues for nearby communities; ❖ Failures on proper method of reclaiming TSF during Construction/operational can contaminate nearby water sources posing health risks to communities that rely on these sources for drinking or irrigation; ❖ Construction and operational activities can generate noise, potentially disrupting community life, wildlife and causing stress; ❖ Increased risk of accidents i.e. heavy machinery and vehicles movements during construction phase; ❖ Road damage i.e., heavy traffic can damage roads, leading to potholes and uneven surface that increase the risk of accidents; and ❖ Improved road infrastructure such as better maintained roads and increased accessibility.	Social Impact Assessment
	Air Quality	❖ Possible increase in dust levels in some areas during operations; ❖ Fallout dust nuisances; ❖ Air quality impacts.	Air Quality Impact Assessment
	Noise	❖ Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors, pumps and increased vehicular travel during the operational phase as	Noise Impact Assessment (Ambient)

Environmental Component	Component Type	Potential Impact (Positive and negative)	Specialist Study Planned for EIA
		well as processing activities; ❖ Noise associated with the mechanical and hydraulic reclamation.	
Cultural Environment	Cultural Heritage	❖ Should heritage resources be present in the area, the reclamation project could potentially impact these.	Heritage Impact Assessment

3.7.2 Main issues arising in the Scoping Phase

During the Scoping phase of the project, issues and concerns were raised by various Interested and Affected Parties (I&APs) and Organs of State. The main issues raised have been sourced from the Comments and Response Report (CRR) included as part of the FSR (**dated 28 July 2025),** which was submitted to the DMPR for their consideration. This section provides a summary of the main issues raised during the Scoping Phase and provides an indication of where in this EIA these issues have been addressed Table 3-6.

Table 3-6: Potential identified environmental and social impact of the Proposed Project.

Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Bafedile Moselane, Head: Integrated Development Plan (Strategic Planning) MKLM	Ms Moselane requested clarification on the project area, specifically whether it is an existing area that has been rezoned or if it remains designated as agricultural land. She highlighted that some communities within the Moses Kotane Local Municipality are in close proximity to the TLM. Ms Moselane also requested that the project documentation be made accessible at the Moses Kotane Public Library and the Local Municipality offices.	Mr Ceronio explained to Ms Moselane that the Project area is located within the Amandelbult Mine Complex, which falls under the TLM. He further clarified that both directly and indirectly affected landowners are situated within the TLM. The Project area is not zoned as agricultural land as it is planned to be undertaken on the mine's current footprint. The Kongiwe team acknowledged the comment regarding the distribution of documents to the Moses Kotane Local Municipality.	Section 2: 2.1 Figure 2-1 Figure 2-2 Table 2-2

Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Chairperson, Mantserre Traditional Authority	The Chairperson of Mantserre T.A. raised an inquiry regarding not being notified about the Proposed Project, highlighting that Mantserre had not been informed. He emphasised that, as Mantserre is leasing the land to RPM, notification should have been provided by the Amandelbult Corporate Affairs and Sustainability team.	The AMB Corporate Affairs and Sustainability team noted the comment. Ms Fiehn from Rustenburg Platinum Mines indicated that the project was on a farm adjacent to the leased land and that the Mantserre Community Development Trust had been identified as an Interested and affected party. She indicated that this was the first discussion/meeting on the project with all leadership being present.	Section 2: Table 2-2. Section 7: 7.4.6.1
Ms Hazel Fiehn, Environmental Authorisations and Permitting Principal, Valterra Platinum and Amandelbult Mine Complex	Ms Fiehn confirmed that engaging stakeholders directly affected by the project is essential, as they are often local residents or neighbouring communities in areas where the project will be implemented. These parties, being directly impacted, should be prioritized in the consultation process. It was suggested that structured and formal engagement methods be adopted to address concerns and ensure effective communication with these key stakeholders throughout the project lifecycle.	All attendees noted Ms Fiehn's comment.	Section 7: Section 7.6
Mr Tshepo Kgasago, (Advisor to the King)	Enquired about whether the reclamation process would include Dam 1 and Dam 2.	Mr Foord Ceronio confirmed that only Dam 2 would be reclaimed. Ms Hazel Fiehn stated that while it is still early in the process, investigations have been conducted into the value of each tailings dam and the feasibility of their respective reclamations. Ms Hazel Fiehn stated that Dam 1 would not be feasible.	Section 3.5 Section 4
Kgosi Ramokoka, King of the Ramokoka	Enquired about the timelines associated with the EIA process	Mr Foord Ceronio explained the various timelines related to the EIA process and what each stage of the process would require concerning public engagement.	Section 3.2.4

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Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Tshepo Kgasago, Advisor to the King	Enquired about how the negative potential environmental impacts would be managed and what the strategy would be behind that.	Mr Foord Ceronio explained that the specialist studies would provide recommendations as to ways to deal with the potential negative impacts and provide potential mitigation measures. Mr Foord Ceronio explained that as the Environmental Impact Assessment Practitioner, Kongiwe would also include mitigation measures to reduce the potential impacts associated with the Proposed Project. Mr Foord Ceronio explained that the report which includes the mitigation measures would also be available for public review and that would provide the opportunity for any additional inputs from the community to be made. Mr Foord Ceronio explained that the report would be made available to the public and this would also be communicated to the stakeholder database.	Section 9 Section 9.3
Mr Steven Lerumo	Mr Lerumo expressed concern that the community is being used merely as a rubber stamp by the mine in its efforts to obtain EAs for its operations. He emphasised the need for genuine community involvement in decision making processes, rather than token consultation. He specifically requested that the air quality specialist conduct a thorough assessment of the potential impact of dust emissions from nearby platinum mines on the health and wellbeing of the community.	Mr Moyo explained that the community would be given opportunities in accordance with the SLP. He further highlighted the Corporate Social Responsibility (CSR) initiatives, including the water project that RPM (Pty) Ltd (AMB) built for the community of Smash Block. Kongiwe noted the request to conduct an air quality assessment. Post Meeting Note: An air quality impact assessment in accordance with the Project is being undertaken by a qualified specialist. The findings of this report will be used in the	Section 8.11 Section 9

Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
	Mr Lerumo highlighted the importance of community upliftment, noting that no novices from the local community are currently employed at the mine. He stressed the need for local employment opportunities, particularly for young and unskilled community members. Furthermore, he urged that local Small, Medium and Micro Enterprises (SMMEs) be given meaningful opportunities to participate in and benefit from the Proposed Project. Lastly, Mr Lerumo expressed gratitude for the EIA study, noting that there are areas of heritage and biodiversity value within their community that need to be protected and considered in the planning and execution of the project.	drafting of the EIA and the Environmental Management Programme (EMPr).	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Ms Liefferink stated that, with regards to the reclamation operations, she assumes that there is no mining right required, only a waste license and water use license. She further assumed that the materials to be reclaimed would include residual chrome and platinum group metals, including platinum.	Mr Ceronio responded by explaining that a mining right amendment is currently being undertaken to incorporate the reclamation activities into the mining works program. He further confirmed that Ms Liefferink assumptions were correct, that the material reclaimed include PGM metals and chrome.	Section 3.2 Section 2.2 Section 3.5.2
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Ms Liefferink noted that, since Valterra and RPM are aligned with or subscribing to Global Industry Standards on Tailings Management (GISTM)	Mr Ceronio agreed with Ms Liefferink's comments and confirmed that an air quality impact assessment is currently being undertaken. He stated that the assessment will	Section 8.9 Section 9

Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
	principles, meaningful consultation is expected, and she believe such dialogue is indeed taking place. However, she emphasised that GISTM also highlights the importance of incorporating suggestions from project-affected communities into the actual decision-making process. She expressed hope that some of the community's input will meaningfully influence decisions going forward. Regarding mining methods, she noted that while hydraulic mining may help reduce dust fallout, mechanical mining could potentially worsen it. She mentioned that she is a member of the Bojanala Waterberg Air Priority Stakeholder Group and is aware of existing non-compliances, adding that the air quality in the region remains a concern. Ms Liefferink added that she would like to ask whether the applicant has an abatement plan in place. She also enquired if it would be possible to receive information on the air quality monitoring results, or whether that information will be shared at the next Bojanala Air Quality Priority Area stakeholder group meeting. In addition, she expressed interest in the project's air emissions licence and requested clarity on the monitoring parameter; specifically, whether they	specifically evaluate PM2.5 and PM10 dust fallout resulting from both hydraulic and mechanical reclamation methods. Post meeting comment: RPR AMB does not have an Air Emissions Licence as this Licence is not required for this operation.	

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Stakeholder	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
	include PM2.5, PM10, ozone, NOx, and sulphur dioxide. She further asked whether the proposed mechanical mining process might exacerbate dust fallout, although she acknowledged that this issue may be addressed during the EIA phase.		

3.7.3 Scoping Phase Conclusions and Recommendations

The Scoping report found **that no environmental fatal flaws** exist for the Proposed Project. The findings of this FSR indicated that the Project and its associated infrastructure would pose minimal and short term negative environmental impacts if adequate and appropriate mitigation measures are implemented; and positive long term environmental impacts when the project has been completed. Most importantly, the removal of this TSF would assist with the alleviation of a pollution source, and the reclamation (remining) project aims to unlock value from the tailings, turning a potential liability into an opportunity for increased production of PGMs and Chrome. Furthermore, this will reduce liability and potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

According to the Way Forward and the Plan of Study, contained in the FSR, impacts associated with the Project need to be considered further during this EIA Phase. It is important to take note of the current conditions of the Project area and the sensitive environment around it. The TSF is a source of pollution and cause other direct and indirect nuisances to the surrounding environment. To note that the TSF is located on an operational mine footprint and an already disturbed footprint, with much of the infrastructure to be located on disturbed area, close to or within the processing footprints.

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4 CONSIDERATION OF ALTERNATIVES

In accordance with the requirements outlined in Appendix 2 of the EIA 2014 Regulations, as amended, a consideration of reasonable and feasible alternatives, including site and technology alternatives and the "do-nothing" alternative must be undertaken. Each alternative is to be accompanied by a description and comparative assessment of the advantages and disadvantages that such development and activities will pose on the environment and socio-economy. When no feasible and/or reasonable alternatives can be identified and investigated in terms of a comparative assessment during the Scoping Phase, the EIA Report will then not contain a section with alternatives.

The EIA 2014 Regulations, as amended, define alternatives as the different means of meeting the general purpose and requirements of the activity, which may include alternatives to:

- The property on which or location where it is proposed to undertake the activity;
- The type of activity to be undertaken;
- The design or layout of the activity;
- The technology to be used in the activity;
- The operational aspects of the activity; and
- The option of not implementing the activity.

Although a collection of alternatives may exist for the Proposed Project, only feasible alternatives have been considered for this Final EIA and are discussed in greater detail below. Kongiwe strives to seek alternatives that maximise efficient and sustainable resource utilisation and minimise environmental impacts.

4.1 The property on which or location where it is proposed to undertake the activity

The Project is the reclamation and processing of an existing TSF. The TSF Dam 2 proposed to be reclaimed is an existing TSF and therefore, has **no alternative sites**. Considered alternatives that have been designated as not preferable included infrastructure on properties to the north. These have been excluded in the optimised design based on environmental and technical considerations.

Currently the TSF is a passive mineral disposal area with no other land use or development associated with them. The reclamation project aims to unlock value from the tailings, turning a potential liability into an opportunity for increased production of PGMs and Chrome. By re-processing the material from the tailings dams, AMB will address both risk management and production optimization, and profitability. Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

The location of the processing plants has considered numerous locations next to the existing concentrator plant area.

The property on which the Project will be undertaken contains the AMB complex and the TSF Dam 2. No other properties have been considered for this proposed project. This project will be confined to Portion 1 and the Remaining Extent of Amandelbult 383 KQ and the Remaining Extent of Middellaagte 382 KQ.

4.2 The type of activity to be undertaken

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes.

Mechanical Reclamation: This method involves the removal of dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

PGMs and chrome TSF reclamation and processing, is the recovery and treatment of Platinum surface tailings generated from historical underground and opencast mining operations. The reclamation business is high-volume and low risk. Vast quantities of material are processed through processing plants to recover PGMs and chrome from dormant TSF Dams at a recovery rate that varies depending on the material being treated.

The reclamation of the TSF has become economically viable, ensuring safe and stable work processes during the reclamation. The reuse of the TSF footprint once reclamation has been completed allows for improved stability of the integrated TSF complex and reduces the need for a new TSF on a greenfield area. This has led to the 'Preferred Activity' of reclamation rather than retaining the dormant Dam 2 on site.

Table 4-1: The advantages and disadvantages of reclaiming and reprocessing of the TSF

Option	Advantage	Disadvantage
Mechanical Reclaiming and reprocessing of the TSF	❖ Low-technical-risk nature of tailings retreatment projects sets them apart from traditional underground operations. ❖ Not labour intensive. ❖ Minimal safety issues. ❖ Easy access to surface tailings, as well as lower labour and operating costs. ❖ Boost to local/regional/national economy. ❖ AMB business continuity ❖ Reuse of reclaimed footprint for TSF development	❖ Potential profits rely on substantial volumes of material. ❖ Potential negative environmental effects during construction and operational phase of the project.

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4.3 The Design and Layout of the Activity

The current layout plan (Figure 4-5) is considered the preferred option based on its limited footprint and avoidance of environmental risks. Various alternatives for the Project were considered as possible layout plans (Figure 4-5). The layout plan is dictated by the existing location of the TSF and its associated infrastructure.

The proposed layout, nature of the expansion activity and associated infrastructure will be implemented with the aim to reduce substantial impacts on the area.

The following alternatives of the layout have been considered:

Three possible plant layouts where considered. These three layouts are illustrated in Figure 4-1 below. This illustrates the use of the existing Processing plant (Red circle), A new processing plant below the existing Kilken plant (Blue circle) and a new plant to the North on an existing and disturbed contractors' yard (Purple circle).

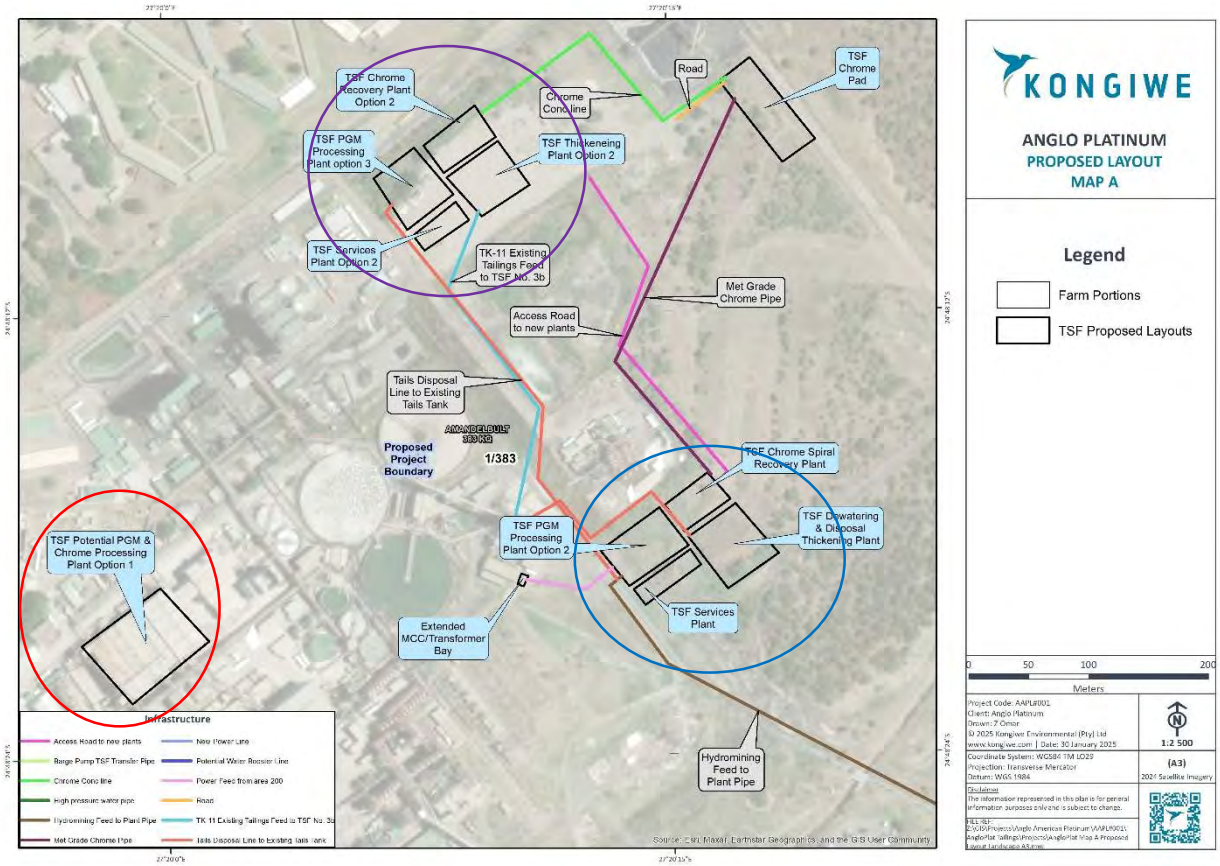

Figure 4-1: Previous Plant layout alternatives.

An alternative position for a new PCD and use of existing PCD had been considered on site. These are illustrated in the Maps below, Table 4-2. The Red Circles indicate the locations below. The layout of the PCD presented Figure 4-3 in seen as the preferred layout. The current layout is preferred due to the operational requirements on site and use of existing PCD infrastructure.

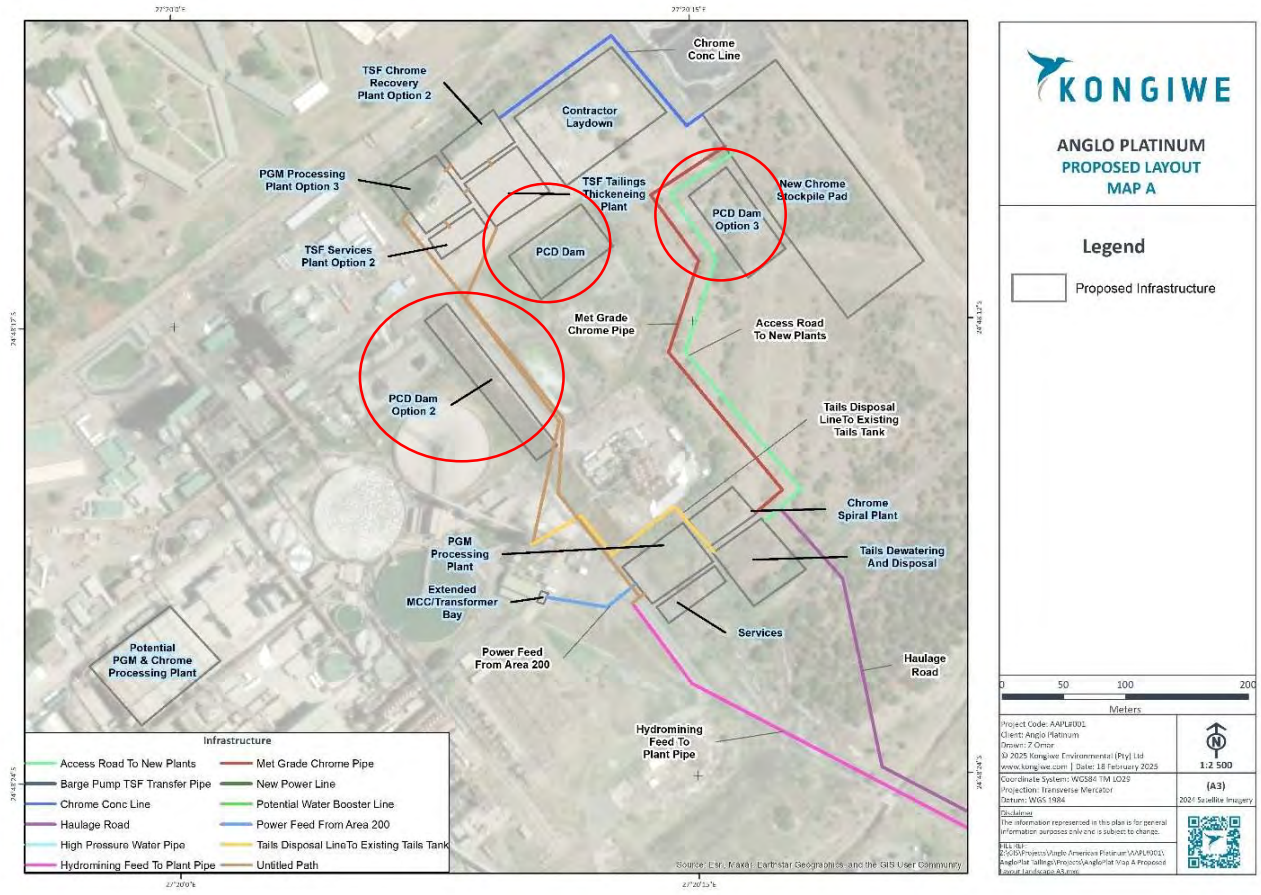

Figure 4-2:Previous PCD layout alternatives.

Alternative layout has also been considered for the location of the Chrome Stock pad. These are illustrated in the Maps below, Figure 4-3. The Red Circles indicate the layout below. The existing in use locations of the Chrome Stock pad are seen as the preferred location. The use of existing infrastructure is preferred on site due to the operational ease of the location and access to existing infrastructure (Figure 3-5). This option also makes use of existing infrastructure resulting in no need for further development.

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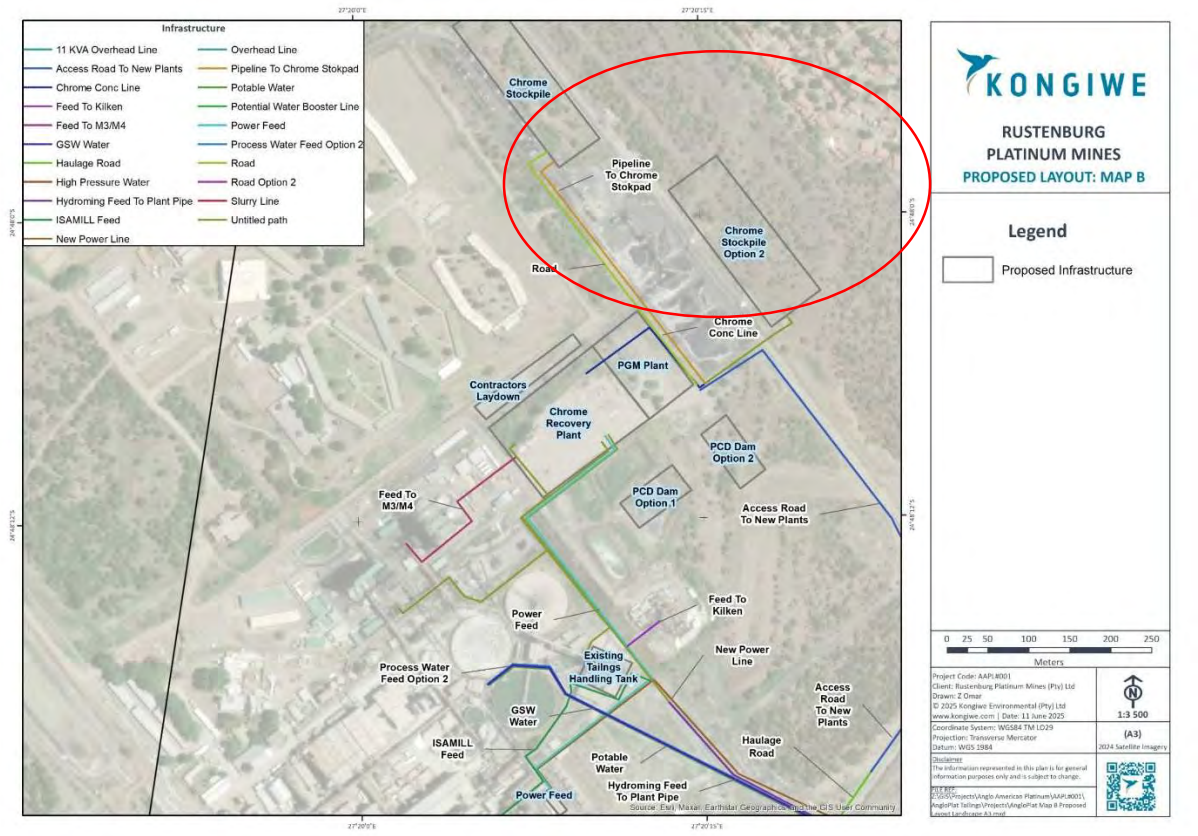

Figure 4-3:Previous Chrome Stockpile location alternatives (not preferred).

Three alternatives were being considered for the process water provision. The three sources are the Return Water Dam and the Holding dam where new booster stations will be constructed and the current and operational concentrator plant. Pipelines to the reclamation area will be new pipelines and run within existing pipeline routes. These two water source options from the Return Water Dam and the Holding dam are indicated below in Figure 4-4, located within close proximity to water courses and wetlands. The option to use water from the current concentrator will run new pipelines in an existing pipeline route to the proposed slurry transfer station. The current concentrator plant avoids pipelines as well as any construction near to water resources. As such this is preferred Figure 4-5 and Figure 4-6.

Two alternative locations were also investigated for the location of the vegetation handling area. These would have been determined by the final location of the slurry transfer station. These are indicated in Figure 4-7 below.

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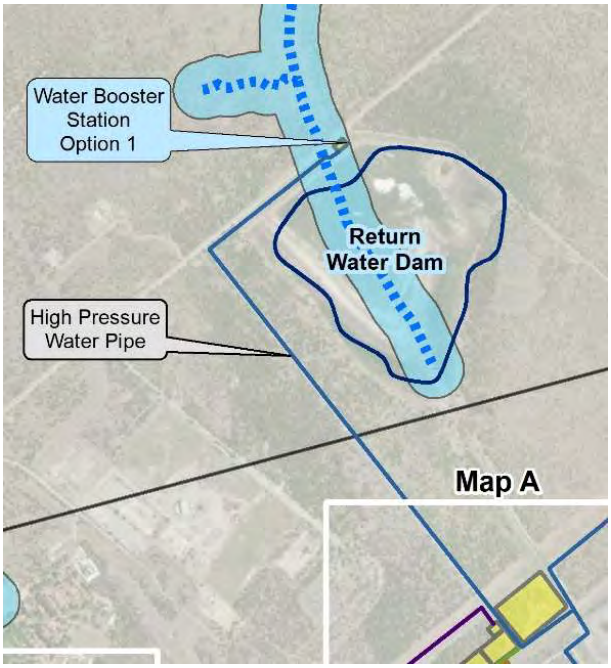
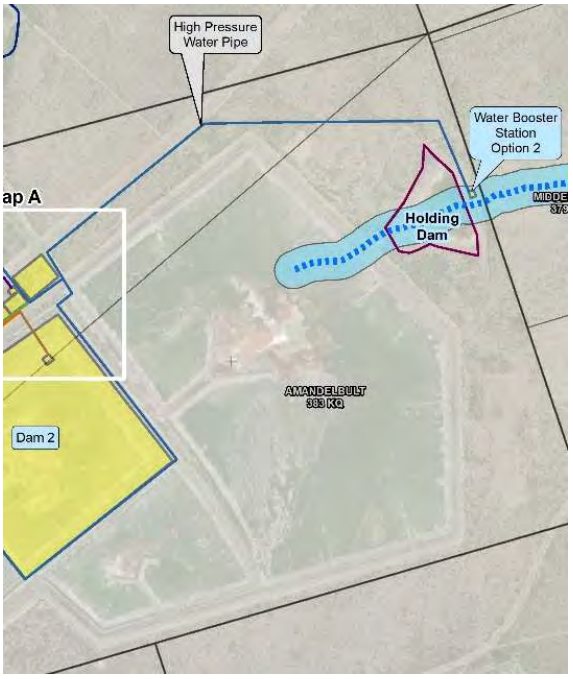


Return Water Dam Option 1



Holding Dam Option 2

Figure 4-4: Process Water options.

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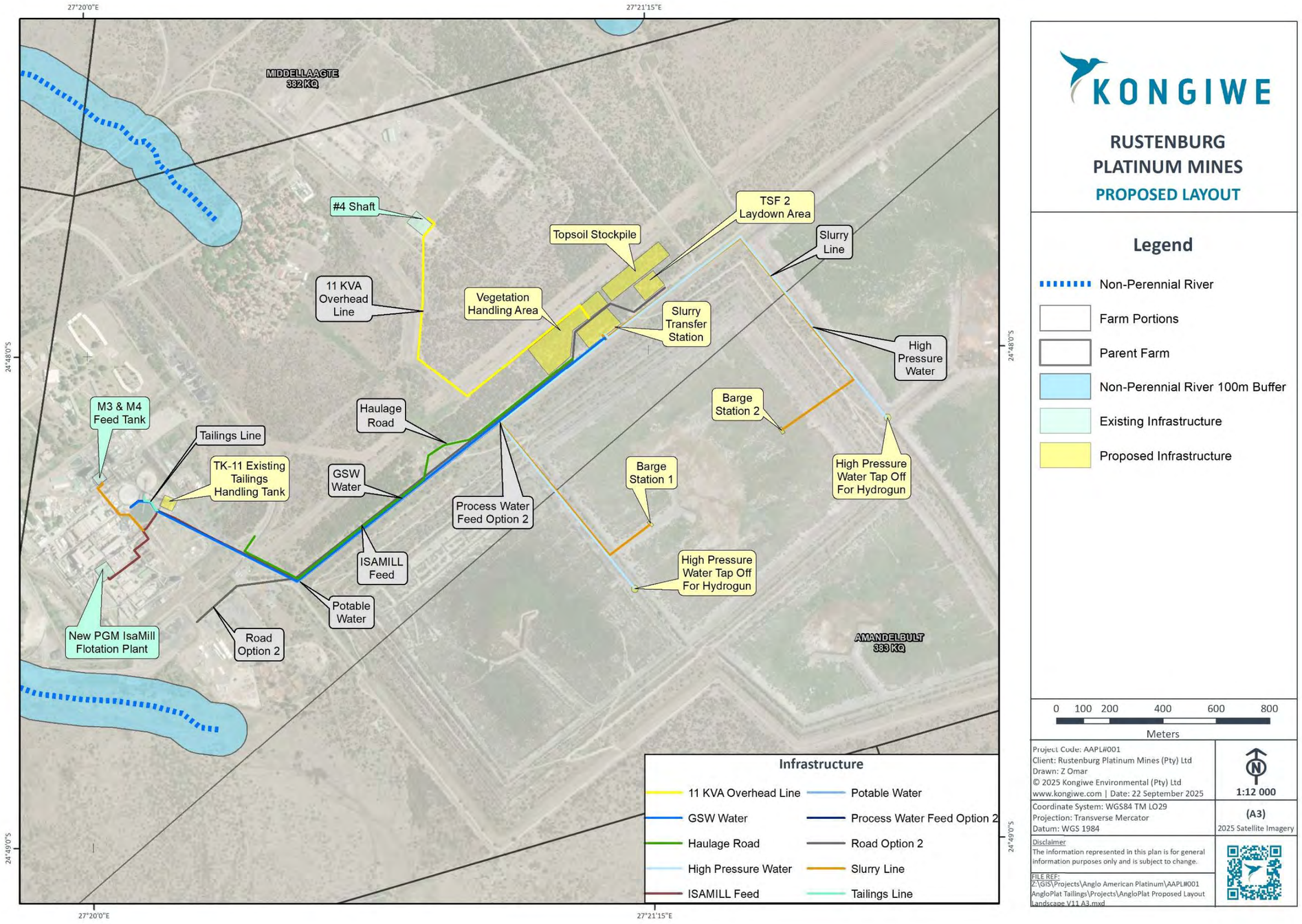

Figure 4-5: Current preferred overall layout for infrastructure.

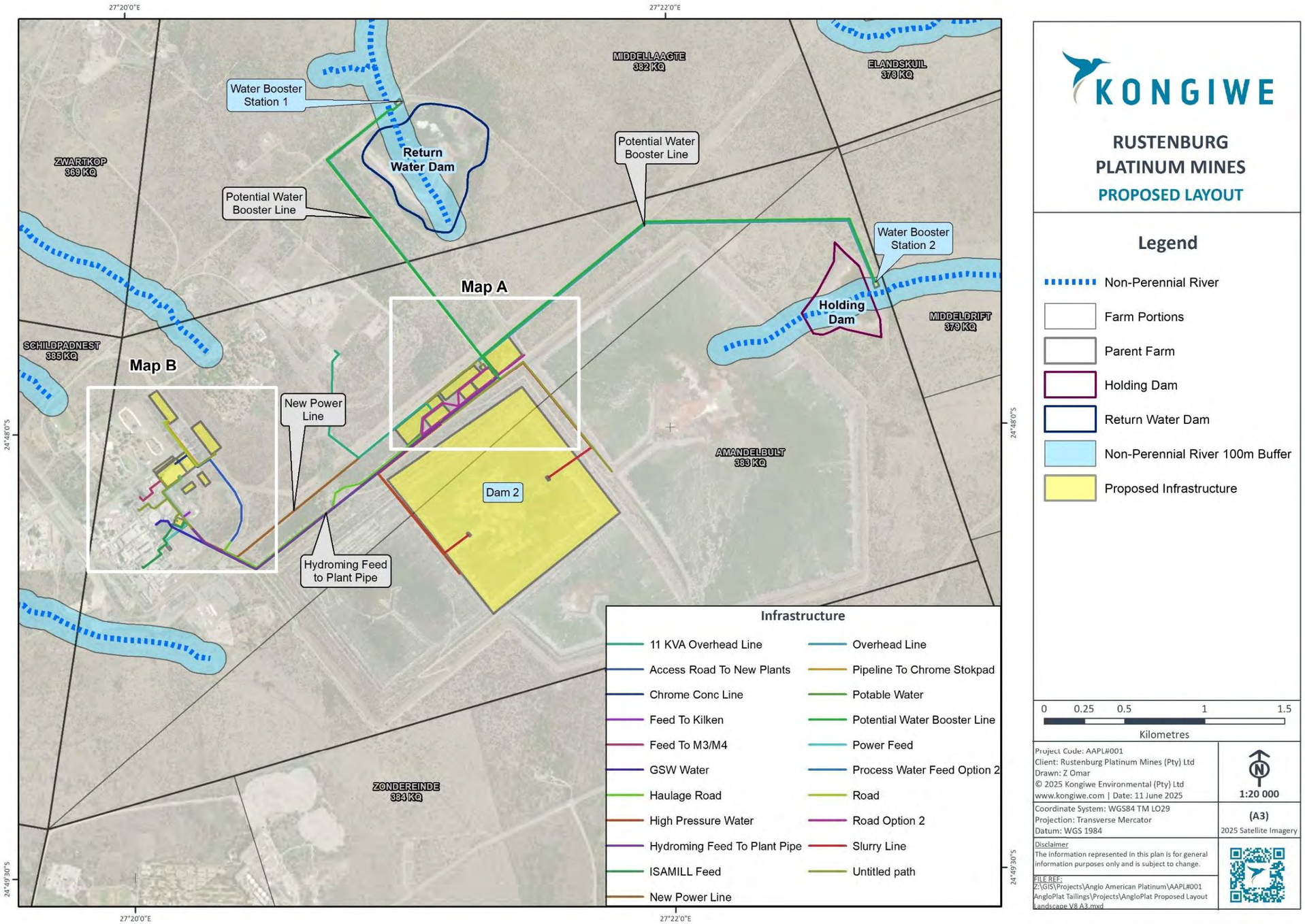

Figure 4-6: Considered Alternatives

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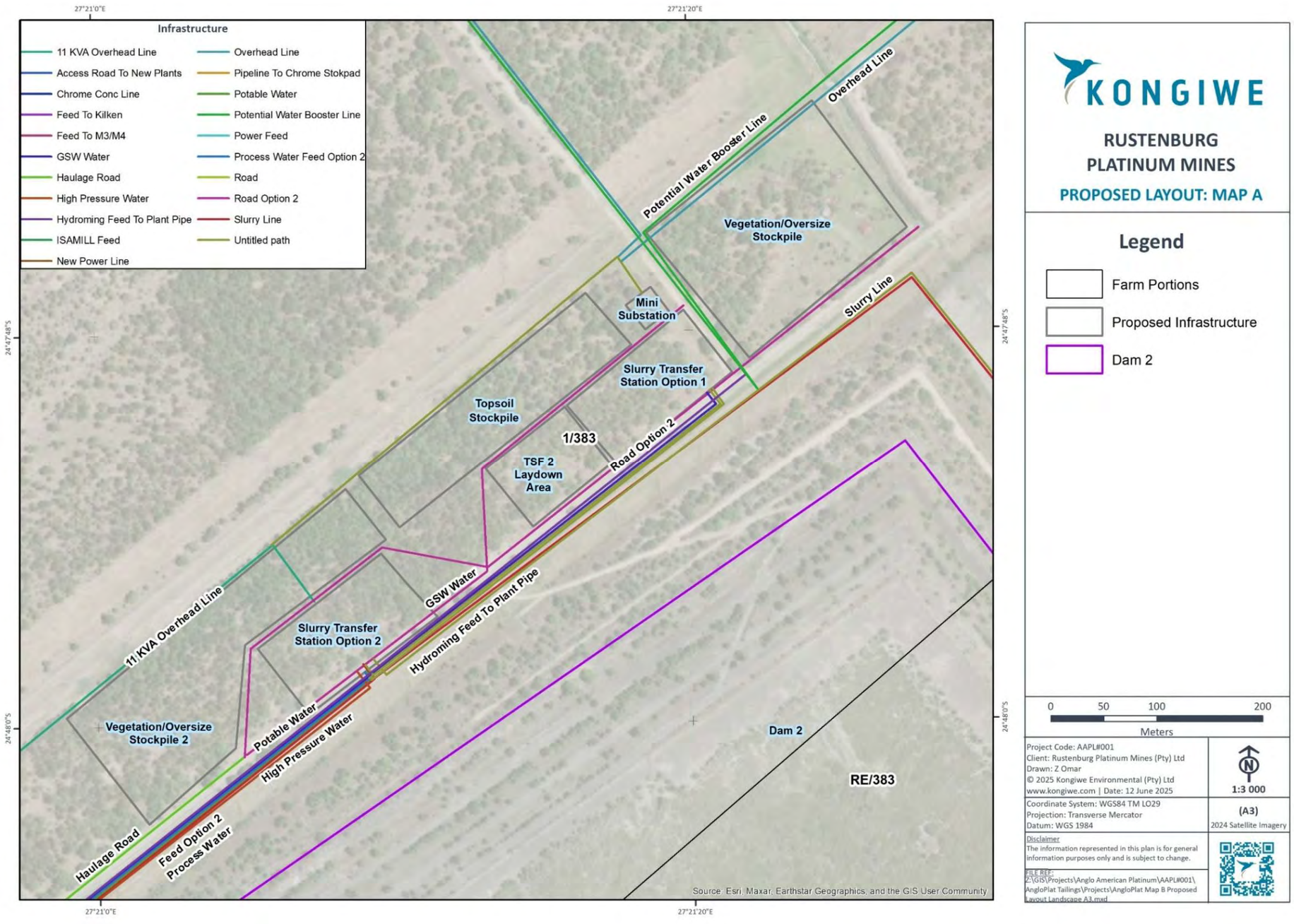

Figure 4-7:Considered Alternatives (Map A)

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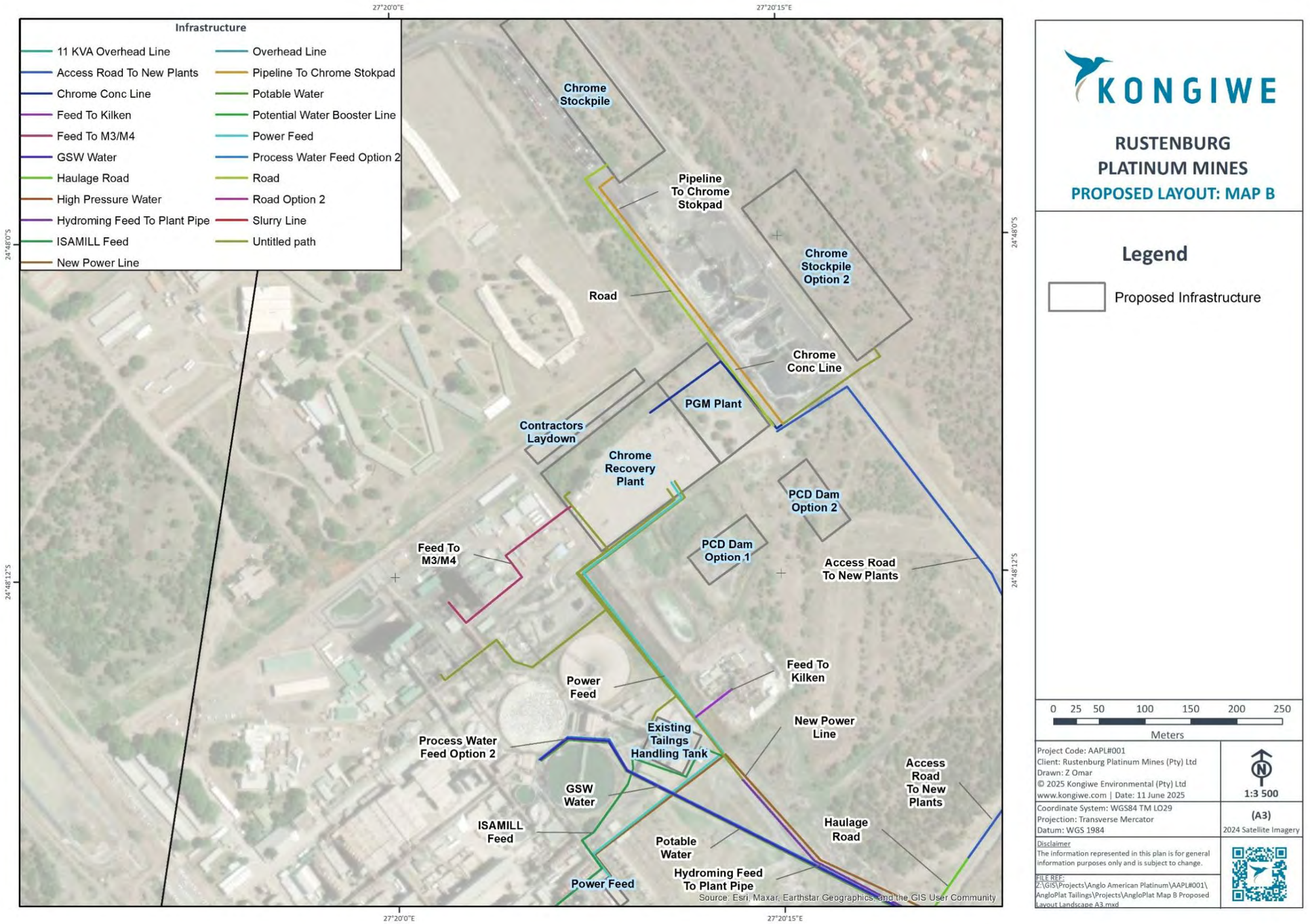

Figure 4-8:Considered Alternatives (Map B)

4.4 The Technology to be Used in the Activity

AMB proposes to investigate and implement both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.

It is envisioned that once the EA has been granted, the using of the existing plants and associated infrastructure will commence, where after the hydraulic and mechanical reclamation will be undertaken. No alternative technological options are considered.

Both options are currently considered as the preferred option. AMB will implement the best available technology in the best possible combination, in a way that is cost effective for this specific project. Best practices will be implemented where applicable. Where technological alternatives can be implemented with regards to the minimisation on resource requirements these were investigated and implemented.

4.4.1 Recycling, potable and process water use, sewage and electricity reliance:

The reclamation and processing of the Amandelbult TSF will, in its operational phase, implement recycling policies and measures for optimal utilisation of resources and minimisation of waste generation. The reclamation station will require electrical power, which will be supplied through an 11 kV powerline. An alternative powerline option from #4 Shaft, approximately 1.3 km long, has been investigated.

Water requirements for the site will be met through various sources. Potable water will be purchased from the Magalies Water Board, with contingency plans for portable JoJo tanks or connection to existing infrastructure. Sewage infrastructure will be constructed at the TSF laydown areas, with conservancy tanks serviced by honey suckers, with sewage being removed to the AMB waste water treatment works for final disposal. Process water will be recycled and reused on site, sourced from the RWD, Holding Dam, or current concentrator plant.

4.5 The Operational Aspects of the activity

The operational alternatives have been investigated and includes possible process water sources and additional optionality to tie into existing infrastructure. Both these operational aspects are currently being considered as the preferred alternatives and was investigated as part of the EIA.

The proposed process water sourcing options included the water held in the mines existing PCDs, and existing concentrator plant. The first is located at the RWD, this option required a new pipeline from the newly constructed booster station, which will run along an existing pipeline route, to the hydroguns for the hydraulic reclamation. This pipeline will be approximately 7 km in length. The second option for process water is from the holding dam. Process water will be pumped from a newly constructed booster station within a newly constructed pipeline along existing pipeline routes to the hydroguns for use in the hydraulic reclamation. This pipeline will be approximately 7.5km in length. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The third option for process water, will be process water sourced from the existing concentrator plant and new slurry transfer station, located at the base of the TSF. Process water, GSW and potable water will be pumped from the existing concentrator

plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The pipelines are approximately 2.5 km in length each. Water from the concentrator plant is existing and preferred for reasons described above.

Powerlines and other electrical reticulation (TSF Mini Substation) will also be required to provide power to the reclamation station for the reclamation activity from the current substation located at the concentrator plant. This powerline will be approximately 2,5 km long and it will be an 11 kV line. Additional powerlines will be required to run from the new mini substation to the two water booster stations. These will be 11 kV lines and approximately 2,5 km to water booster option 1 and 3.2 km to water booster option 2. A powerline option from #4 Shaft will also be investigated. This powerline is also an 11 kV line from the #4 shaft to the reclamation site. This powerline is approximately 1,3 km long. Power from #4 Shaft is preferred as it is technically preferable and has limited vegetation clearing required.

Additionally, the Project will include the operation of existing and upgraded PGM processing plant as well as an option to tie in with the existing Chrome plant, CRP PCD and Concentrator PCD. These have been excluded and current infrastructure with modification as detailed in the project description is preferred. This significantly reduces the project footprint and has significant improvement on noise.

Table 4-2:The advantages and disadvantages of the operational considered

Option	Advantage	Disadvantage
Process Water Options	❖ All pipelines will be placed within existing pipeline routes. ❖ All proposed pump infrastructure is placed within areas that are located near existing infrastructure.	❖ Both possible options have a similar length, and a similar possible impact. ❖ Located near water courses
Processing of the reclaimed material	❖ Existing plants are included in the optionality. This will help minimise possible new impacts.	❖ Inadequate processing capacity of the current on-site facilities, which could hinder the effective handling of reclaimed material

4.6 The “No-Go” option

The Option of the project not proceeding would mean that the environmental and social status would remain the same as current. This implies that both negative and positive impacts would not take place. As such, the short-term negative impacts on the environment would not transpire; equally so, the long-term positive impacts such as environmental pollution source removal, economic development, skills development, and the availability of land for re-deposition would not occur. The only alternative option is to leave the dumps as they stand; there is no other potential use of the space as the project area is a cluster of potentially polluting historic TSFs that impact upon the surrounding biophysical and social environment.

The “No-Go” Option means non mining of a viable mineral reserve, which will never be processed, or value derived from it.

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The “No-Go” Option also assumes the continuation of the current land use, implying the absence of any reclamation activities and the development of associated infrastructures.

The ‘No Project’ alternative is not preferred due to the anticipated benefits of the proposed reclamation project. The expected indirect benefits resulting from the reclamation of the TSF include:

- Continued supply of Chrome and PGMs to the local and international markets, and therefore contribution to local, provincial and national economy and business continuity at AMB.
- By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.
- Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

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5 POLICY AND LEGISLATIVE CONTEXT

This chapter provides an overview of the policy and legislative context relevant to the reclamation of the Amandelbult TSF. It identifies all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to the planned activities and are to be considered in the assessment process which may be applicable or have relevance to the Proposed Project.

The foundation for Environmental Preservation is entrenched in the **Constitution of South Africa, 1996.** Following the birth of democracy in South Africa, legislative and environmental policies and regulations have undergone a large transformation, and various laws and policies were promulgated with a strong emphasis on environmental concerns and the need for sustainable development. The Constitution provides environmental rights (contained in the Bill of Rights, Chapter 2 (Section 24)) and includes implications for environmental management. The environmental rights are guaranteed in Section 24 of the Constitution, and state that:

"*Everyone has the right –*

- *To an environment that is not harmful to their health or well-being and*
- *To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that*
    - *Prevent pollution and ecological degradation;*
    - *Promote conservation and*
    - *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

To ensure that the various spheres of the social and natural environmental resources are not overlooked, additional legislation and regulations have been promulgated in addition to those contained within the Constitution. The additional legislature and regulations ensure that there remains a key focus on various industries or components of the environment, and to ensure that the objectives of the Constitution are effectively implemented and upheld on an on-going basis. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights.

Table 5-1: Applicable National Legislation and Guidelines

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
The Constitution of South Africa, 1996 Section 24 of the Act states that everyone has the right to an environment that is not harmful to their health or wellbeing; to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development. Section 32 of the Act states that every person has a right to information held by the State and to information held by other people that is required in the exercise or protection of a right. Section 33 of the Act states that everyone has a right to just and procedurally fair administrative action. The Amandelbult TSF has been identified as a pollution source. The Project is in line with the Constitution of South Africa in removing a pollution source that will result in an improved environment for present and future generations.	As per the Requirements of NEMA and the NEMA EIA Regulations, alternative activities that are less taxing on the environment and resources must be investigated where possible. The DSR & Draft EIA Reports were made available for public review (as per the PPP section of this report). The Appeal Process will be described to all stakeholders through the EA notification described in the PPP section of this report. The AMB TSF will assist with the further processing of other TSFs in the area, thereby assisting with the removal of multiple pollution sources. This is in line with the Constitution of South Africa in removing a pollution source that will result in an improved environment for present and future generations.
The One Environmental System In terms of the One Environmental System established by the NEMLAA, an EA in respect of a reclamation operation must be issued within 300 days of the application being submitted. This system aims to streamline the licensing processes for environmental authorisations and water use.	AMB proposes to reclaim the TSF and submit the required documents for the EIA and WML within the prescribed timeframes.
Mine Health and Safety Act (MHSA), Act 29 of 1996 (as amended): AMB vision is to achieve a continuous safe state through effective management of safety at Amandelbult Mine. AMB believes that they can operate injury and incident free. This is highlighted by their policies implemented on site. AMB operates in accordance with the MHSA and associated regulations. This includes creating a safe and healthy work environment and providing the necessary protection and training to staff to ensure their health and safety is not	Although not strictly addressed in the Scoping Report or EIA/EMPr, Protecting the environment contributes to a safe working environment. MHSA regulations will be updated where required to the mine's Code of Practice (COP) and Standard Operating Procedures (SOPs).

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
compromised. Hazardous substances will be adequately stored and labelled. All regulations pertaining to safe use, handling, processing, storage, transport and disposal of hazardous substances; protection of equipment, structures and water sources and the surface of land; dumps and structures connected to reclamation operations; the monitoring and control of those environmental aspects which may affect the health and safety of persons will be applied on site. Regulations pertaining to provision of water, ablution facilities and staff health and safety will be applied on site.	
Mineral and Petroleum Resources Development Act (MPRDA), 28 of 2002 (MPRDA) The Mineral and Petroleum Resources Development Act (MPRDA) of South Africa, enacted in 2002, vested custodianship of all mineral and petroleum resources in the state to ensure equitable access and sustainable development. The MPRDA also mandates that mining companies adhere to environmental management and social responsibilities.	Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right and Mine Works Programme.
National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) The overarching principle of the NEMA is sustainable development. It defines sustainability as meaning the integration of social, economic and environmental factors into planning, implementation and decision making to ensure the development serves present and future generations. Section 2 of NEMA provides for the NEMA principle which apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and in conjunction with other appropriate and relevant considerations. The NEMA principles serve as the general framework within which environmental management and implementation plans must be formulated and serve as a guideline by reference to which any organ of state must exercise any function when taking any decision in terms of the NEMA or any statutory provision concerning the protection of the environment. NEMA authorises the Minister of the DFFE to issue Regulations relating to the administration of the Act 43, which has been done with the publication of the EIA 2014 Regulations, as amended. Section 24(2) allows the Minister to identify activities which may not commence without EA from the CA. This identification has been done in accordance with listing notices referred	It is the objective of this application to align to NEMA. The NEMA is the overarching Act governing sustainable development and the NEMA principles apply to all prospecting and mining operations (which included reclamation activities) and any matter or activity relating to such operation. Listed activities as per the EIA 2014 Regulations, as amended, have been identified (refer to Chapter 3, subsection 3.4).

[3] Sections 24(5) and Section 44

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Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
to as Listing Notice 1, Listing Notice 2 and Listing Notice 3. The NEMA also allows the Minister to determine which authority will be the CA to receive and evaluate applications for EAs. Listing Notice 1 identifies activities of limited scale and effect, which need to be assessed by a fairly simple process referred to as a BA, where after a Basic Assessment Report (BAR) is submitted to the CA. Listing Notice 2 identifies activities of significantly greater magnitude, which require evaluation through an initial Scoping Phase followed by an EIA and an EMPr. This process is generally referred to as the S&EIR process. Listing Notice 3 relates to activities limited to specified geographical areas and matters of concern to the various provinces which require a BAR process to be dealt with by the provincial authority concerned. Regulation 16 (1) prescribes the general application requirements and states that an application for an EA must be made on the official application form obtainable from the CA and must, amongst others, include proof of payment of the prescribed application fee. Regulation 21 provides for the submission of the Scoping Report to the CA for consideration and states that the scoping report must contain all the information set out in Appendix 2 to the EIA 2014 Regulations, as amended. In terms of regulation 22, the CA must, after considering the Scoping Report, either accept the report, with or without conditions and advise the applicant to proceed with the plan of study for EIA or refuse the EA. Once the Scoping Report is accepted by the CA, the applicant must submit the EIA Report inclusive of specialist reports and an EMPr which have been subjected to a PPP. The timeframes for submission of the Scoping Report and the EIA Report inclusive of the timeframes within which the CA must consider the reports and approve the EA are prescribed in regulations 21 to 24 of the EIA 2014 Regulations. Once a decision on the EA application has been reached, the CA must notify the applicant in writing of the decision and give reasons for the decision.	
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA) As part of the waste management matters dealt with in the NEM: WA, waste activities have been identified in GN 921 of 29	Listed activities as per the NEM:WA Regulations have been identified (refer to Chapter 3, subsection 3.4).

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Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
November 2013 4F4: List of Waste Management Activities that have, or are likely to have, a Detrimental Effect on the Environment. GN R921 provides that the waste management activities listed in Category A and B thereof may not commence, be undertaken or conducted without a WML. Activities listed in Category C of GN 921 may only be commenced with, undertaken or conducted in accordance with the National Norms and Standards published in terms of the NEM: WA.5F5. Category A activities require a BAR process while Category B Activities require a S&EIR process. It should be noted that although previously residue deposits and residue stockpiles were regulated in terms of the MPRDA Regulations and in particular Regulation 73, the National Environmental Laws Amendments Act 25 of 2014 (NEMLAA) deleted section 4(b) from the NEM:WA and residue stockpiles and residue deposits therefore still fall within the ambit of the NEM:WA and its various regulations. Activity B 4(11) of GN 921, as amended by GN 633 of 24 July 2015 now refers to "the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)". The EA and WML are being dealt with as integrated application.	
National Water Act, 1998 (Act No. 36 of 1998) (NWA) In terms of the NWA, the national government, acting through the Minister of Water and Sanitation, is the public trustee of South Africa's water resources, and must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all persons (section 3(1)). In terms of the NWA a person may only use water without a license if such water use is permissible under Schedule 1 (generally domestic type use) if that water use constitutes a continuation of an existing lawful water use (water uses being undertaken prior to the commencement of the NWA, generally in terms of the Water Act of 1956), or if that water use is permissible in terms of a general authorisation issued under section 39 (general authorisations allow for the use of certain section 21 uses	A WULA is not required for the reclamation and processing related activities of the AMB TSF. Activities which did require a WUL were designed out of the project. The required specialist studies were undertaken as part of the impact identification and mitigation phase.

4 Published in Government Gazette 37083

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
provided that the criteria and thresholds described in the general authorisation is met). Permissible water use furthermore includes water use authorised by a license issued in terms of the NWA. Section 21 of the NWA defines water uses which are governed in terms of the Act and for which a WUL is required. In terms of section 40 (1) of the NWA "a person who is required or wishes to obtain a licence to use water must apply to the relevant responsible authority for a licence." These water uses, in terms of Section 21, are as follows (and bolded water uses would apply to this project): ❖ (a) taking water from a water resource; ❖ (b) storing water; ❖ (c) impeding or diverting the flow of water in a watercourse; ❖ (d) engaging in a stream flow reduction activity contemplated in Section 36; ❖ (e) engaging in a controlled activity identified as such in Section 37(1) or declared under Section 38(1); ❖ (f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit; ❖ **(g) disposing of waste in a manner which may detrimentally impact on a water resource;** ❖ (h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process; ❖ (i) altering the bed, banks, course or characteristic of a watercourse; ❖ (j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and using water for recreational purposes; ❖ (k) using water for recreational purposes. The WULA must be prepared and submitted in accordance with the Water Use Licence Application and Appeals Regulations 2017 published in GNR 267 on 24 March 2017 and must generally be supported by a Technical Report, as well as conceptual design drawings of all water related infrastructure. The regulations on the use of water for mining and related activities aimed at the protection of water resources (GN 704) published in Government Notice (GN) 704 in Government Gazette (GG) 20119 of 4 June 1999 in terms of the National Water Act, 1998 (Act 36 of 1998) (NWA), stipulate that the minister may in writing authorise an exemption from the requirements of regulation 4, 5, 6, 7, 8, 10 or 11 on his or her initiative or on application, subject to such condition as the minister may	

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
determine.	
National Environmental Management: Biodiversity Act, 2004 (Act No.10 of 2004) (NEM:BA) The NEM:BA provides for the management and conservation of South Africa's biodiversity within the framework of NEMA, as well as the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources. The South African National Biodiversity Institute (SANBI) website and GIS tools were utilised to determine whether any nationally protected and threatened ecosystems occur on site. The Project falls within the Limpopo Province.	NEM:BA was used to inform whether activities triggered Listing Notice 3 (refer to Chapter 3. subsection 3.4). The required specialist studies were undertaken as part of the impact identification and mitigation identification phase.
National Environmental Management: Protected Areas Act (NEM:PAA), Act 57 of 2003 as amended The National Environmental Management Protected Areas Act (Act No. 57 of 2003) (NEM:PAA) concerns the protection and conservation of ecologically viable areas representative of South Africa's diversity and its natural landscapes and seascapes, and includes inter alia: ❖ The establishment of a national register of all national, provincial and local protected areas; ❖ The management of those areas in accordance with national standards; and ❖ Intergovernmental co-operation and public consultation in matters concerning protected areas. Sections 48 to 53 of the NEM:PAA lists restricted activities that may not be conducted in a protected area. Section 48 states that no person may conduct commercial prospecting or mining activities in a: ❖ Special nature reserve or nature reserve; and ❖ Protected environment without the written permission of the Minister and the Cabinet member responsible for minerals and energy affairs; and ❖ Protected area referred to in Section 9: ❖ (b) world heritage sites; and specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act (No. 84 of 1998);	SANBI website and GIS tools were utilised to determine if the project area overlaps with CBAs. The Regulations were utilised to determine the need for any additional listed scheduled activities under GNR 985.
The National Forestry Act, 1998 (Act No. 84 of 1998) (NFA) The NFA protects against the cutting, disturbance, damage, destruction or removal of protected trees. Natural forests and	The Biodiversity Impact Assessment Specialist study was undertaken as part of the EIA Phase. Protected tree and plant species were indicated in

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
woodlands form an important part of that environment and needs to be conserved and developed according to the principles of sustainable management. The purpose of the Act is to: ❖ promote the sustainable management and development of forests for the benefit of all; ❖ create the conditions necessary to restructure forestry in State forests; ❖ provide special measures for the protection of certain forests and trees; ❖ promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes; ❖ promote community forestry; ❖ promote greater participation in all aspects of forestry and the forest products industry by persons disadvantaged by unfair discrimination.	the study, and avoidance should be the primary consideration, and if destruction cannot be avoided, trees to be removed and relocated. Prior to construction and if required, a second scan must be done, and if permits are required, that these are applied for, prior to construction.
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) The NHRA aims to promote good management of cultural heritage resources and encourages the nurturing and conservation of cultural legacy so that it may be bestowed to future generations. The Act requires all developers (including mines) to undertake cultural heritage studies for any development exceeding 0.5 ha. It also provides guidelines for impact assessment studies to be undertaken where cultural resources may be disturbed by development activities. ❖ The SAHRA will need to approve the heritage assessment undertaken as part of the impact assessment process.	A Heritage Impact Assessment was undertaken as part of the EIA Phase. No heritage resources were identified.
Conservation of Agricultural Resources Act (No. 43 of 1983) The Conservation of Agricultural Resources Act (Act No. 43 of 1983) (CARA) includes the use and protection of land, soil, wetlands and vegetation and the control of weeds and invader plants. This is the only legislation that is directly aimed at conservation of wetlands in agriculture. The Act contains a comprehensive list of species that are declared weeds and invader plants dividing them into three categories. These categories are as follows:	The protection of land, soil, wetlands and vegetation and the control of weeds and invader plants are contained within the EIA Report.

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
❖ Category 1: Declared weeds that are prohibited on any land or water surface in South Africa. These species must be controlled, or eradicated where possible; ❖ Category 2: Declared invader species that are only allowed in demarcated areas under controlled conditions and prohibited within 30m of the 1:50 year flood line of any watercourse or wetland; and ❖ Category 3: Declared invader species that may remain but must be prevented from spreading. No further planting of these species is allowed. In terms of the Act, landowners are legally responsible for the control of alien species on their properties. Failure to comply with the Act may result in various infringement consequences and in some instances imprisonment and other penalties for contravening the law.	
The South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998) The National Road Traffic Regulations, 2000 places specific duties on the consignor and consignee of dangerous goods. A consignor means the person who offers dangerous goods for transport (i.e. hazardous waste) and a consignee is the person who accepts dangerous goods, which have been transported in a vehicle. Both consignor and consignee must comply with the requirements of several SANS standard specifications and codes of practice relevant to dangerous goods which have been incorporated into the regulations. The mine owner is responsible for: ❖ Off-loading of the dangerous goods; ❖ Providing the dangerous goods off-loading supervisor; and ❖ Ensuring that the loading and off-loading are carried out by qualified employees trained in the relevant procedures. AMB must, in line with Section 54 of the Act and GN R225, provide evidence that the company has appointed responsible personnel to oversee the off-loading of dangerous goods at its operations. A driver of a vehicle transporting dangerous goods is required to undergo training at an approved training body.	The requirements of the Act and Regulations were considered when assessing the project impacts and developing the associated mitigation measures in the EIA Phase.
Hazardous Substances Act, 1973 (Act No. 15 of 1973) The Regulations for Hazardous Chemical Substances apply to an employer or a self-employed person who carries out work at a workplace which may expose any person to the intake of hazardous chemical substances at that workplace. Regulations 14	The requirements of the Act and Regulations were considered when assessing the project impacts and developing the associated mitigation measures in the EIA Phase.

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
and 15 provide for the labelling, packaging, transportation and storage and the disposal of hazardous chemical substances respectively. These regulations set out specific requirements which form part of an employer's duty to provide and maintain, as far as reasonably practicable, a working environment that is safe and without risk to the health of his or her employees.	
Action Plan of the Environmental Initiative of the New Partnership of Africa's Development, 2003. This Action Plan was established with the aim of encouraging sustainable development, conservation and acceptable use of biodiversity in Africa. It has been recognised that a healthy and productive environment is a prerequisite for the success of New Partnership of Africa's Development (NEPAD), together with the need to systematically address and sustain ecosystems, biodiversity and wildlife. Six areas have been identified: ❖ Combating land degradation, drought and desertification; ❖ Conserving Africa's wetlands; ❖ Preventing and controlling invasive alien species; ❖ Conservation and sustainable use of coastal and marine resources; ❖ Combating climate change in Africa; and ❖ Cross-border conservation and management of natural resources.	As the Project may result in the decrease of pollution, the objectives of the NEPAD to systematically address and sustain ecosystems, biodiversity and wildlife were considered during the EIA Phase of the project.
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA) The PAIA gives effect to the constitutional right of access to any information held by the state and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith.	The requirements of the Act were considered when assessing and involving the public and registered interested and affected parties.
Protection of Personal Information Act, (Act No. 4 of 2013) In terms of section 19 of POPIA, a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access.	Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party to whom the information is supplied.
National Environmental Management Act; National Appeal Regulations, 2014	The requirements of the Act were considered if an appeal may need to be or is lodged for the project.

Applicable Legislation and Guidelines used to compile the report.	Reference where Applied
The purpose of these regulations is to regulate the procedure contemplated in section 43(4) of the National environmental management act relating to the submission, processing and consideration of a decision on an appeal. This Act is used to help guide and understand the appeal process and the procedures may follow.	
Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013) (SPLUMA) The SPLUMA was promulgated in May 2015. SPLUMA is a framework act for all spatial planning and land use management legislation in South Africa. It seeks to promote consistency and uniformity in procedures and decision making in this field. SPLUMA will also assist municipalities to address historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments.	The requirements of this act were considered during the development of the project. AMB has the required team on site, and they have submitted the required rezoning application for the entire mining AMB area.

Table 5-2: Applicable Provincial and Local Policies, Guidelines and By-Laws

Policies, Guidelines and By-Laws	
Limpopo Conservation Plan Version 2 (LCPv2) The main objective of the LCPv2 is to: ❖ Addresses the deficiencies of the current provincial plan; ❖ Takes into account the most up to date spatial data and institutional and expert knowledge; ❖ Aligns the methods and terminology of the plan with the national guidelines for the development of bioregional plans (DEAT 2009); ❖ Takes into account existing spatial biodiversity planning products; and, ❖ Involves skills transfer through working with LEDET staff on the development of the CBA map and GAP assessment. The main purposes of the LCPv2 are to develop a spatial plan that identifies Critical Biodiversity Areas (CBAs) and provides land use guidelines to conserve biodiversity. This plan aims to inform land use planning, environmental assessments, and natural resource management. It uses a systematic spatial biodiversity planning methodology to identify the minimum area necessary to maintain ecologically functional landscapes. The plan is designed to be consistent with national and provincial biodiversity objectives, and to support integrated development planning and sustainable development. It also aims to avoid conflicts with existing land uses and activities.	Aspects of this Plan are applicable to the Proposed Project. Where applicable, these were considered throughout the S&EIA process and were included within the reporting documents.

Limpopo Environmental Implementation Plan, 2016 (EIP) The purpose of the EIP is to: ❖ Coordinate and harmonise environmental policies, plans and programmes and decisions to (i) minimise the duplication of procedures and functions; and (ii) promote consistency in the exercise of functions that may affect the environment; ❖ Give effect to the principle of cooperative governance in Chapter 3 of the Constitution; ❖ Secure the protection of the environment across the country as a whole; ❖ Prevent unreasonable actions in respect of the environment that is prejudicial to the economic or health interests of other provinces or the country as a whole; and ❖ Enable monitoring of the achievement, promotion and protection of a sustainable environment.	Aspects of this Plan are applicable to the Proposed Project. Where applicable, these were considered throughout the S&EIA process and were included within the reporting documents.
Limpopo Environmental Management Act, 2003 (Act No.7 of 2003) (LEMA) LEMA aims to protect and conserve the environment within the Limpopo Province. The objectives of the act is to: ❖ Manage and protect the environment in the province; ❖ Secure ecologically sustainable development and responsible use of natural resources; ❖ Contribute to the progressive realisation of the fundamental rights contained in section 24 of the constitution of the Republic of South Africa; and ❖ Give effect to international agreements effecting environmental management which are binding on the province. This specifically includes the consideration of protected plants Schedule 12.	Various elements of this act are applicable to this project and where applicable these have been included in the design and planning of the project. The required Biodiversity Impact Assessment was undertaken to identify any protected plants within the Project area.

Limpopo Growth and Development Agency Strategic Plan 2014-2019 (LGDA) The main purpose of the LGDA Strategic Plan is: ❖ Addressing the persistent racial imbalances regarding ownership and general configuration of Limpopo's economy; ❖ Addressing the spatially distorted economic development legacy of apartheid rule; ❖ Broadening the base of economic development beyond the Province's dominant metropolitan municipal areas; ❖ The socio-economic transformation envisaged for the second phase of transition to a national democratic society; and ❖ Achieving the outcomes of creating decent work, economic inclusion and equality.	The Project will contribute towards employment creation within the province and will also contribute positively towards economic growth within the region through both its development and operation.
Waterberg District Spatial Development Framework, 2013 revision The Waterberg District Spatial Development Framework (SDF) provides a framework for making resource-effective decisions that can help mitigate the following identified issues in the municipal zone: ❖ Increasing pressure on the natural environment and green infrastructure; ❖ Urban sprawl and fragmentation; ❖ Spatial inequalities and the job-housing mismatch; ❖ Exclusion and disconnection emanating from high potential underused areas; ❖ Lack of securitisation and gated developments, and disconnected street networks (high cul-de-sac ratios and low intersection densities); ❖ Inefficient residential densities and land use diversity. The Project is anticipated to contribute in decreasing the pressure on the natural environment by removing a pollution source to conservation and protected areas.	Aspects of this SDF are applicable to the Proposed Project. Where applicable, these were considered throughout the S&EIA process and were included within the reporting documents.

The Limpopo Province Environmental Management Framework, 2018 (LPEMF) The LEDET decided to produce an Environmental Management Framework for the whole of Limpopo. The objective of the LPEMF is to guide sustainable land use management within the Limpopo Province. The LPEMF, inter alia, serves the following purposes: ❖ To provide a strategic and overall framework for environmental management in Limpopo; ❖ Align sustainable development initiatives with the environmental resources, developmental pressures, as well as the growth imperatives of Limpopo; ❖ Determine geographical areas where certain activities can be excluded from an EIA process; and ❖ Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones in a manner that promotes proactive decision making.	Aspects of this management framework are applicable to the Proposed Project. Where applicable, these were considered throughout the S&EIA process and were included within the reporting documents.
The Public Participation Guidelines in terms of the National Environmental Management Act, 1998 Environmental Impact Assessment Regulations, 2017 This document aims to assist with the participation process of all interested and affected parties regarding any Proposed Project. This guideline provides information and guidance for proponents or applicants, interested and affected parties, competent authorities and environmental assessment practitioners on the public participation requirements of the act, as well as provides information on the characteristics of a vigorous and inclusive public participation process.	This guideline was used to ensure that all of the required steps are followed to ensure that a complete and successful public participation process is conducted.
Integrated Environmental Management Guideline on Need and Desirability, 2017 This document assists Environmental assessment practitioners on the best practice as well as how to meet the peremptory requirements prescribed by the legislation as well as sets out both the strategic and statutory context for the consideration of the need and desirability of a development involving any one of the NEMA listed activities. This document further sets out a list of questions which should be addressed when considering need and desirability of a proposed development.	This guideline was used to ensure that the need and desirability of the project was correctly considered and that the need and desirability of the project was thoroughly considered.
Amandelbult Mine, Safety, Health and Environmental Management (SHE) Policy This document highlights the implemented Safety, Health and Environmental management Policy	This policy document was used to assist in the development of this document and to illustrate the mine's active policies on site.

implemented on site at the Amandelbult Mine. This document highlights the Vision, Principles and Policy with regards to Safety, Health and wellness and the environment implemented on site at the AMB complex.	
Amandelbult Mine, Cultural Heritage Management Plan. This plan aims to define the cultural heritage management requirements, needed to prevent negative impacts on identified cultural heritage resources, and maintain or enhance the cultural significance of the cultural heritage and landscape.	This document was used in the drafting of this Final EIA report to ensure that the required cultural heritage resources and landscape is considered and assessed.

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6 THE NEED AND DESIRABILITY OF THIS PROJECT

The "need and desirability" during an environmental authorisation application process must be addressed throughout all stages of the EIA process.

6.1 Environmental Pollution

TSFs are known contributors to air, water, and soil pollution. While soil contamination is generally confined to the immediate vicinity of the TSF, airborne particulate matter can disperse over several kilometres, and pollution from decant water may extend even further.

Dust generated from these sites poses serious health risks to both humans and animals. It typically contains fine particles that, when inhaled, can damage lung tissue.

This will also lead to improved waste management, as the residual material from the process will be directed to a newly established facility designed for controlled and efficient handling. The Project would play a significant role in eliminating some of these suspected pollution sources and reducing the extent of exposure to surrounding communities.

6.2 Safety and Security

TSFs require a multi-pronged approach to mitigate security concerns, environmental degradation, and community risk. By implementing these measures on Table 6-1, stakeholders can enhance safety, protect infrastructure, and foster sustainable development around mining operations.

Table 6-1: Mitigation Measures for Tailings Storage Facilities (TSFs)

Category	Issue	Mitigation Measures to be considered
Security & Law Enforcement	Unauthorised access	❖ Deploy trained security personnel. ❖ Establish guard posts and patrols.
	Unauthorised access	❖ Install CCTV, motion sensors, and drones ❖ Secure fencing and warning signage
	Lack of coordination	❖ Partner with police and community watch groups. ❖ Share intelligence and alerts.
Infrastructure Protection	Theft of dust control equipment	❖ Lock and shield sprayers and pumps ❖ Use Global Positioning System (GPS) tracking for mobile assets

Category	Issue	Mitigation Measures to be considered
	Cable theft	❖ Bury or encase cables in tamper-proof conduits
Community Engagement	Lack of awareness	❖ Run education campaigns via media and workshops ❖ Distribute flyers and signage
	Economic drivers of theft	❖ Invest in local infrastructure and job creation ❖ Support education initiatives
Illegal Mining & Settlements	Community grievances	❖ Create anonymous reporting channels ❖ Respond promptly to concerns
	Unauthorised mining and habitation	❖ Conduct inspections and evictions ❖ Coordinate with law enforcement

6.3 Need and Desirability Guideline

During the Scoping phase the Need and Desirability Guideline of (DEA 2017) questions was used to identify key issues and alternatives and helped to determine which areas required further investigation in the EIA phase, and which areas did not require further information. Following the undertaking of the specialist studies, the needs and desirability table was updated. The Project is aligned with AMB broader operational goals, especially with Dams No. 1, 2, and 3A having reached their maximum deposition capacity.

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

In terms of financial return, the project offers an attractive fit by focusing on the lowest-cost, highest-return options. By treating the tailings from Dam 2, the project aims to achieve the fastest revenue return. This strategy enhances value at Amandelbult by maintaining operational continuity and improving long term cost efficiency. This in turn will ensure the operationality of the mine as well as its longevity and business continuity. This will also ensure the continued contribution to the local community, regional and national fiscus. The proposed option to redeposit tailings on the same footprint once reclamation has been completed, provides AMB with the opportunity to ensure continued compliance of the TSF within the complex, to current safety requirements under GISTM and thereby to increase the stability, safety and longevity of the TSF complex. This will additionally help minimise the requirement of a new TSF in the future.

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By reprocessing the material from the tailings dams, AMB can optimise production, urgently required for business continuity of these operations. Furthermore, this will reduce liability and potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

Table 6-2 overleaf addressed the Need and Desirability Guideline questions.

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Table 6-2:Need and Desirability Assessment

Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
How will this development (and its separate elements / aspects) impact on the ecological integrity of the area? 1.1. How were the following ecological integrity considerations taken into account? 1.1.1. Threatened Ecosystems 1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure 1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"), 1.1.4. Conservation targets, 1.1.5. Ecological drivers of the ecosystem, 1.1.6. Environmental Management Framework, 1.1.7. Spatial Development Framework, and 1.1.8. Global and international responsibilities relating to the environment (e.g., Ramsar sites, Climate Change, etc.).	The Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator. The provincial and national frameworks and guidelines considered for the Project are detailed in Table 5-1 and Table 5-2. The Biodiversity Impact Study was undertaken and assessed the impact that the reclamation would have on the receiving environment. Section 8.4 of this DEIA report provides ecological background information. To note that almost all of the project activities will be taking place in disturbed areas, primarily within existing mining/processing footprints. The undertaking of this activity will unlock the footprint to be reused for tailings deposition, without moving into Greenfields site for a large extent of the Life of Mine (LoM).
1.2. How will this development disturb or enhance ecosystems and / or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where could these negative impacts not be avoided altogether, what measures were explored to minimise and remedy	The Amandelbult TSF is already in existence, and as such any negative impacts occurring during the construction phase and operational phase will take place within an already disturbed area which is already an operational mine. There is current air quality, surface water and groundwater impacts occurring. Almost all

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(including offsetting) the impacts? What measures were explored to enhance positive impacts?	of the project activities will be taking place in disturbed areas, primarily within existing mining/processing footprints. The biodiversity and air quality impact assessment were undertaken and investigate the impacts that could occur from the reclamation activities.
1.3. How will this development pollute and / or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	TSFs are used to store the byproducts of mining operations, known as tailings. Tailings have historically led to environmental impacts. The reclamation of this TSF could potentially lead to additional impacts to the area which will require investigation. Groundwater and surface water impact assessments are being undertaken to identify the extent of the impacts and to propose mitigation measures. An air quality impact assessment is being undertaken to identify the current impacts and the impacts of reclamation. Stormwater management options will also be investigated. During the active reclamation the AMB team will continue to ensure the safety and stability of the TSF.
1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and / or recycle the waste? What measures have been explored to safely treat and / or dispose of unavoidable waste?	A WML is being applied for as part of the EA application. Part of the tailings waste material is being reclaimed, with the residual waste placed back onto the existing TSF (Dam 3B). This process is specifically aimed at recovering value from waste material. The project might generate general (domestic) and hazardous waste, as per normal operational activities. AMB have procedures for waste management for all its activities, and this will be implemented as part of the TSF reclamation and processing project.

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Question	Response and Reference in the Report
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	Mitigation measures to manage waste were included in the EMPr.
1.5. How will this development disturb or enhance landscapes and / or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The Amandelbult TSF is in existence and has already changed the visual landscape of the area. The project is not expected to disturb or impact on the nation's cultural heritage. However, a heritage impact assessment was undertaken to identify the impact to this EIA phase. No tangible protected heritage resources were identified.
1.6. How will this development use and / or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Resources which will be utilised for the project include water and electricity. Electricity is currently sourced from Eskom. However, AMB is in the process of investigating PV Sourcing for energy. In terms of processed water, the water cycle operates as a closed circuit, meaning that limited make-up water will be required for the reclamation of the TSF. Water required for the reclamation activity will be sourced from mine process water sources and used in this closed system. Magalies Water Board will provide potable water for the operation. The Project also intends on recovering value from existing surface material and not any non-renewable natural resources. The Project will also result in the minimisation of an in-situ waste stream.
1.7. How will this development use and / or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and / or impact on the ecosystem jeopardise the integrity of the resource and / or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?	The Project is the reclamation of existing TSF and therefore additional resources required for the proposed development will be minimal. Electricity is currently sourced from Eskom. However, AMB is in the process of investigating PV Sourcing for energy. In terms of processed water, the water cycle operates as a closed circuit, meaning that limited make-up water will be required for the reclamation of the TSF. Water

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1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth, or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life) 1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?) 1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?	required for the reclamation activity will be sourced from existing process water sources on site.
1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts? 1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 1.8.2. What is the level of risk associated with the limits of current knowledge? 1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	The list of gaps and uncertainties are listed in the EIA (Section 10.1) Additionally, this study is being done on an operational mine site where regular studies and monitoring are undertaken. The site is well aware of its possible and existing risks. Pollution plumes will be modelled by means of a geochemical model in the groundwater impact assessment. It must be understood that this does not represent the actual impacts as they are realised. During the active reclamation, the AMB team will continue to ensure the safety and stability of the TSF. The potential impacts of air quality and noise will also be determined by modelling simulations. This is as accurate as can be predicted but may not represent the

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	actual impacts as they are realised. To validate modelled predictions, dust fallout monitoring, surface- and groundwater, must be undertaken throughout the project life.
1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following: 1.9.1. Negative impacts: e.g., access to resources, opportunity costs, loss of amenity (e.g. open space), impacts of air and water quality, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 1.9.2. Positive impacts: e.g., improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	The ecological impacts were assessed during the EIA phase. Section 9.2 of this report lists potential impacts identified. It must also be noted that the proposed activity will take place on an active and operational mine site. It must however be noted that all impacts were investigated, and the required mitigation measures were provided on the EIA Phase.
1.10. Describe the linkages and dependencies between human wellbeing, livelihoods, and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g., on livelihoods, loss of heritage site, opportunity costs, etc.)?	The reclamation will have minimal socio-economic impacts. The proposed area where the project will be undertaken is an operational mine. The local community cannot access the Project area. The Project will not impact on the ecological services of the local community. A Socio-Economic Impact Assessment, Air quality Impact Assessment and Heritage Impact Assessment were undertaken. Activities are primarily with existing mining and processing footprints. The possible impacts were considered, and the required mitigation and minimisation measures were investigated and suggested.
1.11. Based on all the above, how will this development positively or negatively impact on ecological integrity objectives / targets / considerations of the area?	Section 9 of the Environmental Impact Report lists potential impact identified.
1.12. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted	The Amandelbult TSF is an existing facility and therefore no location alternative was assessed. The location of the site and associated infrastructure are limited but various options are being investigated. The location of the site and associated

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in the selection of the "best practicable environmental option" in terms of ecological considerations?	infrastructure are limited and therefore this site is considered the best practicable environmental option rather than a new Greenfields location. The environmental and social impacts resulting from an unlikely failure were assessed.
1.13. Describe the positive and negative cumulative ecological / biophysical impacts bearing in mind the size, scale, scope, and nature of the project in relation to its location and existing and other planned developments in the area?	Section 9 of the Environmental Impact Report lists potential impacts identified.
Promoting justifiable economic and social development	
2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations? 2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators, and targets) and any other strategic plans, frameworks of policies applicable to the area, 2.1.2. Spatial priorities and desired spatial patterns (e.g., need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.), 2.1.3. Spatial characteristics (e.g., existing land uses, planned land uses, cultural landscapes, etc.), and 2.1.4. Municipal Economic Development Strategy ("LED Strategy").	A Socio-Economic Impact Assessment (SEIA) was undertaken on the EIA Phase. The socio-economic context of the region and the area around the Amandelbult TSF is described in Section 9.2. Additionally, the local Socio-Economic context of the area is understood as the area is an operational mine that continually undertakes studies within the local area and engages with the local communities. Table 5-1 and Table 5-2 in Section 5 details the applicable provincial and local policies, guidelines and by-laws considered during the EIA process. AMB has also undertaken the required rezoning for the entire AMB mine area.
2.2 Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements / aspects), and specifically also on the socio-economic objectives of the area? 2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	The Project is the removal of existing TSF. If the project is authorised, it will provide continuous employment for a portion of the current AMB employees and individuals providing services in the local market. This will also aid in the continued operation of the Amandelbult operation. The construction of the project might possibly provide employment which will be undertaken in accordance with the local SLP of the Mine.
2.3 How will this development address the specific physical, psychological, developmental, cultural, and social needs and interests of the relevant communities?	The project will contribute to the ongoing operation of the Amandelbult Operations.

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	This will allow for the continued employment of AMB employees. This will be beneficial to the existing employees of AMB and will allow AMB to continue to positively contribute to the regional economy and GDP.
2.4 Will the development result in equitable (intra- and intergenerational) impact distribution, in the short and long term? Will the impact be socially and economically sustainable in the short- and long term?	The development will contribute to the ongoing operation of the Amandelbult operations. This will promote the continued employment of AMB employees. The Project will have a 20 year lifespan.
2.5. In terms of location, describe how the placement of the proposed development will: 2.5.1. Result in the creation of residential and employment opportunities in close proximity to or integrated with each other, 2.5.2. Reduce the need for transport of people and goods, 2.5.3. Result in access to public transport or enable nonmotorized and pedestrian transport (e.g., will the development result in densification and the achievement of thresholds in terms public transport), 2.5.4. Compliment other uses in the area, 2.5.5. Be in line with the planning for the area, 2.5.6. For urban related development, make use of underutilised land available with the urban edge, 2.5.7. Optimise the use of existing resources and infrastructure, 2.5.8. Opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g., not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),	The construction of the project might possibly provide employment which will be undertaken in accordance with the local Social Labour Plan (SLP) of the Mine. Residential opportunities will not be generated by the project. The project will not reduce the need for transport of people and goods or result in changes to public transport. The Project will not improve access to public transport or enable non-motorised and pedestrian transport. The TSF complex is an existing facility, and the footprint will not be expanded. The project is not related to urban development and will not result in the construction of bulk infrastructure for public use. Most of the infrastructure will be removed from site at closure. The project is unlikely to result in urban sprawl. Electricity is currently sourced from Eskom. In terms of processed water, the water cycle operates as a closed circuit, meaning that limited make-up water will be required for the reclamation of the TSF. Water required for the reclamation activity will be sourced from existing process water sources and conveyed through process water pipeline to the project site for reuse in a closed-circuit system.

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2.5.9. Discourage "urban sprawl" and contribute to compaction/densification, 2.5.10. Contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, 2.5.11. Encourage environmentally sustainable land development practices and processes, 2.5.12. take into account special locational factors that might favour the specific location (e.g., the location of a strategic mineral resource, access to the port, access to rail, etc.), 2.5.12. The investment in the settlement or area in question will generate the highest socio-economic returns (i.e., an area with high economic potential), 2.5.13. In the DSR, FSR and HIA, requests were made to consider the reclamation in context of an historic mining cultural landscape, and 2.5.14. In terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	The reclamation of the TSF is not expected to result in any changes to existing and planned settlements in the area. No resettlement of surrounding communities is required or expected for this project. The Project will make use of the existing road networks and will not include the construction of any additional residential settlements.
2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts? 2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability, and sustainability) associated with the limits of current knowledge?	A socio-economic impact assessment (SEIA) was undertaken, and the gaps and limitations were included in section 9.2 and 10.1 of the EIA Phase. AMB understands their local community and continually engages with them. This has provided the correct approach in terms of socio-economic impact identification.

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Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	
2.7. How will the socio-economic impacts be resulting from this development impact on people's environmental right in terms following: 2.7.1. Negative impacts: e.g., health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 2.7.2. Positive impacts. What measures were taken to enhance positive impacts?	The impacts have identified in the SEIA and are presented in the EIA in chapter 9. Mitigation measures relating to the potential socio-economic impacts are included in the EMPr (Appendix E). Potential impacts are listed below. Negative impacts ❖ Loss of life, damages to infrastructure, and damage to the environment (soils, surface water, groundwater etc.) due to the risk of potential TSF failure during reclamation and processing of TSF failure. ❖ Decrease in air quality as a result of dust generated. ❖ Safety impacts on people (accidents; fire hazards; risk of theft; vandalism; damage to equipment). Positive impacts ❖ If the Project gets authorised, AMB will be able to conduct its reclamation and processing activities, thereby extending the life of its operations and delaying the retrenchment of employees. ❖ Investment into and development of LED initiatives.
2.8 Considering the linkages and dependencies between human wellbeing, livelihoods, and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g., over utilisation of natural resources, etc.)?	Please refer to section 9 of the Environmental Impact Report lists potential impacts identified.

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Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
2.9 What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	The "best practicable environmental option" was identified in the EIA Phase where specialists' findings and recommendations were considered. Mine also has an Social Labour Plan (SLP) in place and this would also cover the Proposed Project. A comprehensive public participation process, guided by Chapter 6 of the EIA Regulations (GNR982 of 2014), was undertaken throughout the Scoping and EIA phases. The Public Participation Process followed is described in Section 7 of this Final EIA Report. The EMPr provides mitigation measures for any expected impacts on all sectors of society and include grievance management measures. A Financial Provision for closure is included in the EIA/EMPr to ensure that rehabilitation and any potential long-term impacts of the reclamation and processing of Amandelbult TSF are adequately provided for.
2.10 What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	
2.11 What measures were taken to pursue equitable access to environmental resources, benefits, and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	The Project area is not providing any ecosystem services as the land has been transformed by current mining and processing activities. Therefore, should the project go ahead, it would not affect equitable access to environmental resources, benefits, and services to meet basic human needs.
2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	The EMPr provides mitigation measures for any expected impacts throughout the life cycle of the project – construction, operation, decommissioning, closure, and post-closure. The proposed activities will be operated in strict accordance with the requirements of Environmental Legislation related and the Mine Health and Safety Act, No. 29 of 1996.

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Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
2.13. What measures were taken to: 2.13.1. Ensure the participation of all interested and affected parties, 2.13.2. Provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, 2.13.3. Ensure participation by vulnerable and disadvantaged persons, 2.13.4. Promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means, 2.13.5. Ensure openness and transparency, and access to information in terms of the process, 2.13.6. Ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and 2.13.7. Ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?	A comprehensive public participation process is being undertaken as per the requirements of Chapter 6 of the EIA 2014 Regulations, detailed in Section 7 of this report.
2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g., a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)	The findings of the SEIA were included in the EIA. Please refer to responses in section 9.2.

Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
2.15. What measures have been taken to ensure that current and / or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	AMB will comply with the requirements of the Mine Health and Safety Act, No. 29 of 1996 and will ensure that itself and the contractor/s employed will comply with the Occupational Health and Safety Act, Act 85 of 1993. Employees will be made aware, as part of the EIA / EMPr, of Section 4(j) of NEMA, which relates to the right of workers to refuse work that is harmful to human health or the environment and is informed of dangers. The environmental awareness programme will be included in induction material for all employees and contractors.
2.16. Describe how the development will impact on job creation in terms of, amongst other aspects: 2.16.1. The number of temporary versus permanent jobs that will be created, 2.16.2. Whether the labour available in the area will be able to take up the job opportunities (i.e., do the required skills match the skills available in the area), 2.16.3. The distance from where labourers will have to travel, 2.16.4. The location of jobs opportunities versus the location of impacts (i.e., equitable distribution of costs and benefits), and 2.16.5. The opportunity costs in terms of job creation (e.g., a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	The Project will result in limited further economic benefits for employees or nearby communities. However, if the project is authorised, it will provide continuous employment for a portion of the current employees. It is also envisioned that some employment might be required during the construction phase. This will be in accordance with the Social labour Plan (SLP) of mine.
2.17. What measures were taken to ensure: 2.17.1. That there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and	Section 5 of this report details all relevant National and Local legislation, Policies, and guidelines that have been reviewed and incorporated. During the Scoping and EIA phases, all relevant State Departments were provided with copies of environmental documentation for comment. The list of State

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Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
2.17.2. That actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	Departments has been provided with environmental documentation is in Section 7 of this Report. Refer to Appendix C and CRR.
2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	The project does not provide any ecosystem services, and no ecosystem services will be lost if the Project is granted. All environmental impacts, including appropriate mitigation and management measures as well as monitoring measures, were considered by the EAP and incorporated into the EIA/EMPr. The project area will be rehabilitated at decommissioning and closure. The Financial Provision report for closure will ensure that environmental remedies and rehabilitation are incorporated, and sufficient budget has been allocated for these.
2.19. Are the mitigation measures proposed realistic and what long term environmental legacy and managed burden will be left?	The mitigation measures which will be set out in the EMPr aim to be realistic and practical. If the recommended closure measures are successfully implemented, it is anticipated that the project area will be in an improved condition after rehabilitation and closure, aligned with the sites' closure objectives.
2.20. What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The Project is being implemented as a means of reducing pollution, by allowing the TSF to be reclaimed and the reprocessed tailings to be deposited at a controlled facility. In accordance with the requirements of Regulations 5 and 6 of the NEMA Regulations on Financial Provision (GN940 of 2014) and the DMPR Guidelines on Financial Provision, the quantum for closure-related financial provision will be determined to ensure that adequate funds are made available upfront (prior to the commencement of the project) for the rehabilitation, management, and remediation of negative residual environmental impacts.

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Question	Response and Reference in the Report
Securing ecological sustainable development and use of natural resources	
	The EMPr provides mitigation, management and monitoring measures to ensure that potential negative impacts are managed throughout the life of the project and post-closure. The Applicant will be legally bound to comply with the conditions of the EMPr. Annual liability closure costs assessments are submitted to the DMPR by AMB, where changes to liability are indicated by a third party and associated costs assigned. Guarantees are submitted to the DMPR should there be a shortfall in closure liability.
2.21. Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	The best practice environmental option has been identified and discussed in the EIA Report, taking into consideration all of the specialists' findings.
2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	The cumulative socio-economic impacts have been identified by the SEIA, and have been included in the EIA report in chapter 9 and within Appendix D.

6.4 Conclusion: Need and Desirability

The AMB operations have historically resulted in the development of multiple tailings dams within the TSF complex, with a history of pollution.

The overall objective of this project is to recover residual Chrome and PGM from tailings within the existing project area. The resultant residue from the reprocessing plant will be deposited at the TSF 3B Dam. This will allow for the clearance of land currently occupied by the TSF. The intention is to utilise the cleared TSF dam 2 for the redeposition of tailings thereafter.

Overall, the Project is in line with the MPRDA as the most relevant legislative instrument in Limpopo Province that aligns with the objective's strategy of:

- Sustainable Development: It emphasises the sustainable use of mineral resources, balancing economic benefits with environmental protection; and
- Community Protection: The Act requires consultation with affected communities and mitigation of health risks.

The Project would also directly and indirectly contribute to the country's Growth Domestic Product (GDP), as well as provide continued employment to current employees of Rustenburg Platinum Mines Limited (Amandelbult Mine).

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7 PUBLIC PARTICIPATION PROCESS

7.1 Applicable Legislation

The Public Participation Process (PPP) as required by the environmental laws and regulations specified therein was followed as best practice. The PPP was undertaken in line with the statutory requirements for public participation. The following legislation was considered when developing and implementing the PPP:

- National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The Environmental Impact Assessment Regulations, 2014 (as amended) (EIA 2014 Regulations);
- Public Participation guideline in terms of NEMA Act No. 107 of 1998;
- The National Water Act, 1998 (Act No. 36 of 1998) (NWA);
- National Environmental Management: Waste Act 59 of 2008 (NEMWA): List of Waste Management Activities;
- The Constitution of the Republic of South Africa, 1996;
- Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA); and
- Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA).

In addition to the above legislation, the PPP needs to be aligned to International good practice guidelines for public participation, particularly in regard to the following Core Values of the International Association for Public Participation (IAP2).

- Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision making process;
- Public participation includes the promise that the public's contribution will influence the decision;
- Public participation promotes sustainable decisions by recognising and communicating the needs and interests of all participants, including decision makers;
- Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision;
- Public participation seeks input from participants in designing how they participate;
- Public participation provides participants with the information they need to participate in a meaningful way; and
- Public participation communicates to participants how their input affected the decision.

POPIA: Safeguarding registered person's personal information

In terms of section 19 of the Protection of Personal Information Act (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party to whom the information is supplied.

The PPP offers stakeholders an opportunity to be informed about the Project, to raise issues and to make suggestions for enhanced Project benefits. The PPP was undertaken to ensure compliance with the relevant legal framework applicable to the Project.

7.2 Objective of the Public Participation Process

The PPP objectives for this Project are to:

- Ensure that stakeholders are informed about the development of for the Amandelbult Tailings Reclamation Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

The stakeholder engagement process was undertaken in four phases as presented in Table 7-1 below:

Table 7-1: Stakeholder Engagement activities

Project Phase	Activities to be Undertaken
Pre-scoping Phase Completed	❖ Stakeholder identification (WinDeed searches, compilation of stakeholder database); ❖ Consultation with various Community leadership (Senior Traditional Leaders, Community Leaders); ❖ Consultation with the relevant Authorities (including ward councillors/ward committees) (Microsoft Teams/One-on-one consultation meetings); ❖ Compilation of announcement documents (Background Information Document (BID), Registration sheet, Advert, Site notice and Draft Scoping Report (DSR) notification letter) and providing Project information to stakeholders; ❖ Obtaining initial comments, suggestions from stakeholders; and ❖ Land Claims enquiry.
Scoping Phase Completed	❖ Consultations with Indirectly Affected Landowners (Consultation meetings); ❖ Distribution and placement of Project announcement materials (site notices, and newspaper advertisements); ❖ Updating of the stakeholder database; ❖ Making available the DSR for public review and comment; ❖ Providing stakeholders with further details of the Project and associated specialist studies; ❖ Consultations with stakeholders (Online meetings and Public Meeting / Open Day meetings); ❖ Obtaining further comments or suggestions from stakeholders; ❖ Development of CRR, capturing all comments/questions and responses; ❖ Informing specialists and the applicant about comments received from stakeholders; and ❖ Making available the Final Scoping Report.

Project Phase	Activities to be Undertaken
EIA Phase	❖ Provide feedback about the specialist studies conducted and mitigation measures proposed by means of consultation with stakeholders; ❖ Provide opportunity for stakeholders to comment on specialist findings, impacts assessments and recommendations; ❖ Make the relevant environmental reports available for public review and comment; ❖ Consultations with stakeholders (Online meetings and In-person meetings); ❖ Verify that comments raised by stakeholders have been accurately recorded; ❖ Update CRR with new comments, questions and responses; and ❖ Inform specialists and the proponent of stakeholders' comments. ❖ Making available the Final EIA/EMPr
Decision Making Phase	❖ Once the competent authority which is DMPR had come to a decision regarding the authorisation of the Project, all registered stakeholders will be notified of the decision made and the appeal process will be explained with associated timeframes.

7.3 Summary of issues raised by stakeholders

Comments raised by stakeholders during the Scoping phase were included in the Comments and Responses Report (CRR) of the Report **(Appendix C10).**

7.4 Public Participation Approach

7.4.1 Submission of the Environmental Authorisation Application Form

The application for an EA was submitted to the DMPR which is the Competent Authority (CA) for the Project, on **Tuesday, 17 June 2025,** prior to a pre-application meeting held with them **on Wednesday, 26 March 2025.**

7.4.2 Stakeholder Analysis and Identification

Stakeholder analysis is a process of identifying stakeholders before the Project commences. Identified stakeholders are grouped according to their levels of participation, interest, and influence in the Project. These groupings assist in determining how best to involve and communicate to each group throughout the PPP. Project stakeholders are defined as individuals / groups / entities that have an interest in the Project. Such stakeholders are referred to as I&APs.

To ensure a proper representation of all stakeholders, the following identification methods were used as part of the stakeholder identification and analysis process:

- ❖ Desktop and online research and WinDeed searches for the directly affected and adjacent farms;
- ❖ Identify and consult with relevant community leadership (Senior Traditional Authorities and Leaders and Community Leaders within the nearby surroundings of the Project);
- ❖ Identify and consult with relevant Authorities (DMPR, DWS)

Identify and consult with relevant local and district and local authorities:

- Thabazimbi Local Municipality

- Waterberg District Municipality

- Identify and consult relevant ward councillors and ward committees for the affected wards; Directly Affected Wards: Ward 6 and 11

  - Cllr Mfundiso Tyhalintwentwe, Ward Councillor: Ward 6
  - Cllr Xolile Nozozo, Ward Councillor: Ward 11
  - Indirectly Affected Wards: Ward 3
  - Cllr Refilwe Daniel Mampeule

- Consult with adjacent landowners and land occupiers (directly affected and adjacent);
- Consult with the Department of Agriculture, Land Reform and Rural Development (DALRRD), Office of the Regional Land Claims Commissioner: Limpopo Province;
- Consulting government departments on a National, Provincial and Local level relevant to the Project;
- Consult with Stakeholders who respond to the publication of newspaper advertisements;
- Consult with Stakeholders who respond to the distribution of project documentation; and
- Updating the stakeholder database from attendance registers from a broad range of stakeholder meetings that were held throughout the process.

I&APs have been grouped into the following broad categories:

- **Government:** National, Provincial, and Local Authorities (including ward councillors and ward committee members);
- **Parastatals:** Various semi-Government entities, Organs of State;
- **Landowners and Occupiers:** Landowners / occupiers that are either;
  - **Directly Affected:** (i.e., owning properties within an application boundary area or on property / properties within the footprint of the Project);
  - **Adjacent (Indirectly Affected):** (i.e. directly adjacent to the application boundary or property / properties within the footprint of the Project); and
  - **Other Affected:** Landowners / occupiers who have registered formally as a stakeholders.
- **Communities:** Surrounding communities (Senior Traditional Leaders /Community Leaders);
- **Agriculture and Water:** Associations, entities responsible for water management and/or regulation;
- **Environmental Forums;**
- **Non-Governmental Organisations (NGOs):** Environmental organisations;
- **Community-based organisations (CBO);** Community Forums;
- **Business and industry:** Small, Medium and Micro Enterprises (SMMEs), mines, industrial and large business organisations.

A stakeholder database has been compiled and was updated throughout the environmental regulatory process **(Appendix C1).**

7.4.3 Land Claims Enquiry

A formal letter of enquiry was compiled and sent to the Land Claims Commission, Mr Lazarus Masuku, DALRRD, on **Thursday, 12 June 2025**. The letter contained a list of all the directly affected properties for the Project. **(Appendix C2).**

Feedback was received from DALRRD by means of letters **dated 20 June 2025 (Appendix C2)** indicating that there are land claims, but they are not valid.

DALRRD, clarified that the letter references a challenge to the Amendment Act of 2014 and states that the land claims are considered invalid in view of the finding of the Constitutional Court. As a result, the claims were not investigated further to confirm their validity. The claimants listed in the letter are being kept on record until Parliament passes new legislation that allows for the re-opening of land claim submissions.

7.5 Communication and Engagement

7.5.1 Public Participation Materials: Scoping Phase

Considering the legislative requirements and good practice guidelines, the following documents were developed and distributed to stakeholders. The various PPP information materials were used as part of the Scoping and EIA process.

Background Information Document (BID): The BIDs, English and Setswana versions **(Appendix C3)** were emailed on **Thursday, 12 June 2025,** to I&APs listed on the stakeholder database **(Appendix C6).** The BIDs were also available on the Kongiwe website: **(https://kongiwe.com/projects/),** as well as at Public Meetings / Open Days.

The BID provides the following details:

- A project description of the Project.
- The Scoping and EIA and the PPP to be undertaken in support of the relevant environmental authorisations / permits and the contact details of the EAP and the stakeholder engagement consultants.
- Details about how stakeholders can register as an I&AP and be kept informed about the Project developments.
- The public review and comment period for environmental reports.
- Invitation to attend an Open Day.

Notification Letter with a Registration and Comment Form: An email was sent to stakeholders to inform them about the Project. The email also shared details of the Public Meetings / Open Days and invited the greater public to formally register as I&APs. A Registration and Comment Form was also provided for stakeholders to use for formal registration as an I&AP and to submit their comments **(Appendix C3).**

A reminder notification was emailed on **Thursday, 19 June 2025** to remind stakeholders of the availability of the DSR for public review and comment. The reminder emails also served the purpose of reminding stakeholders to attend the Public Meetings / Open Days **(Appendix C6).**

SMS: An SMS was sent to stakeholders on **Thursday, 12 June 2025** who have no access to the internet. Arrangements were made to ensure that these stakeholders had full access to project documentation. Stakeholders were also notified on when the Public Meetings / Open Days were held.

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Newspaper advertisements: A newspaper advert **(Appendix C4)** was placed in the Platinum Bosvelder, **on Friday, 13 June 2025.**

The advert included the following details:

- Brief Project description.
- Legal framework and details of the competent authorities.
- How stakeholders can access the DSR for public review and comment.
- The details of the Open Day.
- Registration as I&APs.
- The contact details of the stakeholder engagement consultants.

Site notice: Site notices were placed on **Tuesday, 17 June 2025** and **Wednesday, 18 June 2025**. The site notice provided an overview of the Project and highlighted the applicable legislation, environmental authorisation/permits applicable to the Project. It also outlined the stakeholder engagement process to be followed and where relevant information could be obtained. A locality map of the Project site was included in the site notice. Details of the Public Meetings / Open Days and how stakeholders could register as an I&APs were included in the Site Notice.

Pictures and coordinates of where the site notices were placed was recorded in the site notice report and a site notice map was developed **(Appendix C5).**

Telephonic discussions: Stakeholders were also consulted by means of telephonic discussions where required. These discussions facilitate the process of inviting stakeholders to stakeholder meetings and provide stakeholders with a platform to raise comments and suggestions regarding the Project. Comments raised through telephonic discussions were recorded and addressed by the project team (EAP and the relevant specialists).

7.5.2 Scoping phase Stakeholders Engagement

Consultation during the scoping phase aimed at providing stakeholders with an overview of the Project and to obtain comments to inform specialist studies and project planning. Stakeholders were invited to participate through online and in-person engagements depending on preference. The purpose of these meetings was to discuss the Project, contents of the DSR, provide stakeholders with an opportunity to raise their comments and to interact with the Project team members. Locality, infrastructure and land tenure maps were distributed as part of these meetings.

The following meetings were held:

- Authority Meetings: Meetings were held with the relevant Authorities;
- Focus Group Meetings with Community Leaders: Early upfront engagement meetings have been held with the relevant local community leaders and municipalities in the area;
- Landowner Meetings: Consultation meetings were held with indirectly affected landowners;
- Online Meeting: Online meeting was held with stakeholders who prefer online engagements; and

- Broader Public Consultation Meeting: A Public Meeting / Open Day was held with the broader public during the public review period.

Refer to Table 7-2 below for the schedule of stakeholder meetings.

Table 7-2: Stakeholder Meetings

Meeting Dates	Stakeholders	Time Slots
In-Person Meetings		
Thursday, 13 March 2025	Focus Group Meeting with Leadership Accountability Forum (Pre-Application) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	09:00 – 10:00
Friday, 06 June 2025	Focus Group Meeting with Baphalane Ba Ramokoka (Pre-Application) at Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	08:00 – 09:00
Friday, 06 June 2025	Focus Group Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner) at Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	10:00 – 11:00
Monday, 23 June 2025	Broader Stakeholder Meeting held with the Thabazimbi LM and associated communities on at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	13:00 – 15:00
Tuesday, 24 June 2025	Broader Stakeholder Meeting held with Baphalane Ba Ramoroka at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	12:00 – 15:00
Friday, 11 July 2025	Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	10:00 – 12:00
Online Meetings		
Wednesday, 26 March 2025	Microsoft Teams - Online pre-application meeting was held with Department of Mineral and Petroleum Resources (DMPR) officials.	09:00 - 10:00
Friday, 27 June 2025	Microsoft Teams – Online Meeting (with indirectly affected landowners and the broader stakeholders)	10:00 - 11:30

Focused efforts were made to engage with directly impacted stakeholders (those residents in the AMB areas and a pre-application Community Senior Leadership meeting in the Project area), including vulnerable groups at local level. These individuals were consulted directly and via their representatives and other influential people within communities. Meetings were held in a culturally appropriate manner, allowing stakeholders to voice their opinions openly. Stakeholders were given the option to raise issues in the language of their choice and where translation was required, it was provided.

Authorities, NGOs, landowners / land occupiers and community members were engaged to promote attendance, by means of telephonic consultation and distribution of emails and SMS.

A list of meetings and consultations undertaken during the process is provided in Appendix C8.

Minutes of these meetings, along with the presentation materials, were compiled and distributed to all stakeholders who attended, as shown in **Appendix C8**.

All comments raised by stakeholders during these meetings were recorded in the Comment and Response Report (CRR), with responses prepared in accordance with the project scope and available information, as detailed in **Appendix C10**.

7.5.3 Stakeholder Meetings held during Scoping Phase

7.5.3.1 Pre-Application Meeting with Department of Mineral and Petroleum Resources (DMPR).

An Online pre-application meeting was arranged and attended with DMPR officials on Wednesday, 26 March 2025 from 10:00-11:00. Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was:

- To act as a pre-application engagement with the Department of Mineral and Petroleum Resources with regards to the proposed reclamation and processing Project;
- To provide information and project details on the proposed reclamation and processing project;
- To present and discuss the proposed EA for the Amandelbult TSF, Dam 2 Reclamation and Reprocessing Project;

7.5.4 Focus Group Meeting with AMB Leadership Accountability Forum (Pre-Application)

An In-person meeting was arranged and attended by community leaders, traditional authorities/councils and municipalities at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380 on Thursday, 13 March 2025 from 09H00-10H00.** Information was presented by means of a PowerPoint presentation. Copies of the Background Information Document (BID) (in English) were also distributed to stakeholders who attended.

The purpose of this meeting was:

- To act as a Pre-authorisation engagement with the local leadership and municipalities with regards to the proposed reclamation and processing Project;
- To provide information and project details on the proposed reclamation and processing project; To present and discuss the proposed EA for the Amandelbult TSF, Dam 2 Reclamation and Reprocessing Project;
- Provide the stakeholders with an opportunity to raise comments/seek clarity and provide input into the Proposed Project; and
- Record comments raised and then include them in the CRR which was integrated into the S&EIA reports.

7.5.5 Focus Group Meeting with Baphalane Ba Ramokoka (Pre-Application)

An In-person meeting was arranged and attended by community leaders at the **Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362 on Friday, 6 June 2025 from 08H00-10H00**. Information was presented by means of a PowerPoint presentation. Copies of the BID (in English) were also distributed to stakeholders who attended.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult TSF, Dam 2 Reclamation and Processing Project and its relevant authorisations and licensing;
- Provide an overview of the S&EIA process in support of the EA and Waste Management Licence Applications;
- Provide the meeting attendees with an opportunity to raise comments/seek clarity and provide input; and
- Record comments raised and included these in the CRR.

7.5.5.1 Focus Group Meeting with Baphalane Ba Mantserre Development Community Trust (Indirectly Affected Landowner)

An In-person meeting was arranged and attended by community leaders at the **Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362 on Friday, 6 June 2025 from 10H00-11H00**. Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult TSF, Dam 2 Reclamation and Processing Project;
- Provide an overview of the S&EIA process in support of the EA, and WML Applications;
- Provide indirectly affected landowners with an opportunity to raise comments, seek clarity, and provide input on the Proposed Project; and
- Record comments raised and included in the CRR.

7.5.5.2 Online Meeting with Broader Stakeholders

Formal consultation meeting was held online via Microsoft Teams during the public review period for all stakeholders on the database. This meeting was held on **Friday, 27 June 2025 from 10H00 - 11H30**. Information was presented by means of a PowerPoint presentation.

The purpose of the meeting was to:

- Present and discuss the proposed Amandelbult TSF, Dam 2 Reclamation and Processing Project;
- Provide an overview of the S&EIA process in support of the EA, WML and applications;
- Provide present stakeholders with an opportunity to raise comments, seek clarity, and provide input on the Proposed Project; and
- Record comments raised and included in the CRR.

7.5.5.3 Broader Stakeholder Meetings

Broader Stakeholder Meetings were held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Monday, 23 June 2025 at 09H00 – 12H00** (Figure 7-1) and **Tuesday, 24 June 2025 at 13H00 – 15H00** (Figure 7-2). Information was presented by means of a PowerPoint presentation in English and translated into Setswana and Xhosa.

Posters with information regarding the Project description, locality, infrastructure and the Land Tenure maps were displayed. Copies of the non-technical summary (BID) were also distributed to stakeholders who attended. The non-technical summaries (BID) were available in English and Setswana **(Appendix C3).**

The purpose of the Broader Stakeholder Meetings was to:

- Present and discuss the proposed Amandelbult TSF, Dam 2 Reclamation and Processing Project;
- Provide an overview of the S&EIA process in support of the EA, and WML Applications;
- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the Proposed Project; and
- Record comments raised and included in the CRR.

Figure 7-1:Photos from Stakeholder Meeting held with the Thabazimbi Local Municipality and associated communities on Monday, 23 June 2025

Figure 7-2:Photos from Stakeholder Meeting held with Baphalane Ba Ramokoka on Tuesday, 24 June 2025

7.5.5.4 Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner)

The initial meeting with the Mantserre Community was scheduled for the 23rd of June 2025; however, the Mantserre Community requested the meeting to be rescheduled. An additional Stakeholder Meeting was held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380 on Friday, 11 July 2025 from 10H00 - 12H00** (Figure 7-3). Information was presented by means of a PowerPoint presentation in Setswana.

The purpose of the Public Participation Meeting was to:

- Present and discuss the proposed Amandelbult TSF, Dam 2 Reclamation and Processing Project;
- Provide an overview of the S&EIA process in support of the EA, and WML applications;
- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the Proposed Project; and
- Record comments raised and included in the CRR.

Posters with information regarding the Project description, locality, infrastructure and the Land Tenure maps were displayed. Copies of the non-technical summary and presentation was distributed to stakeholders who attended. The non-technical summaries (BID) were available in English and Setswana **(Appendix C3).**

Figure 7-3:Photos from Stakeholder Meeting held with Mantserre Community on Friday, 11 July 2025.

7.6 Availability of the Draft Scoping Report for Public Review and Comment

The Draft Scoping Report (DSR) was made available for public review and comment from **Wednesday, 18 June 2025** to **Thursday, 17 July 2025**.

The Draft Scoping Report was made available as follows:

- An electronic copy on Kongiwe's website: **https://kongiwe.com/projects/.**
- A hard copy of the Draft Scoping Report (DSR) was made available at the following public places, as listed in Table 7-3.

Table 7-3:Places where the DSR reports were circulated

Location	Physical Adress	Contact Person
Amandelbult Corporate Affairs and Sustainability Office (previously social performance)	Amandelbult Mine, Main Office, R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635 Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391

A hard copy of the DSR non-technical summary (BID) was made available at the following public places as indicated in the table below and these were also made available at the various Stakeholder meetings:

Table 7-4:Places where the non-technical summary (BIDs) was circulated

Location	Physical Adress	Contact Person
Amandelbult Corporate Affairs and Sustainability Office	Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Mon – Fri: 08h00-16h00
Smash Block Community (Thabang Children Centre)	Smashblock – Front opposite Chromite Primary School Thabang Dropping Centre Main street Smashblock, Stand no 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine Mlanje Sav, Behind Chrome Plant R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Dishaba Mine Entrance (Jabulani residents)	Amandelbult Mine- Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile village entrance and Recreation Club	Amandelbult Mine- Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Amandelbult Mine)	Mr Kaitumela Letebele Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00

The Draft Scoping Report (DSR) was submitted to DMPR on **Wednesday, 18 June 2025.**

Key Commenting Authorities received an email with a website link to where they can download the DSR.

Table 7-5 below provides a summary of the stakeholder engagement activities that formed part of the Draft Scoping Phase.

Table 7-5: Summary of activities undertaken as part of the Scoping Phase

Activity	Details	Reference in DSR
Stakeholder identification and analysis	Stakeholders were identified by means of WinDeed searches, stakeholder networking and research for the compilation of a stakeholder database. The database was updated with new I&APs who formally registered and attended stakeholder meetings or submitted comments.	**Appendix C1** Stakeholder database
Identification of land claims	A formal letter of enquiry was compiled and sent to the Land Claims Commission, Ms Lorraine Mosebedi, DALRRD. DALRRD responded.	**Appendix C2** Land claims enquiry letter and correspondence from the Limpopo DALRRD

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Activity	Details	Reference in DSR
Development of the Background Information Document	The BIDs were developed and distributed to stakeholders. The Background Information Document (BID) was available on the Kongiwe website.	**Appendix C3** BID
Placement of newspaper advertisements	A newspaper advert was placed in Platinum Bosvelder.	**Appendix C4** Newspaper advertisements
Placement of site notices	Site notices have been placed at publicly accessible places within proximity of the Project. Pictures and coordinates of where the site notices were placed were recorded in the site notice report and a site notice map.	**Appendix C5** Site notice report and placement map
Announcement of the Project and the availability of the Draft Scoping Report	The announcement letter was distributed to stakeholders to: Announce availability of the DSR; Invite stakeholders to the Stakeholder Meetings; and Indicate where the Scoping Report was available for public review and comment; The DSR was made available on Kongiwe's website; A copy of the DSR and non-technical summary were placed in the following public place: Thabazimbi Public Library; and Amandelbult Corporate Affairs and Sustainability Office; The non-technical summary was also placed in additional public places.	**Appendix C6** Announcement Correspondence **Appendix C3** (BID)
Stakeholder meetings:	Consultation during the scoping phase was aimed at providing key stakeholders with an overview of the Project, potential impacts, mitigation measures, risks, opportunities and to obtain comments which will inform specialist studies and project planning. Stakeholders were invited to participate through online and in-person engagements. One-on-one consultation meetings with authorities, directly and indirectly affected landowners were held via online forums such as Microsoft Teams or in-person depending on preference. The project team presented a formal presentation of the Project the locality, infrastructure and land tenure maps were displayed as part of the meetings.	**Appendix C8** List of meetings & Meeting Minutes **Appendix C10** CRR
Broader Stakeholder Meetings: Scoping Phase	Stakeholders were invited to participate through online and in-person engagements. The purpose of these meetings was to discuss the Project, contents of the DSR, to provide stakeholders with an opportunity	**Appendix C8** List of meetings & Meeting Minutes **Appendix C10** (CRR)

Activity	Details	Reference in DSR
	to raise their comments and to interact with the project team members. Minutes of these meetings were compiled and distributed to everyone who attended these meetings. Comments raised from the meeting was included into the CRR.	

7.7 Consultation Undertaken as part of the Final Scoping Phase

The aim of consultation during the Final Scoping Phase was to focus on the formal EIA process, specialist impact studies, Terms of Reference and addressing comments from stakeholders. The FSR was submitted to DMPR on **Monday, 28 July 2025.** The DMPR emailed an acceptance letter on Tuesday, 2 September 2025 indicating that the FSR was accepted and to continue with the EIA phase. They also indicated that their comments/requirements should be addressed **(Appendix C7).**

Stakeholders were notified of the availability of the FSR for review. Stakeholders were provided with the opportunity to verify that their comments were captured during the draft scoping phase, and to review responses provided by the project team. The table below is a summary of the activities during the Final Scoping phase.

Table 7-6:Summary of activities to be undertaken during the Final Scoping Phase

Activity	Details
Update of stakeholder information	The stakeholder database was updated with new I&APs who formally registered, participated in stakeholder meetings or submitted comments.
Placement of Final Scoping Reports	The FSR was made available on the following websites: Kongiwe's website: **https://kongiwe.com/projects/**
Announcement of the Final Scoping Report	Notification letter notifying all registered and I&APs about the availability of the Final Scoping Report for comment was emailed to the full stakeholder database. An SMS was sent to stakeholders who have no access to the internet, arrangements were made to ensure that all stakeholders have full access to the reports - arrangements and requests were accessed on a case-by case basis.

7.8 Impact Assessment Phase Stakeholder Engagement

Consultation with stakeholders during the EIA Phase entailed providing stakeholders with comments on specialist study findings, recommendations and mitigation measures proposed. These studies and recommendations were included as part of the EIA and the EMPr in support of the EA application. Stakeholder meetings were also be held to present the findings of the specialist studies and to get comments from stakeholders. The format of stakeholder meetings was similar to the Scoping Phase, these were determined on a case-by-case depending on stakeholders' preferences.

7.8.1 Public Participation Materials: EIA Phase

Notification Letter: A letter (Appendix C6) which provides details about the availability of the Draft EIA/EMPr for public review and comment and an invitation to online and in-person engagements was sent by email to the full stakeholder database on **Friday, 19 September 2025.**

A reminder notification was emailed on Thursday, 2 October 2025 to remind stakeholders of the availability of the Draft EIA/EMPr for public review and comment. The reminder emails also served the purpose of reminding stakeholders to attend the Public Meeting / Open Day (Appendix C6).

Newspaper advertisements: A newspaper advert (Appendix C4) was placed in the Platinum Bosvelder, on **Friday, 26 September 2025**. The advertisement provided details about the public review period for the Draft EIA/EMPr and how the public can access the draft reports for their review and comment. The advert provided information about the online and in-person engagements.

SMS: An SMS was sent to stakeholders on Friday, 19 September 2025 who have no access to the internet. Arrangements were made to ensure that these stakeholders had full access to project documentation. Stakeholders were also notified on when the Public Meetings / Open Days will be held.

Telephonic discussions: Stakeholders were consulted by means of telephonic discussions. These discussions facilitate the process of inviting stakeholders to online and in-person engagements and provided stakeholders with a platform to raise issues of concern and suggestions regarding the draft reports. Comments raised through telephonic discussions were recorded and addressed by the project team (EAP and the relevant specialists).

Maps: Various maps which are part of the Draft EIA/EMPr were displayed during online and non-virtual engagements.

Posters: Posters were developed and presented at the in-person engagements. The following aspects was covered in the poster presentation below:

- Project Overview;
- EIA process and legislative timeframes;
- Specialist findings, impacts and proposed mitigation measures; and
- PPP undertaken to date and next steps.

7.8.2 Availability of the DEIA Report / Environmental Management Programme Report for Public Review and Comment

The Draft EIA/EMPr has been compiled and was made available for a 30-day public review and comment period from **Friday, 26 September 2025 until Monday, 27 October 2025.**

The Draft EIA/EMPr was made available as follows:

- Electronic copies on Kongiwe's website: **https://kongiwe.com/projects/**

- Hard copies of the Draft EIA/EMPr were made available at the following public places:

Table 7-7:Places where the Draft EIA/EMPr were circulated

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Amandelbult Mine, Main Office, R510, Off Thabazimbi Road, Amandelbult, 0362 	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635 Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387 	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm

A hard copy of the Draft EIA/EMPr non-technical summary was made available at the following public places as indicated in the table below and these was made available at the various Stakeholder meetings:

Table 7-8: Places where the non-technical summary of the Draft EIA/EMPr was circulated

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Mon – Fri: 08h00-16h00
Smash Block Community (Thabang Children Centre)	Smashblock – Front opposite Chromite Primary School Thabang Dropping Centre Main street Smashblock, Stan no 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00

Location	Physical Adress	Contact Person
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine, Mlanje Sav, Behind Chrome Plant R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Dishaba Mine Entrance (Jabulani residents)	Amandelbult Mine- Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile village entrance and Recreation Club	Amandelbult Mine- Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Amandelbult Mine)	Mr Kaitumela Letebele Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00
Ramokokastad	Ramokoka Clinic, and Traditional Office	Mr Desmond Ramokoka Mon – Fri 08h00 - 16h00

The non-technical summaries of the Draft EIA/EMPr were compiled and emailed to all stakeholders. Hard copies of the non-technical summaries were distributed to Stakeholder Meetings attendees.

7.8.3 Submission of the Draft EIA/EMPr

The Draft EIA/EMPr and appendices were delivered to the DMPR which is the CA on **Friday, 25 September 2025.**

Key Commenting Authorities was received an email with a website link to where they can download the Draft EIA/EMPr **(Appendix C6).**

7.8.4 Stakeholder Meetings held during EIA Phase

7.8.4.1 Broader Stakeholder Meetings

Stakeholders were invited to participate through online and in-person engagements. Consultation meetings were held using platforms like Microsoft Teams, and In-person Broader Stakeholder Meetings.

The purpose of these Stakeholder Meetings was to discuss the Draft EIA/EMPr, presented findings from the specialist studies, provided stakeholders with a platform to raise comments on the Draft EIA/EMPr and interact with the project team.

Posters with information regarding the Project description, findings from the specialist studies, impacts and proposed mitigation measures were displayed, these posters were included various maps of the affected areas. Copies of the non-technical summary was distributed to stakeholders who attended.

The non-technical summaries will be available in English and Setswana.

Table 7-9:Details of the Stakeholder Meetings

Proposed dates	Available time slot	Method of Engagement
Online Meeting		
Tuesday, 7 October 2025	10H00 – 11H30	Online / Microsoft teams
In-person meeting (Public Meetings/Open Day)		
Thursday, 9 October 2025	09H00 - 12H00	Broader Stakeholder Meeting held with the Thabazimbi LM and associated communities on at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Thursday, 9 October 2025	13H00 - 15H00	Broader Stakeholder Meeting held with Baphalane Ba Ramoroka at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Friday, 10 October 2025	09H00 - 12H00	Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Wednesday, 12 November 2025	09H00 – 12H00	Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Thursday, 13 November 2025	09H30– 11H00	Online Meeting with DMPR and DWS

Focused efforts were made to engage with directly impacted stakeholders (those residents in the AMB areas and a pre-application Community Senior Leadership meeting in the Project area), including vulnerable groups at local level. These individuals were consulted directly and via their representatives and other influential people within communities. Meetings were held in a culturally appropriate manner, allowing stakeholders to voice their opinions openly. Stakeholders were given the option to raise issues in the language of their choice and where translation is required, it was provided.

Authorities, NGOs, landowners / land occupiers and community members were engaged to promote attendance, by means of telephonic consultation and distribution of emails and SMS.

Refer to **Appendix C8** for a list of all the above meetings and consultations that was undertaken.

Minutes of these meetings and the presentations were compiled and be distributed to all stakeholders who attended **(Appendix C8).**

All comments raised by stakeholders during these meetings were captured in the CRR. Responses to comments was provided in line with the overall project scope and available information **(Appendix C10).**

7.8.5 Stakeholder Meetings Held During EIA Phase

7.8.5.1 Meetings with Department of Mineral and Petroleum Resources (DMPR) and Department of Water and Sanitation (DWS)

An Online meeting was arranged and attended with DMPR and DWS officials on **Thursday, 13 November 2025 from 09H30 to 11H00.** Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.
- Provide an overview of the specialist study's findings.
- Discuss the Waste Record of Decision (RoD) and the requirements.
- Timelines for submission of reports.
- Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).

7.8.6 Online Meetings with Broader Stakeholders

Formal consultation meeting was held online via Microsoft Teams during the public review period for all stakeholders on the database. This meeting was held on **Monday, 24 November 2025 from 11H00 - 12H30.** Information was presented by means of a PowerPoint presentation.

The purpose of the meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility Reclamation and Processing Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised and included in the Comments and Responses Report.

Thabazimbi LM and Associated Communities

Baphalane Ba Ramokoka

Figure 7-4: Photo from Stakeholder Meeting held with the Thabazimbi LM and Baphalane Ba Ramokoka on Thursday, 9 October 2025.

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7.8.7 Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner)

The initial meeting with the Mantserre Community was scheduled for the **Friday, 10 October 2025**; however, the Mantserre Community requested the meeting to be rescheduled. But the Project Team was available on the day, to make sure that if anyone wanted to attend that they were available because it was advertised broadly, not one attended.

An additional Stakeholder Meeting was held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Wednesday, 12 November 2025 from 09H00 - 12H00** as shown Figure 8-3. Information was presented by means of a PowerPoint presentation in English and Setswana. At this meeting the Mantserre Community refused to sign the attendance registers and refused for the project team to present the findings of the EIA. The Mantserre Community agreed that Mr Grant Cornish-Bowden present the previous meeting minutes, which he did. The Mantserre Community indicated that Kongiwe need to compile minutes of the meeting, please see **Appendix C8**.

Notices were placed in the Mantserre Community on **Friday, 07 November 2025**. The notices provided an overview of the Project and highlighted the applicable legislation, environmental authorisation/permits applicable to the Project. It also outlined the stakeholder engagement process to be followed and where relevant information could be obtained. A locality map of the Project site was included in the site notice. Details of the Public Meetings / Open Days and how stakeholders could register as an I&APs were included in the Site Notice.

Pictures of where the notices were placed was recorded in the notice report was developed, as shown in **Appendix C5.**

Information regarding the Proposed Project description, findings from the specialist studies, impacts and proposed mitigation measures were presented to stakeholders, which included various maps of the affected areas. Copies of the non-technical summary of the DEIA/EMPr and presentations were distributed to stakeholders who attended. The non-technical summaries were available in English and Setswana and the presentation in English, as shown in **Appendix C3.**

The purpose of the Broader Stakeholder Meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.
- Provide an overview of the specialist study's findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).

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Figure 7-5: Photos from Stakeholder Meeting held with Mantserre Community on Wednesday, 12 November 2025 from 09H00 - 12H00

Table 7-10 below provides a summary of the stakeholder engagement activities that formed part of the Draft EIA/EMPr Phase.

Table 7-10: Summary of PPP activities undertaken as part of the Draft EIA/EMPr Phase

Impact Assessment Phase		
Activity	**Details**	**Reference in DEIR/EMPr**
Announcement of the availability of the Draft EIA/EMPr	A Notification letter which provides details about the availability of the Draft EIA/EMPr for public review and comment and an invitation to online and in-person engagements were emailed to the full stakeholder database.	**Appendix C6** Announcement Letter
Placement of media advertisement for the Draft EIA/EMPr Phase	Newspaper advert was placed in the Platinum Bosvelder. The advertisement provided details about the public review period for the Draft EIA/EMPr and how the public can access the draft reports for their review and comment. The advert also provided information about online and in-person engagements.	**Appendix C4** Advertisement
Placement of Draft EIA/EMPr for public review and comment	The Draft EIA/EMPr have been compiled and was made available for a 30-day public review and comment period. Copies of the abovementioned report was available on Kongiwe's website.	-

Impact Assessment Phase		
Activity	**Details**	**Reference in DEIR/EMPr**
	The announcement letter was distributed to stakeholders to: ❖ Announce availability of the Draft EIA/EMPr; ❖ Invite stakeholders to the Broader Stakeholder Meetings; and ❖ Indicate where the Draft EIR/EMPr were available for public review and comment. A copy of the Draft EIA/EMPr and non-technical summaries was placed in the following public place: ❖ Thabazimbi Public Library; and ❖ Amandelbult Corporate Affairs and Sustainability Office. The non-technical summary was also placed in additional public places.	
Broader Public Consulting meetings: EIA/EMPr Phase	Stakeholders were invited to participate through online and in-person engagements. Consultation meetings were held via online forums such as Microsoft Teams, and Stakeholder Meetings were held with the broader public. The purpose of these Stakeholder Meetings was to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/EMPr and also interact with the project team. Minutes of these meetings were compiled and distributed to everyone who attended these meetings. All comments raised by stakeholders during these meetings was captured into the (CRR). Responses to comments were provided in line with the overall project scope and available information.	**Appendix C9** CRR

7.8.7.1 Availability of the Final Environmental Impact Assessment Report / Final Environmental Management Programme Report

Stakeholders will be notified of the availability of the Final EIA/EMPr for review by the CAs. A summary of the PPP activities undertaken as part of the Final EIA/EMPr phase is presented in Table 7-11.

Table 7-11: Summary of the PPP activities undertaken as part of the Final EIA/EMPr phase

Activity	Details
Announcement of the Final EIA/EMPr	A notification letter notifying stakeholders that the Final EIA/EMPr has been submitted to DMPR was emailed to the full stakeholder database.

Activity	Details
	An SMS was sent to stakeholders who have no access to the internet.
Placement of the Final EIA/EMPr	The Final EIA/EMPr is available as follows: Kongiwe's website: **https://kongiwe.com/projects/**
Submission to the Authorities	The Final EIA/EMPr was submitted to the DMPR on 18 December 2025.

7.8.8 Consultation with Stakeholders during the Decision-Making Phase

Once the DMPR has come to a decision regarding the authorisation of the Proposed Project, all stakeholders will be notified of the decision made and the appeal process to be followed. The decision from the DMPR will be communicated to stakeholders by means of a notification letter (electronic), SMS, local newspaper advertisement, and on Kongiwe's website.

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8 THE BASELINE ENVIRONMENT AND SPECIALIST FINDINGS

This Chapter provides a description of the environment that may be affected by the Project. The information is provided to assist the reader in understanding the receiving environment within which the project is proposed, and features of the biophysical, social, and economic environment that could be directly or indirectly affected by, or alternatively could impact on, the proposed development. This information has been sourced from existing available information and the on-site specialist investigations conducted as part of the EIA and aims to provide the context within which this EIA is being conducted. All alternatives have been assessed as part of the specialist studies. The full impact assessments undertaken by the independent specialists, including detailed descriptions of the affected environment, are attached as Appendices D of this EIA Report.

8.1 Climate

The project area falls within the Dwaalboom Thornveld vegetation, B climate type (dry climate types) (Figure 8-1). The area is characterised with summer- rainfalls, dry winters and fairly request frost occurrence in winter (Mucina & Rutherford, 2006) . The Amandelbult TSF falls within the B climate type (dry climate types) which is classified as a Koppen climate zone, whereby average monthly temperature is greater than 18°C and evaporation exceeds precipitation on the average. This climate type extends northward and southward from the equator to approximately 20-35 degrees of latitude. The average temperatures within the area are greater than 18ºC. Rainfall is minimal and occurs mainly in the Inter-tropical Convergence Zone (ITCZ), which migrates to the region. More than 80% of rainfall is measured during this period (SRK Consulting , 2023b).

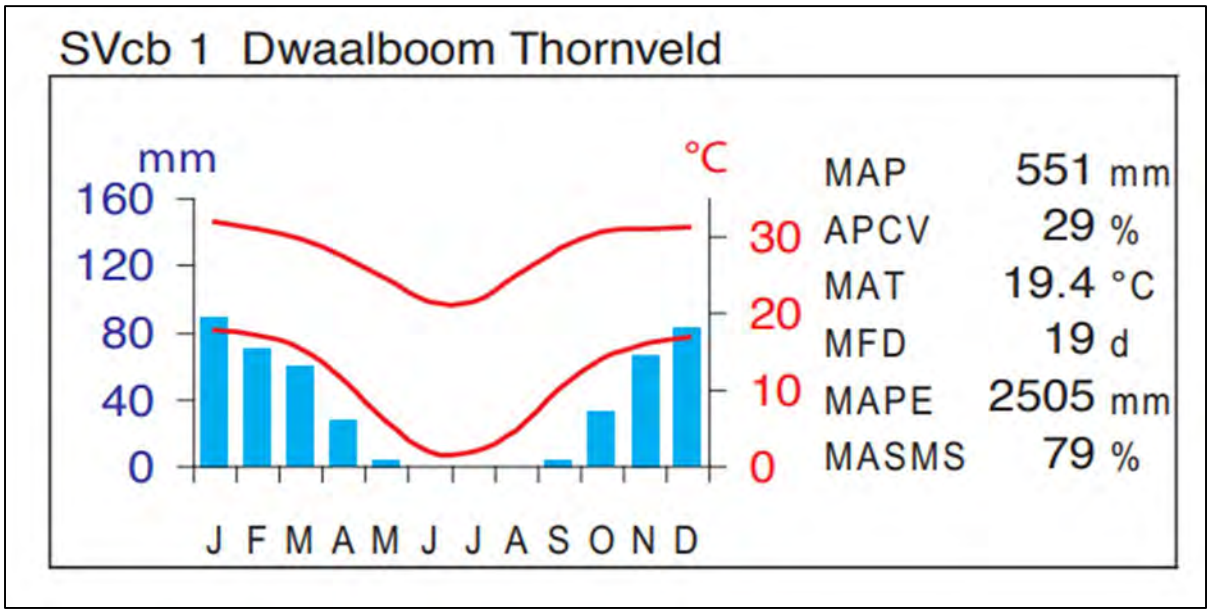

Figure 8-1:Summarised climate for the region (Mucina & Rutherland, 2006)

8.1.1 Rainfall & Evaporation

Rainfall is highest between October to April, with January generally being the wettest month. Very little rainfall occurs between May to September. The Mean Annual Precipitation (MAP) for AMB is 593 mm (Hydrospatial,

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2025). Evaporation is highest over the warmer months of September to March, with the remaining cooler months having lower evaporation. The A-Pan Mean Annual Evaporation (MAE) for the site is 1 598 mm (Smithers J.C. and Schulze R.E, 2002). Evaporation exceeds rainfall in all months of the year. The overall mean average precipitation (MAP) of the Project area ranges from 500 mm to 600 mm. the project area has the highest mean annual potential evaporation of savanna vegetation units outside the two Kalahari bioregions.

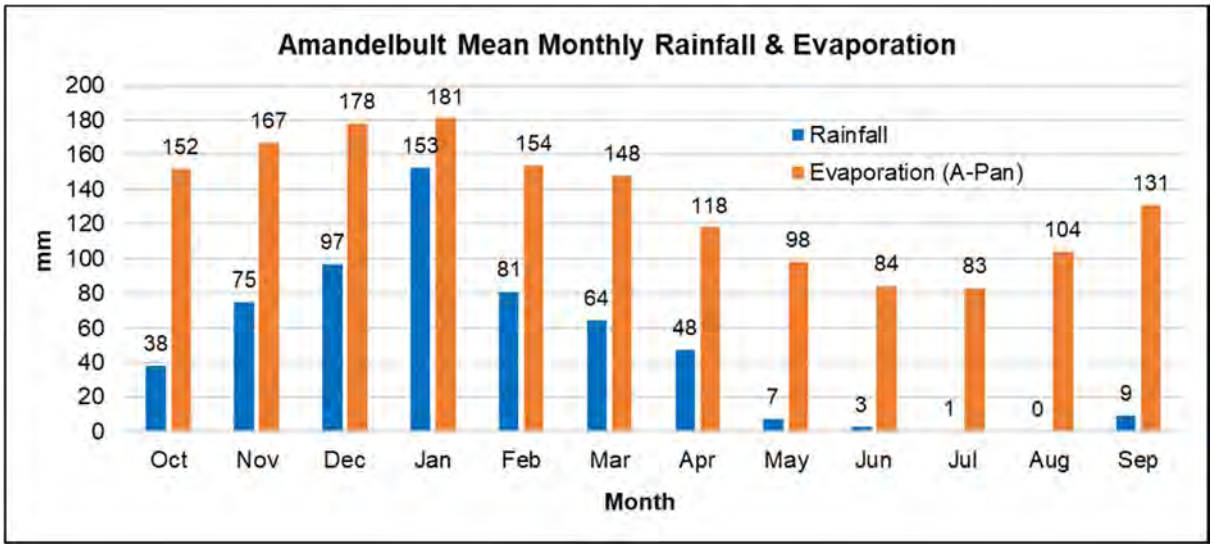

Figure 8-2: Amandelbult Mean Monthly Rainfall & Evaporation

8.1.2 Storm Rainfall

The storm rainfall depths for the centre position of the project (24°48'S, 27°21'E) were extracted from the Design Rainfall Estimation in South Africa software programme (Smithers J.C. and Schulze R.E, 2002). The programme uses the six closest rainfall stations to a user specified position, to calculate the storm rainfall depths. The extracted storm rainfall depths for the project are indicated in Table 8-1.

Table 8-1: Storm rainfall depths for the project

Storm Duration	Storm Rainfall Depth (mm)						
	1:2 yr	1:5 yr	1:10 yr	1:20 yr	1:50 yr	1:100 yr	1:200 yr
5 min	10	13	16	18	22	24	27
10 min	14	19	23	27	32	36	41
15 min	18	24	29	34	40	46	51
30 min	23	31	37	43	51	58	65
45 min	26	35	42	49	59	66	75
1 hr	29	39	47	54	65	73	82
1.5 hr	33	45	53	62	74	84	94
2 hr	36	50	59	68	82	93	104
4 hr	43	58	69	80	96	109	122
6 hr	47	64	76	88	106	120	135
8 hr	50	68	81	95	113	128	144
10 hr	53	72	86	100	119	135	152
12 hr	55	75	89	104	124	141	158

Storm Duration	Storm Rainfall Depth (mm)						
	1:2 yr	1:5 yr	1:10 yr	1:20 yr	1:50 yr	1:100 yr	1:200 yr
16 hr	59	80	96	111	133	151	169
20 hr	62	85	101	117	140	159	178
24 hr	65	88	105	122	146	166	186
1 day	54	74	87	102	122	138	155
2 days	67	91	108	125	150	169	190
3 days	75	102	122	141	169	191	215
4 days	82	111	132	154	184	208	234
5 days	87	119	141	164	196	222	250
6 days	92	125	149	173	207	234	263
7 days	96	131	156	181	217	245	275

8.1.3 Temperature

The average monthly temperatures ranged from 12.1°C to 26.0°C with maximum temperatures reaching 36.1°C and minimum temperatures 0.6°C. The Environmental data showed that average monthly temperatures at the site ranged from 11.6°C to 25.9°C, with maximum temperatures reaching 39.8°C and minimum temperatures -1.4°C. Higher monthly temperatures were measured between November and March, while lower temperatures were experienced between May and September. (SRK Consulting , 2023b). This is illustrated by Figure 8-3 below.

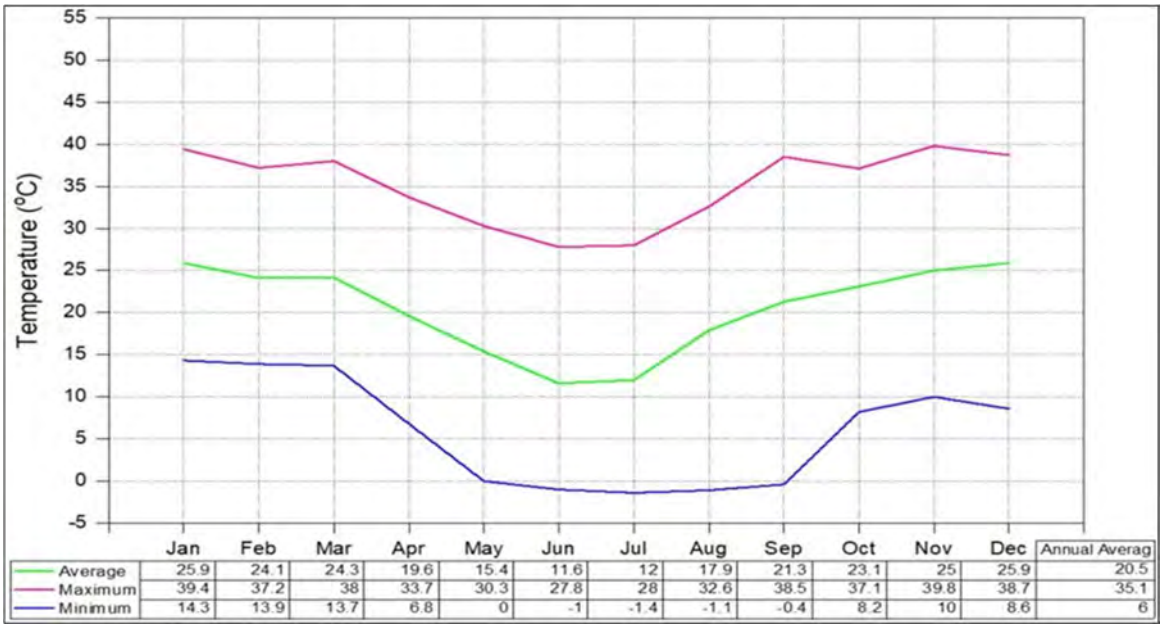

Figure 8-3:Average Annual Temperature (Weather Temperature station at Thabazimbi, https://vitalweather.co.za/stations.php)

8.2 Topography

The topography of the area can be described as relatively flat, with a gentle decrease in elevation towards the easterly direction of the Amandelbult Mine and has been changed with the development of the TSF in the area. The elevation ranges between 920 m and 980 m (Eco Elementum (Pty) Ltd, 2023). Please see Figure 8-4

below which indicates the topography in the area. The Amandelbult Mine is divided by the R510 which connects Rustenburg and Thabazimbi, as well as a Transnet railway line, running parallel with the road. There are two watercourses near the Amandelbult Mine, the Bierspruit and the Crocodile River. The Bierspruit is located towards the West of the Amandelbult Mine and flows in a northerly direction, feeding into the Crocodile River. The Crocodile River is situated towards to east of the Amandelbult Mine and flows in a north-westerly direction (SRK Consulting, 2023a).

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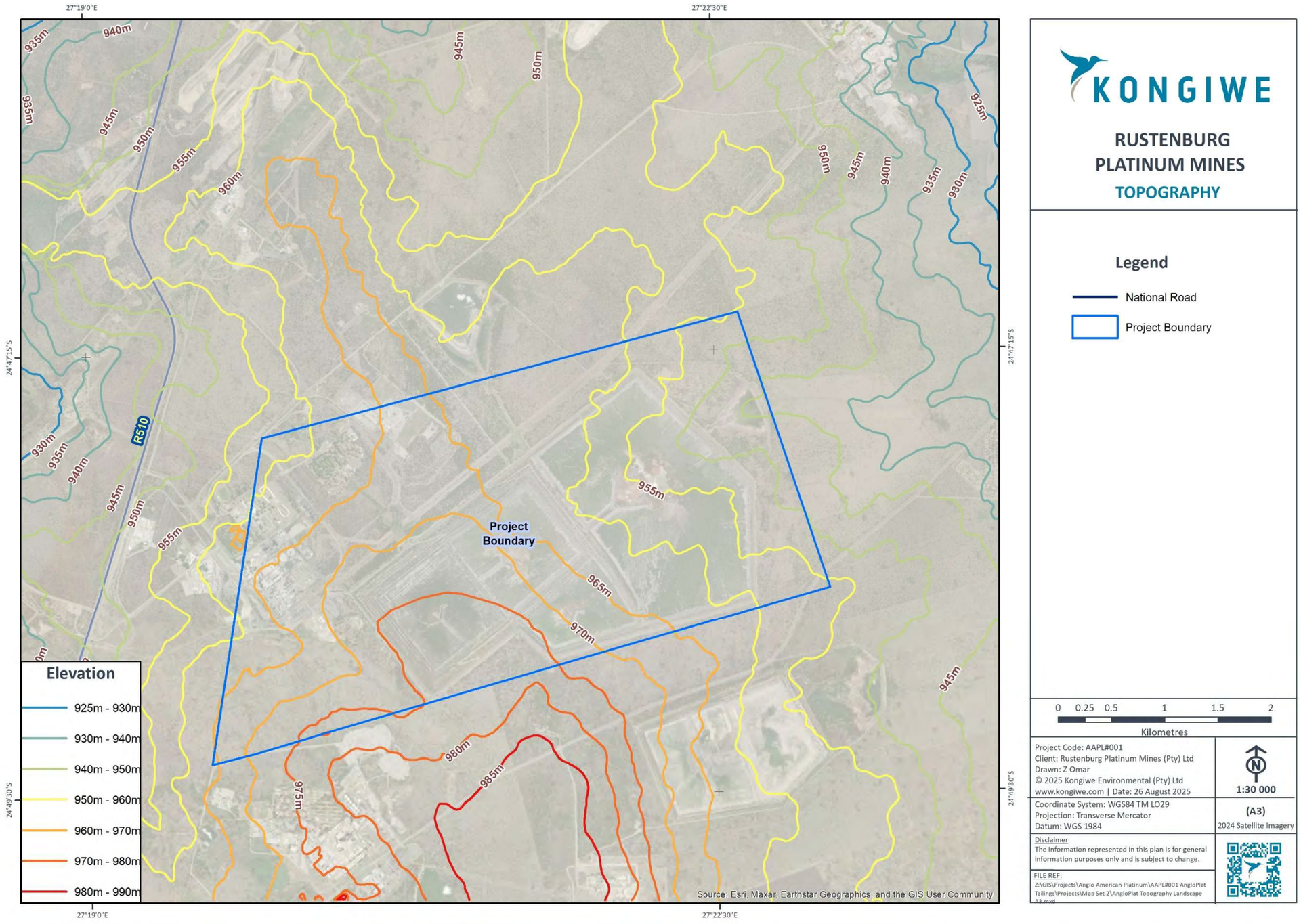

Figure 8-4:Project area Topography

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8.3 Geology

The Amandelbult Mine is located within the north-west limb of the Bushveld Complex. The upper Critical Zone of the Bushveld Complex hosts the largest concentration of PGMs in the world. Although the Merensky Reef is generally regarded as a uniform reef type, large variations occur in reef thickness, reef composition, as well as the position of the mineralisation. The UG2 Reef is developed some 20 to 400 meters below the better known Merensky Reef.

The mining area is comprised of mafic and ultra-mafic rocks, with three reefs present beneath the mining area, which are the Merensky reef, Upper Group Chromite layer no.2 (UG2) and the Lower Pseudo Reef (P1) (Jordaan, J, 2003) . There are quaternary alluvial deposits found towards the north-eastern corner of the mine lease as a result of the Crocodile River (SRK Consulting, 2023a). The Amandelbult Mine has a number of faults and fractures across the mining area, including the Ventersdorp-parallel which runs in a Northeast to Southwest beneath the mining area. There are dykes comprised of dolerite and/or carbon-rich alkaline which trend in a Northeast to Southwest direction (SRK Consulting, 2023a). These dykes form impermeable boundaries in contrast to faults and factures which act as conduits to groundwater. Please see Figure 8-5 below.

The underlying geology of this region is a granite-gneiss terrane (Archaean) and it is covered partly with chemical and clastic sediments and volcanics derived from Rayton and Silverton formation which both form part of the Pretoria Group. Vertic clays had developed in the area due to the presence of norite and gabbro rocks. The land types of Ea and Ae are mostly present in these areas.

According to (Hydrospatial, 2025) AMB is located within the Rustenburg Layered Suite (RLS) of the Western Limb of the Bushveld Igneous Complex, the largest layered mafic and ultramafic intrusion in the world. The RLS has the following zones and main lithological units:

- Upper Zone: diorite and gabbronorite
- Main Zone: gabbronorite and norite
- Critical Zone: norite, anorthosite, and pyroxenite. The zone is characterised by prominent layering
- Lower Zone: pyroxenite and harzburgite
- Marginal Zone: norite

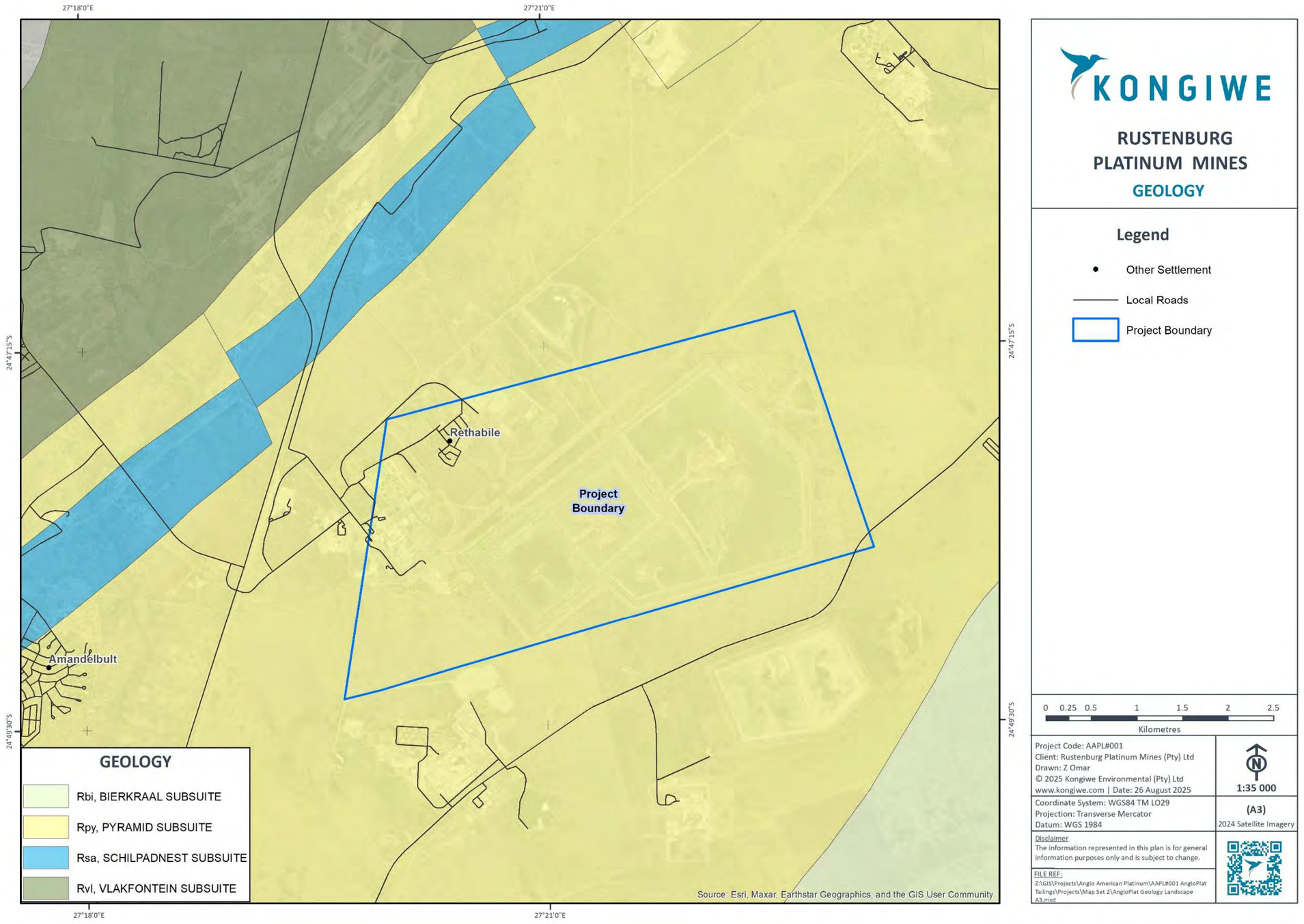

Figure 8-5:Regional geology.

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8.4 Soils, Land Capability and Land Use

8.4.1 Soils

The project area is characterised by the Ea 70 land type (Figure 8-6). The Ea 70 land type mainly consists of Arcadia and Rensburg soil forms according to the Soil classification working group, with the occurrence of other soils within the landscape (Land Type Survey Staff, 1972 - 2006.) . The Ea land types are also characterised by one or more of vertic, melanic, red-structured diagnostic horizons and undifferentiated soils. The land terrain units for the featured Ea 70 land type are illustrated in Figure 8-6 with the expected soils listed in Table 8-2.

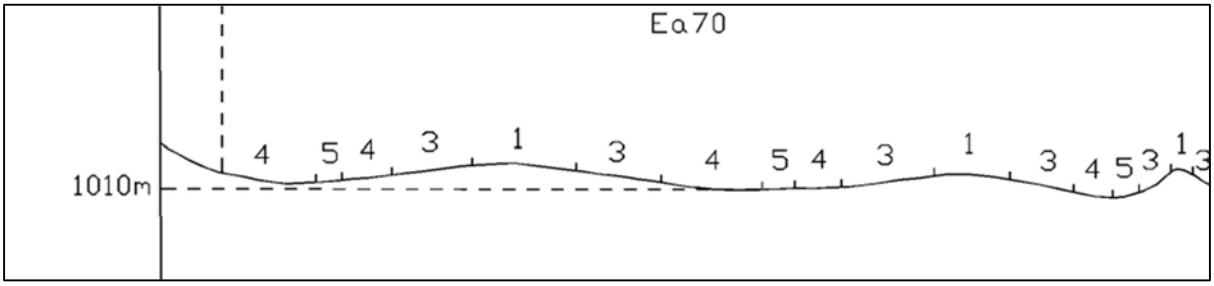

Figure 8-6:Illustration of land type Ea 70 terrain units (Land Type Survey Staff, 1972 – 2006)

Table 8-2:Soils expected at the respective terrain units within the Ea 70 land type (Land Type Survey Staff, 1972 - 2006)

Terrain Unit							
1 (20%)		3 (40%)		4 (31%)		5 (9%)	
Arcadia	60%	Arcadia	74%	Arcadia	76%	Rensburg	34%
Bare rock	13%	Shortlands	9%	Valsrivier, Swartland	11%	Arcadia	33%
Hutton	8%	Bare rocks	6%	Shortlands	6%	Oakleaf, Dundee	22%
Glenrosa	7%	Hutton	5%	Hutton	5%	Bonheim	6%
Shortlands	7%	Glenrosa	4%	Bonheim	2%	Valsrivier, Swartland	5%
Milkwood	5%	Milkwood	2%				

8.4.2 Baseline findings of soil types

The Project consists of soils with very low to low suitability for crop production. Two (2) representative soil forms were identified in the 50 m buffer of the proposed project area namely, Arcadia and Witbank soil forms. The proposed project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics. Furthermore, soils with signs of wetness, as a result of prolonged saturation conditions occur within the project area. The remaining extent of the project consists of disturbed areas, as a result of human activities (TBC, 2025).

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The Arcadia soil form consists of a vertic topsoil horizon on top of a lithic horizon. This soil has a shrinking and swelling properties due to high clay contents which promote cracks on the surface and exhibit slickenside. The vertic soils are generally poorly drained when wet which leads to waterlogging conditions and this soil are usually suitable for wildlife practices.

Technosols identified within the proposed project area that contains anthropogenic materials because of human activities include the Witbank soils. The Witbank soil form is characterised as transported Technosols in which anthropogenic materials cover natural soil or other anthropogenic materials. This soil form is defined by extremely severe limitations and are not suitable for crop production, livestock grazing and afforestation. All the identified soil horizons within the Project area, as well as the current land uses are illustrated in Figure 8-7 and Figure 8-8 respectively.

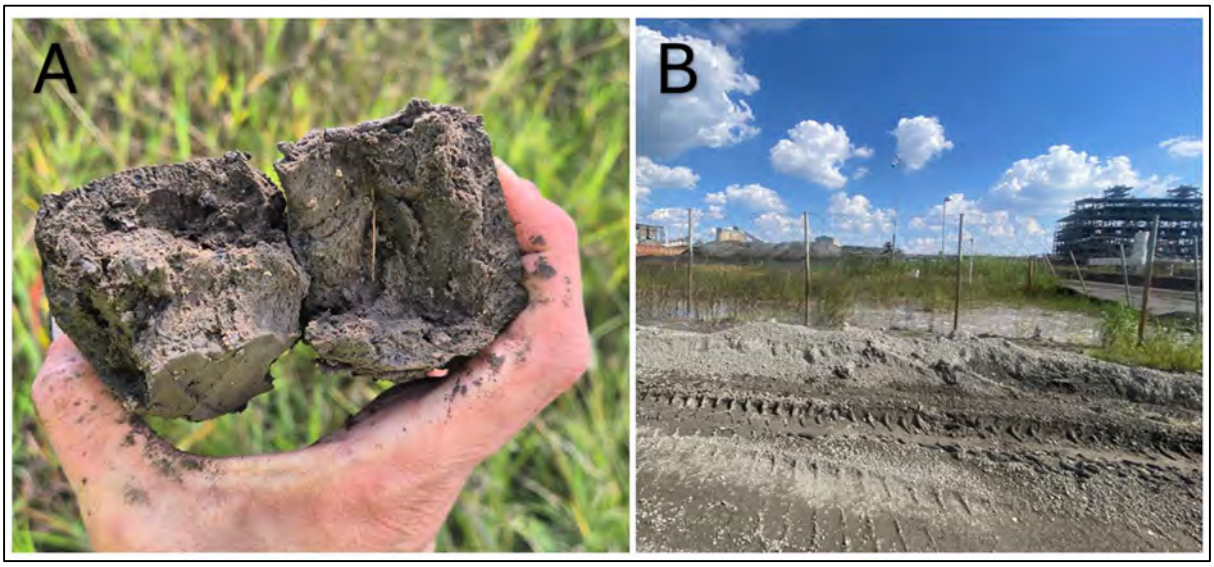

Figure 8-7: Diagnostic soil horizons identified on-site: A) Vertic horizon with weathering parent material (Arcadia soil form) and B) Witbank Technosols.

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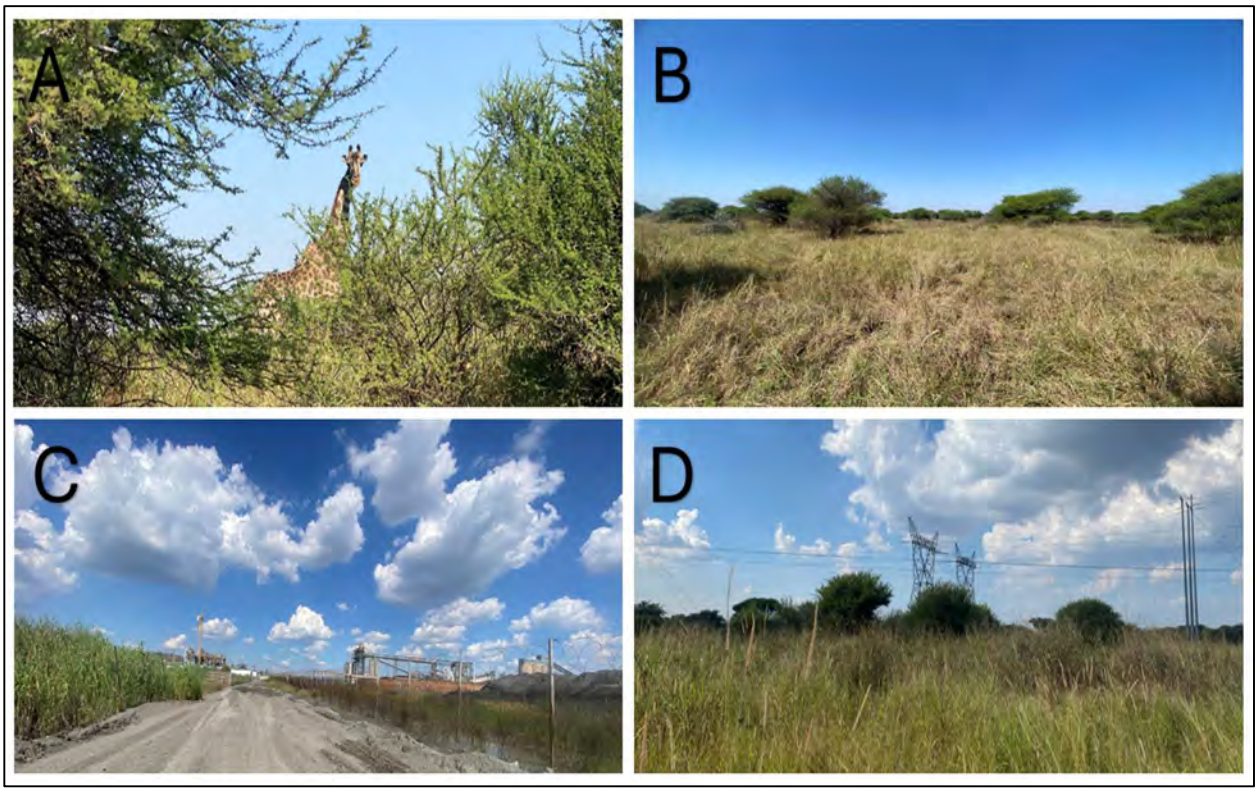

Figure 8-8: Different land uses found within the 50 m buffer of the proposed project area; A) Wildlife; B); Natural veld; C) Existing mining and D) Powerlines.

8.4.3 Sensitivity verification

The following is deduced from the National Web-based Environmental Screening Tool Regulation 16(1)(v) of the EIA Regulations 2014, as amended):

The proposed project area falls predominately within the "Low-Moderate" sensitivity. The remaining areas have "Moderate" and "Very Low to Low" sensitivities. The baseline soil findings, current land uses and the calculated land potential disputes the agricultural theme tool, in areas demarcated with "Low-Moderate" and "Moderate" land capability sensitivities and further concur to an extent with the agricultural theme tool on areas demarcated with "Very Low to Low" sensitivity. No high potential soils or active crop production were identified within the 50 m buffer of the proposed project area.

The current project area and associated activities of the proposed project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.

Considering the soil properties, agricultural potential as well as the current land use of the proposed development area, the area has a predominate "Low" agricultural sensitivity. The allocated sensitivities for the theme are either disputed or validated in Table 8-3 below.

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Table 8-3: Summary of the screening tool vs specialist assigned sensitivities

Screening Tool Theme	Feature	Screening Tool	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Agricultural Theme	Moderate (LC 8)	High	Low	Disputed – Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia. Moreover, the occurrence of transported Technosols such as Witbank which is not suitable for crop production.
	Low-Moderate (LC 6-7)	Medium	Low	Disputed – Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia soil form. Moreover, the occurrence of transported Technosols such as Witbank which is not suitable for crop production.
	Low (LC 4-5)	Low	Low	Validated - Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia soil form. Moreover, the occurrence of transported Technosols such as Witbank which is not suitable for crop production.

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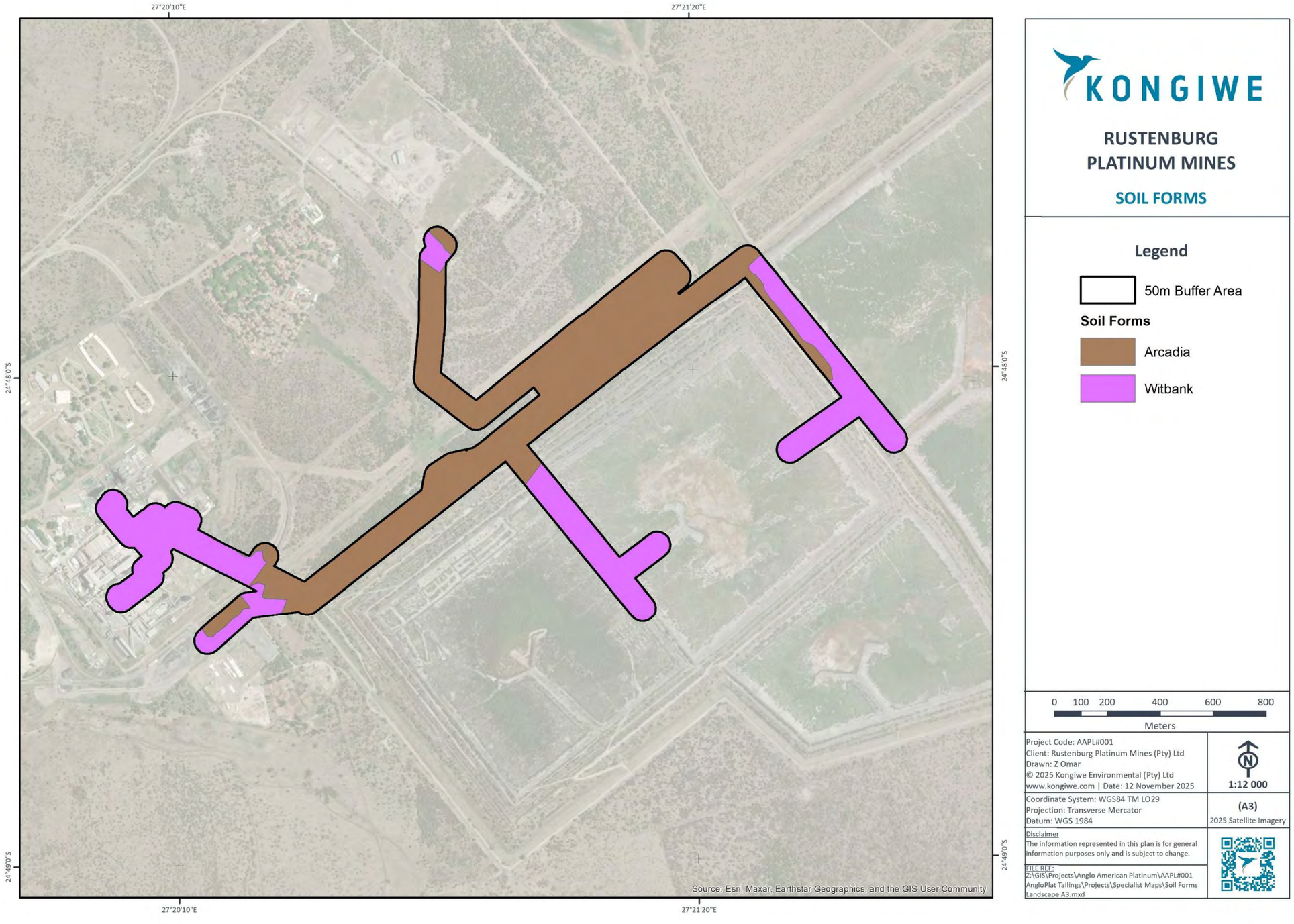

Figure 8-9:Soil map of the project area

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8.4.4 Land Capability

Land capability and agricultural potential will be determined by a combination of soil, terrain, and climate features. Land capability is defined by the most intensive long term sustainable use of land under rain-fed conditions. At the same time an indication is given about the permanent limitations associated with the different land use classes.

Land capability is divided into eight classes, and these may be divided into three capability groups. Table 8-4 shows how the land classes and groups are arranged in order of decreasing capability and ranges of use. The risk of use increases from class I to class VIII (Smith, 2006).

Table 8-4:Land capability class and intensity of use (Smith, 2006)

Land Capability Class	Increased Intensity of Use									Land Capability Groups
I	W	F	LG	MG	IG	LC	MC	IC	VIC	Arable Land
II	W	F	LG	MG	IG	LC	MC	IC		
III	W	F	LG	MG	IG	LC	MC			
IV	W	F	LG	MG	IG	LC				
V	W	F	LG	MG						Grazing Land
VI	W	F	LG	MG						
VII	W	F	LG							
VIII	W									Wildlife

W - Wildlife		MG - Moderate Grazing	MC - Moderate Cultivation			
F- Forestry		IG - Intensive Grazing	IC - Intensive Cultivation			
LG - Light Grazing		LC - Light Cultivation	VIC - Very Intensive Cultivation			

8.4.5 Land Use

Land uses over the area are primarily mining. Surrounding land use include Game Reserves and portions of the land towards the Crocodile River are used by farmers for agricultural purposes which includes irrigated crop production as well as grazing. The Madeleine Robinson Game Reserve is owned and managed by the mine; and forms a significant portion of the Amandelbult Mine at approximately 1500 Ha. This area is managed as a wildlife sanctuary (SRK Consulting, 2023a). Please see (Figure 8-10) below. All proposed infrastructure is located on bare disturbed land except for the Laydown Area, Topsoil Stockpile, Scrubber Plant, Oversize Stockpile, PCD Option 2, sections of the Access and Haul Roads, as well as both Chrome Stockpile options, which are located in Dwaalboom Thornveld vegetation (TBC, 2025).

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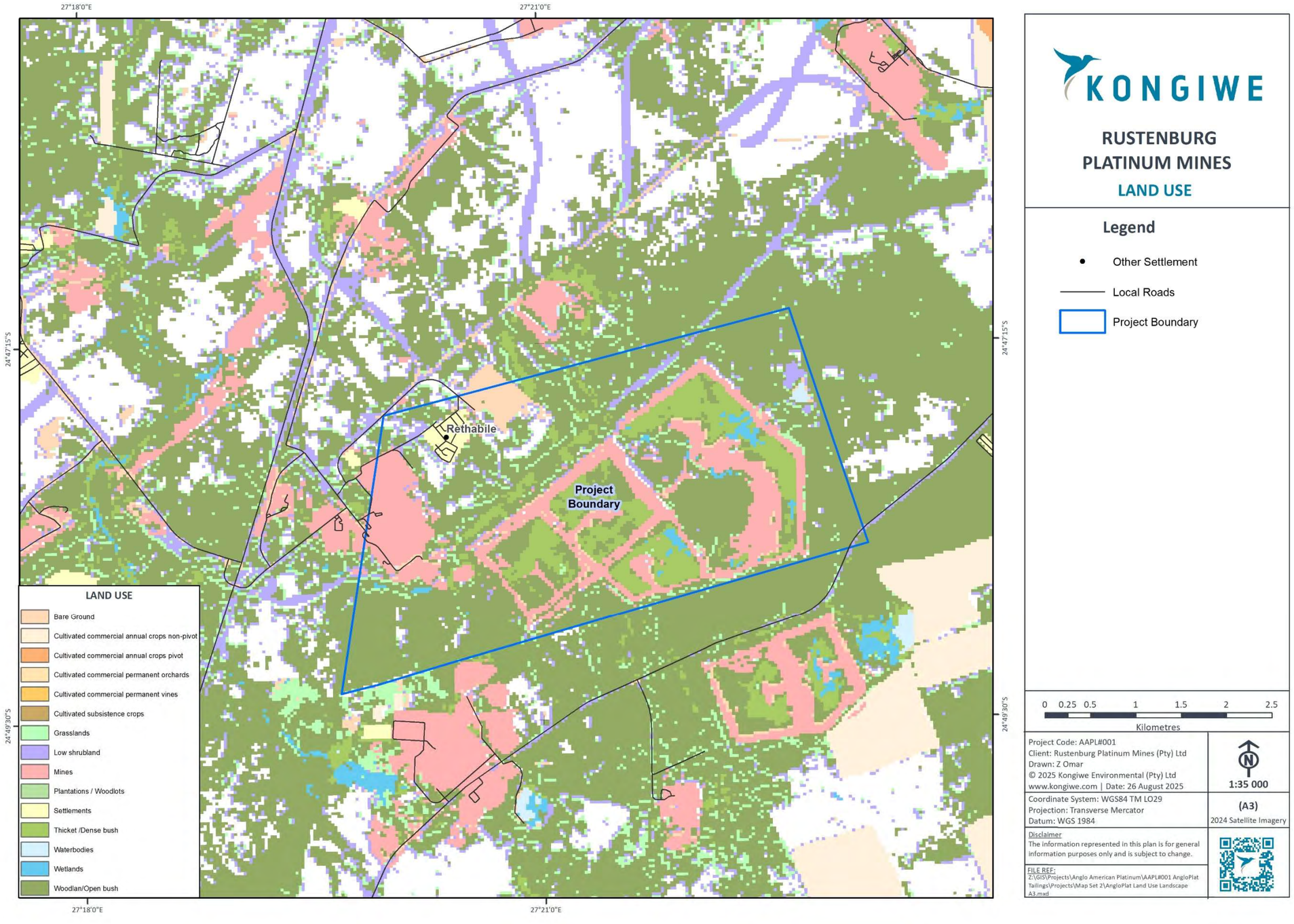

Figure 8-10: Land uses of the Project site and surrounding area

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8.5 Biodiversity

Refer to Specialist Study: Appendix D1– Terrestrial Biodiversity Compliance Statement

8.5.1 Biodiversity Field survey

Single season field survey was undertaken on the 29th of April 2025, which constitutes a late wet season survey, to determine the presence of any local Species of Conservation Concern (SCC) and to achieve the delineation of local habitat types and their associated sensitivities. Effort was made to cover all the different habitat types within the Amandelbult TSF Proposed Project, within the limits of time, access, and security. This site visit was considered sufficient for the project.

8.5.2 Ecologically Important Landscape Features

Table 8-5 below has been produced because of the spatial data collected and analysed (as provided by various sources such as the national and provincial environmental authorities and SANBI). It presents a summative breakdown of the ecological boundaries considered and the associated relevance that each has to the Proposed Project. Where a feature is regarded as relevant it is considered an ecologically important landscape feature and discussed further as part of the subsections that follow.

Table 8-5: Summary of relevance of the Project to ecologically important landscape features

Desktop Information Considered	Relevance	Reasoning
Provincial Conservation Plan (2018)	Relevant	The Project Area of Influence (PAOI) overlaps with Other Natural Areas (ONA) and No Natural Remaining (NNR).
Ecosystem Threat Status (RLE, 2021)	Relevant	The majority of the PAOI falls within an 'Least Concern' (LC) ecosystem.
Ecosystem Protection Level (NBA, 2018)	Relevant	The majority of the PAOI overlaps with a 'Moderately Protected' (MP) ecosystem.
National Protected Areas Expansion Strategy (2018)	Irrelevant	The PAOI does not overlap with any National Protected Area Expansion Strategy (NPAES) areas.
South African Protected and Conservation Areas Databases (2024)	Relevant	Located 4 km from the Buffelsfontein Private Nature Reserve.
Key Biodiversity Areas (KBA, 2024)	Irrelevant	The PAOI does not overlap with any KBAs.
Strategic Water Source Areas (SWSA) (2021)	Relevant	The PAOI overlaps with the Crocodile River Valley Groundwater Strategic Water Source Areas.
South African Inventory of Inland	Irrelevant	The PAOI does not overlap with any SAIIAE wetlands.

Desktop Information Considered	Relevance	Reasoning
Aquatic Ecosystems (SAIIAE) (2018)		
National Freshwater Priority Areas (NFEPA) (2011)	Relevant	The PAOI overlaps with two non-priority wetlands.
Mining and Biodiversity Guideline (2013)	Relevant	The majority of the PAOI overlap with High Biodiversity Importance with a High-risk for mining.
Vegetation Type (Mucina and Rutherford, 2006)	Relevant	The PAOI overlaps with the Dwaalboom Thornveld vegetation type.

8.5.3 Fauna Species of Conservation Concern (SCC)

The Screening Tool indicates that one (1) mammal SCCs and five (5) avifauna SCC are predicted to occur within the PAOI. Most species have an overall low likelihood of occurring within the area due to the absence of suitable habitat. (Table 8-6). Further, none of these listed fauna SCC below were confirmed during the site survey.

Please note that the Screening Tool report includes lists of bird, mammal, reptile, amphibian, butterfly, and plant species of conservation concern known or expected to occur on the proposed development footprint. Some of these SCC are sensitive to illegal harvesting. Such species have had their names obscured and are listed as sensitive plant unique number / sensitive animal unique number. As per the best practise guideline that accompanies the protocol and screening tool, please, the name of the sensitive species may not appear in the final EIA report nor any of the specialist reports released into the public domain. It should be referred to as sensitive plant or sensitive animal and its threat status may be included, e.g. critically endangered sensitive plant or endangered sensitive animal.

Table 8-6:List of mammal SCC that are expected within the PAOI EN = Endangered, LC = Least Concern, NT = Near Threatened and VU = Vulnerable.

Group	Scientific Name	Common Name	Screening Tool	Red List		Likelihood of Occurrence	Reason
				Regional	Global		
Mammalia	Sensitive Species 5		Medium	VU	VU	Low	Unsuitable habitat
Avifauna	Aquila rapax	Tawny Eagle	Medium	EN	VU	Low	Unsuitable habitat
Avifauna	Hydroprogne caspia	Caspian tern	Medium	VU	LC	Low	Unsuitable habitat
Avifauna	Mycteria ibis	Stork, Yellow-billed	High	LC	LC	Low	Unsuitable habitat

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Group	Scientific Name	Common Name	Screening Tool	Red List		Likelihood of Occurrence	Reason
				Regional	Global		
Avifauna	Podica senegalensis	Finfoot, African	Medium	VU	LC	Low	Unsuitable habitat
Avifauna	Polemaetus bellicosus	Eagle, Martial	High	EN	VU	Low	Unsuitable habitat

8.5.4 Flora Species of Conservation Concern

The Screening Tool indicates that no flora Species Conservation Concern (SCC) are predicted to occur within the Amandelbult reclamation and processing of the TSF.

8.5.5 Habitat Assessment

Two (2) main habitat types were identified across the Amandelbult Reclamation and Processing of the TSF and include:

- Disturbed Bushveld;
- Modified.

The habitat units for the PAOI can be seen delineated in Figure 8-11 and descriptions of the habitat units can be found in Table 8-7.

Table 8-7: providing descriptions of the habitat types delineated for the PAOI

Habitat	Description and Condition
Disturbed Bushveld	This habitat is characterised by areas that have been significantly impacted by mining activities, overgrazing, and the creation of roads and establishment of. These disturbances have led to reduced habitat integrity and diversity, adversely affecting the floral communities. While these habitats are not entirely transformed, they remain in a persistently disturbed state, unable to recover to a more natural condition due to ongoing disturbances and impacts from active mining operations. This habitat can be found in various states of disturbance, often experiencing encroachment by Dichrostachys cinerea or infestation by Bidens pilosa and Zinnia peruviana. These areas are considered to have low ecological sensitivity, as they may serve as movement corridors and frequently act as barriers between bushveld and modified areas. No fauna or flora SCC (including avifauna) were observed, and none are expected to be resident/breed in the PAOI.
Modified	The modified areas exhibit minimal to no remaining natural vegetation due to extensive land transformation resulting from current mining activities, existing pipelines and roads. These habitats exist in a perpetually disturbed state and are

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Habitat	Description and Condition
	unable to recover to a more natural condition due to ongoing disturbances and impacts. The ecological services provided by this habitat are significantly limited, primarily due to the extensive cover of impermeable surfaces and large expanses of bare land. Despite these limitations certain sections of the area may function as movement corridors. No fauna or flora SCC were observed, and none are expected to reside within the PAOI.

8.5.6 Habitats and site Ecological Importance (SEI)

Based on the criteria provided in Appendix B of the Terrestrial Biodiversity Compliance Statement Report, all habitats within the PAOI were assigned a sensitivity category, i.e., a SEI category. Habitats within the PAOI varied in sensitivity from Very Low to Medium SEI (Table 8-8 and Figure 8-11). The findings of this assessment therefore contradict the findings set forth by the Screening Tool with regards to the combined Terrestrial Biodiversity Theme Sensitivity.

Table 8-8: Summary of habitat types and associated SEIs delineated within the PAOI.

Habitat Type	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance Guidelines
Modified	**Low**	**Very Low**	**Very Low**	**High**	**Very Low**
	No confirmed or highly likely populations of SCC. < 50% of receptor contains natural habitat with limited potential to support SCC.	Several major current negative ecological impacts.		Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality.	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.
Disturbed Bushveld	**Low**	**Low**	**Low**	**Medium**	**Low**
	< 50% of receptor contains natural habitat with limited potential to support SCC.	Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Several minor and major		Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality.	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.

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Habitat Type	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance Guidelines
		current negative ecological impacts.			

8.5.7 Screening Tool Comparison

The allocated sensitivities for each of the relevant themes are either disputed or validated in Table 8-9 below. A summative explanation for each result is provided as relevant. The specialist assigned sensitivity ratings are based largely on the SEI process followed in the previous section, and consideration is given to any observed or likely presence of SCC or protected species.

Table 8-9:Summary of the screening tool vs specialist assigned sensitivities.

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna SCC may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No SCCs observed or expected.

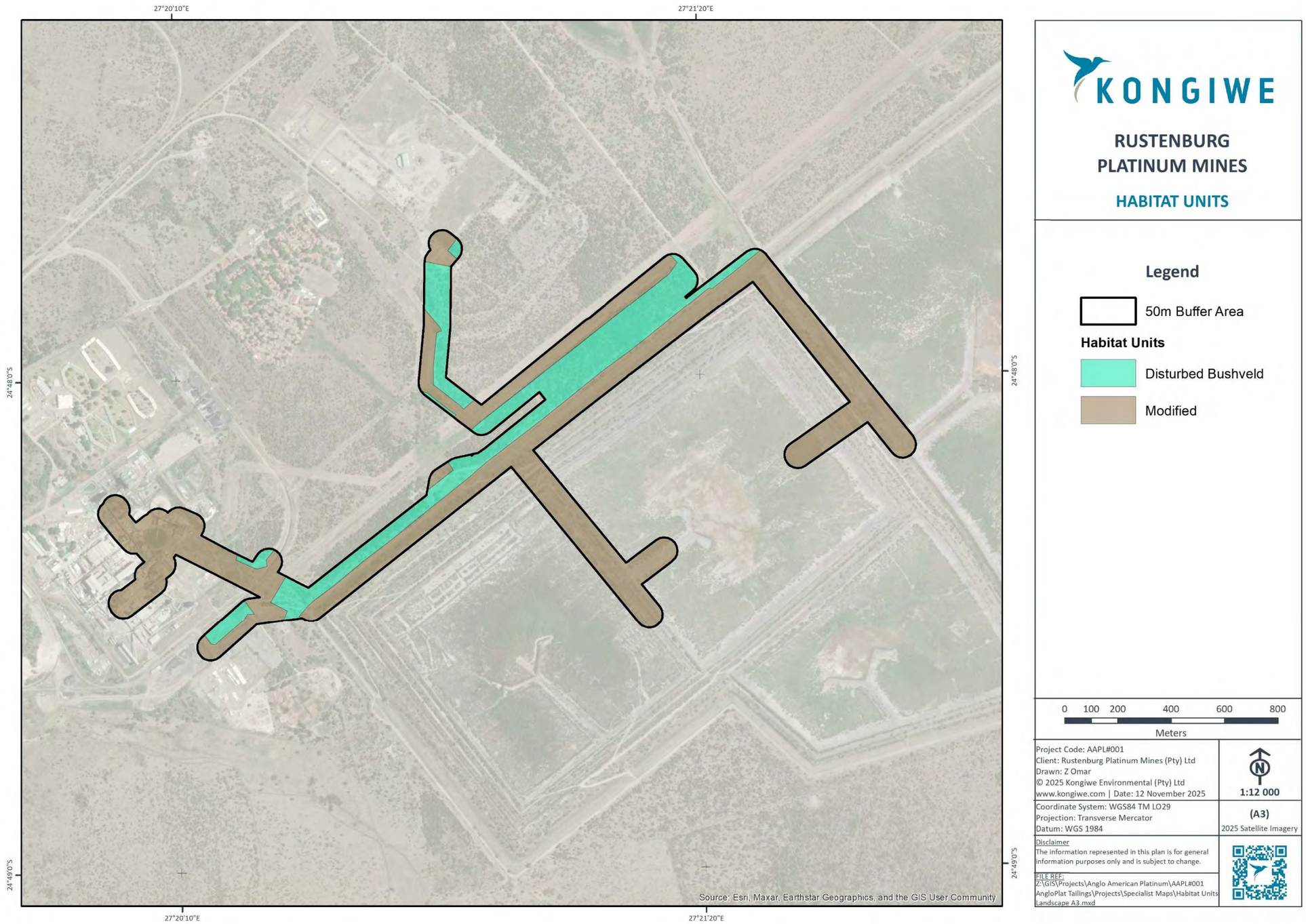

Figure 8-11: Habitats identified within the PAOI

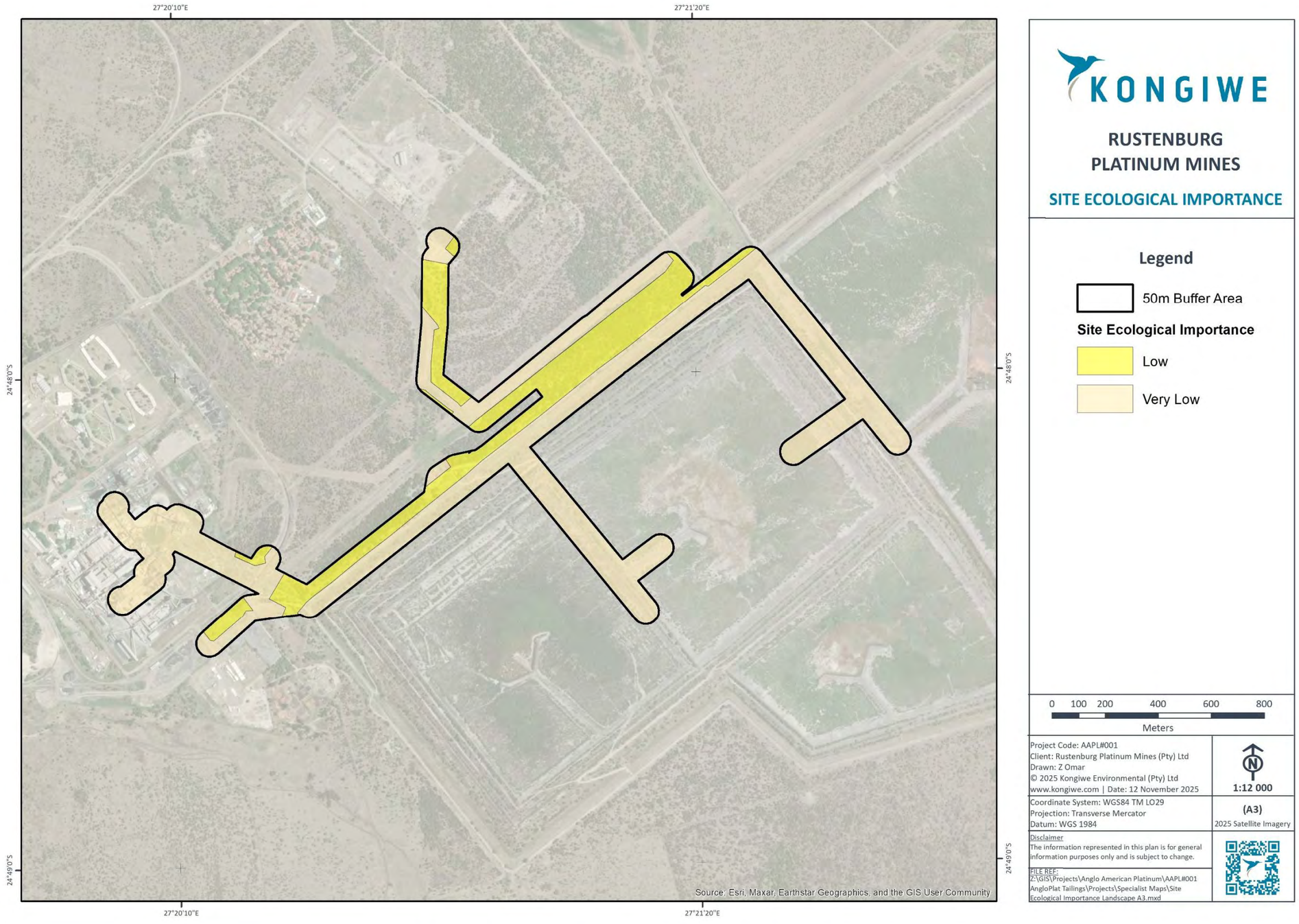

Figure 8-12:Map illustrating the site ecological importance for the PAOI

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8.6 Wetlands

Refer to Specialist Study: Appendix D1– Aquatic Biodiversity Compliance Statement

8.6.1 Field survey

The Project falls within the drainage features. A field survey for the area was undertaken on the 29th of April 2025, which is a wet season survey, to identify the presence of freshwater features (wetlands) and to delineate their spatial extents. The seasonality is not considered to be a limiting factor to the assessment, and the results of this assessment are conclusive (TBC, 2025).

8.6.2 Ecological Important landscape features

The GIS analysis pertaining to the relevance of the Project to ecologically important landscape features is summarised in Table 8-10. Only features that were identified to be relevant to the Project were further discussed.

Table 8-10:Summary of relevance of the Project to ecologically important landscape features

Desktop Information Considered	Relevant/Irrelevant	Section
Provincial Conservation Plan	Relevant – PAOI overlaps with Ecological Support Areas (ESA) and other national areas.	8.6.2.1
Strategic Water Source Areas	Relevant – PAOI overlaps with a SWSA, Crocodile River Valley.	8.6.2.2
National Freshwater Priority Area	Relevant – PAOI does not overlaps with NFEPA wetlands and rivers	-
South African Inventory of Inland Aquatic Ecosystems (SAIIAE)	Irrelevant – PAOI does not overlap with SAIIAE wetlands and rivers.	-

8.6.2.1 Limpopo Conservation Plan

According to the Gauteng Conservation Plan the PAOI intersects the following categories:

- Ecological Support Areas 1;
- No Natural Remaining; and
- Other Natural areas.

8.6.2.2 Strategic Water resources Areas

Strategic Water Source Areas (SWSAs) are areas that supply a disproportionate amount of mean annual runoff to a geographical region of interest. The areas supplying ≥ 50% of South Africa's water supply (which were represented by areas with a mean annual runoff of ≥ 135 mm/year) represent national (SWSAs) (SANBI, 2013). Groundwater and interflow play a key role in sustaining surface water flows during the dry

season and account for up to 42% of river baseflow, thereby sustaining aquatic and water-dependent biota. Therefore, the protection and management of these areas are imperative (TBC, 2025).

According to the SWSAs of South Africa, Lesotho and Swaziland, the PAOI overlaps with a Groundwater Strategic Water Source Area known as the Crocodile River Valley Groundwater Water Source Area (TBC, 2025).

8.6.3 Area of Wetlands

Table 8-11 below summarises the individual wetland areas and the percentage that identified features comprises of the freshwater area within the PAOI, which amounts to 6.49 ha.

Table 8-11:Summary of wetland area within the Project Area of Influence

HGM Units	Area (Ha)	Size (%)
Drainage features	6.49	100
Total	6.49	100

8.6.4 Delineation

Within the 500-metre PAOI, two drainage features were identified (refer to Figure 8-13). All other identified features are effectively avoided by the development area. Further details on the risk status of these wetlands can be found in Section 8.6.2 above.

8.6.5 Risk Screening

Table 8-12 provides the results of risk screening for the delineated wetlands and provides motivation for each of the determined categories. The drainage features are perceived to be noy be at risk from the proposed pipeline development.

Table 8-12:Risk status of the delineated wetlands

HGM unit	Risk Status	Rationale
Drainage Areas	Not At Risk	These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from construction or operational activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

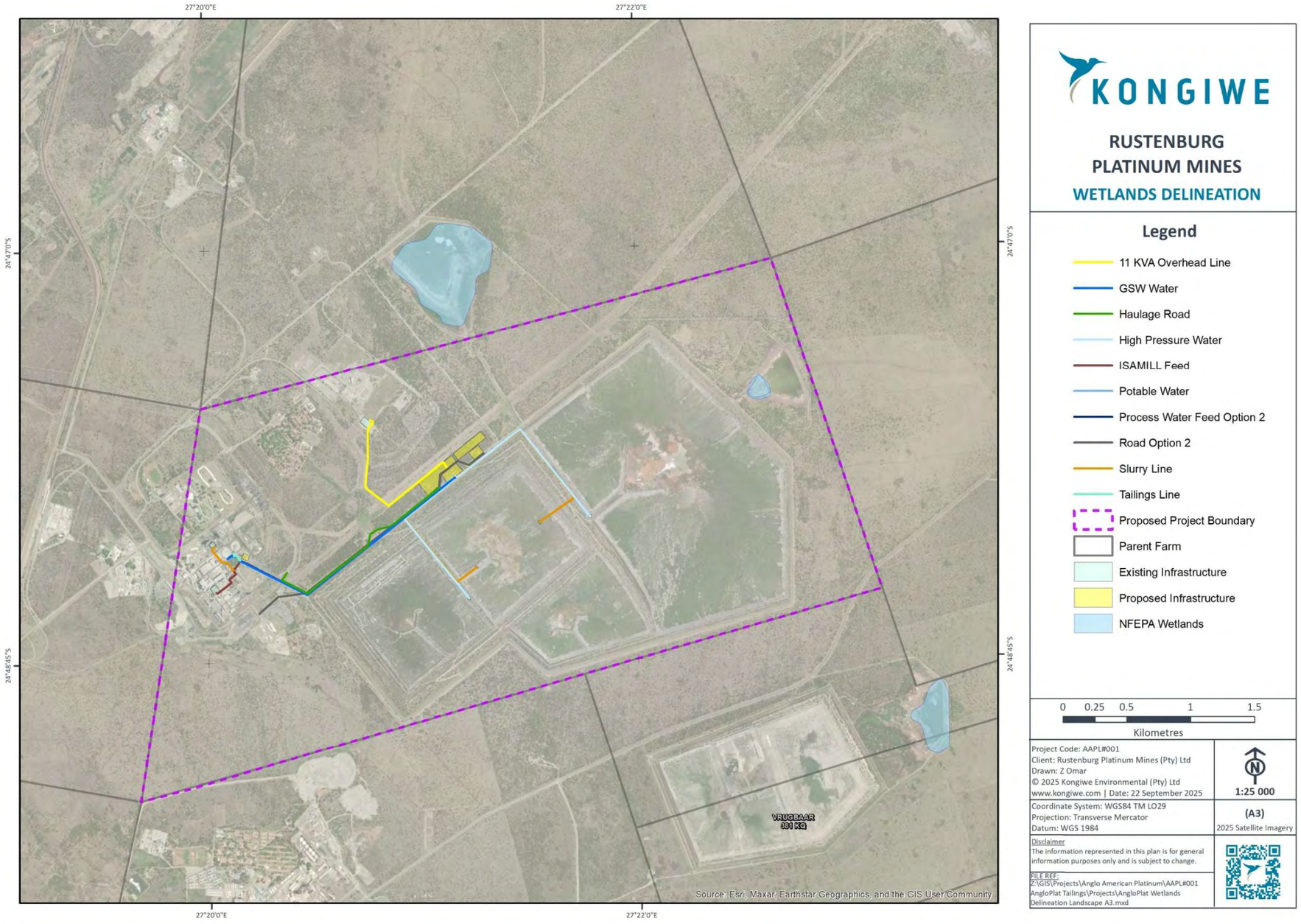

Figure 8-13: Delineation of wetland features within the Project Area of Influence

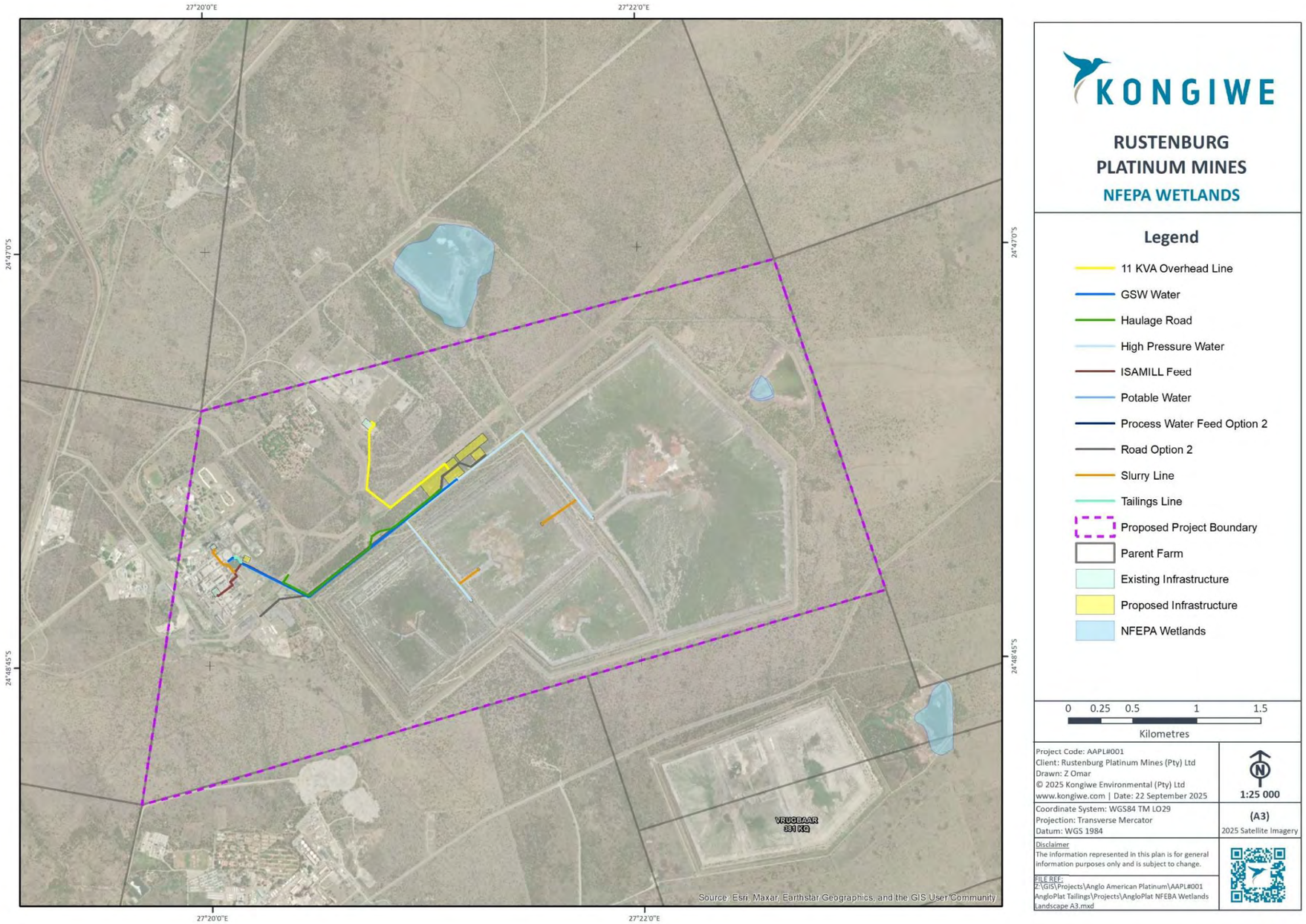

Figure 8-14: NFEPA Wetlands Map

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8.6.6 Buffer Requirements

The buffer requirements for the wetlands were calculated using the Site Based Tool: Determination of buffer zone requirements for wetland ecosystems (TBC, 2025). The recommended buffer zones are presented in Table 8-14.

A drainage buffer of 32 m was calculated for the drainage features in the pre-mitigation scenario, which can be reduced to a minimum post-mitigation buffer of 15 m. In consideration of the current layout, the proposed development sufficiently avoids the suggested buffers.

8.6.7 Regulation Zones

The proposed activities do not fall within the 100 m NWA and 32 m NEMA regulated area of a natural watercourse. The zones of regulation were only computed for the delineated extent of the watercourses.

Table 8-13:Buffer requirements for the relevant wetland feature

Scenario	Buffer Distance
Post-Mitigation	15 m
Pre-Mitigation	32 m

8.6.8 Screening Tool Comparison

The allocated sensitivities for each of the relevant themes are either disputed or validated for the assessed areas as presented in Table 8-14 below. A summative explanation for each result is provided as relevant. It should be noted that the National Web-based Environmental Screening Tool allocates sensitivities to freshwater resources identified through the available national freshwater datasets based on their presence (very high) or absence (low).

The specialist assigned sensitivity ratings presented herein consider the presence of features, their size and the ecological characteristics.

Table 8-14:Summary of the screening tool vs specialist assigned sensitivities

Feature	Screening Tool Theme	Screening Tool	Specialist Finding	Tool Validated or Disputed by Specialist - Reasoning
Drainage Feature 15 m Buffer	Aquatic Biodiversity Theme	Low	Low	Validated – The non-perennial features and their buffers do not support significant aquatic biodiversity or wetland function and are not considered priority conservation areas. These features exhibit seasonal flows with artificial inputs.
Remaining Area	Aquatic Biodiversity Theme	Low	Low	Validated – No natural surface water features were identified within these areas.

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8.7 Surface Water

Refer to Specialist Study: Appendix D2– Surface water assessment

The DWS has divided South Africa into primary, secondary, tertiary and quaternary catchments. Primary catchments are the largest defined catchments for South Africa, of which there are 22, and are assigned a letter ranging from A – X (excluding O). Secondary catchments are subdivisions of the primary catchments, and are the second largest catchments in South Africa, and are assigned the primary catchment letter within which they are located, and a number e.g. A5 (secondary catchment 5 located within primary catchment A). Similarly, tertiary catchments are subdivisions of secondary catchments and are represented for example by A53 (tertiary catchment 3 located within secondary catchment A5). Lastly, quaternary catchments are the smallest defined catchments and are assigned the tertiary catchment number, along with a quaternary catchment letter e.g. A53D (quaternary catchment D located within tertiary catchment A53). Further divisions into sub-quaternary reaches have also been implemented.

Further to the above, the DWS have divided South Africa into 9 Water Management Areas (WMAs). The 9 WMAs include the Limpopo, Olifants, Inkomati-Usuthu, Pongola-Mtamvuna, Vaal, Orange, Mzimvubu-Tsitsikamma, Breede-Gouritz and Berg-Olifants. Not all of the WMAs have been formalised.

The Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit). The western part of the mine falls within the A24F catchment area and drains mainly northward and westward towards the non-perennial Bierspruit. The Middellaagtespruit is a tributary of the Bierspruit near the TSF area. The eastern part of the mine falls within the A24C catchment and drains mainly north-eastwards and eastwards via a few small ephemeral streams towards the perennial Crocodile River. Please see Figure 8-15 below.

8.7.1 DWS Classes and Resource Quality Objectives

The NWA specifies that water resources are to be protected and managed through the classification of water resources and Resource Quality Objectives (RQOs) and the setting of the reserve. The Classes and RQOs of Water Resources for Catchments of the Limpopo North West (Government Notice No. 562, 18 October 2019) (Hydrospatial, 2025), was consulted to obtain the classes and RQOs for the quaternary catchments within which the Amandelbult Tailings Reclamation Project is located. Quaternary catchments A24C and A24F have been categorised as water resource class III with ecological category D.

8.7.2 Site investigation

A site investigation of the project area was undertaken on 2 April 2025. The purpose of the site investigation was to assess the hydrological characteristics of the area.

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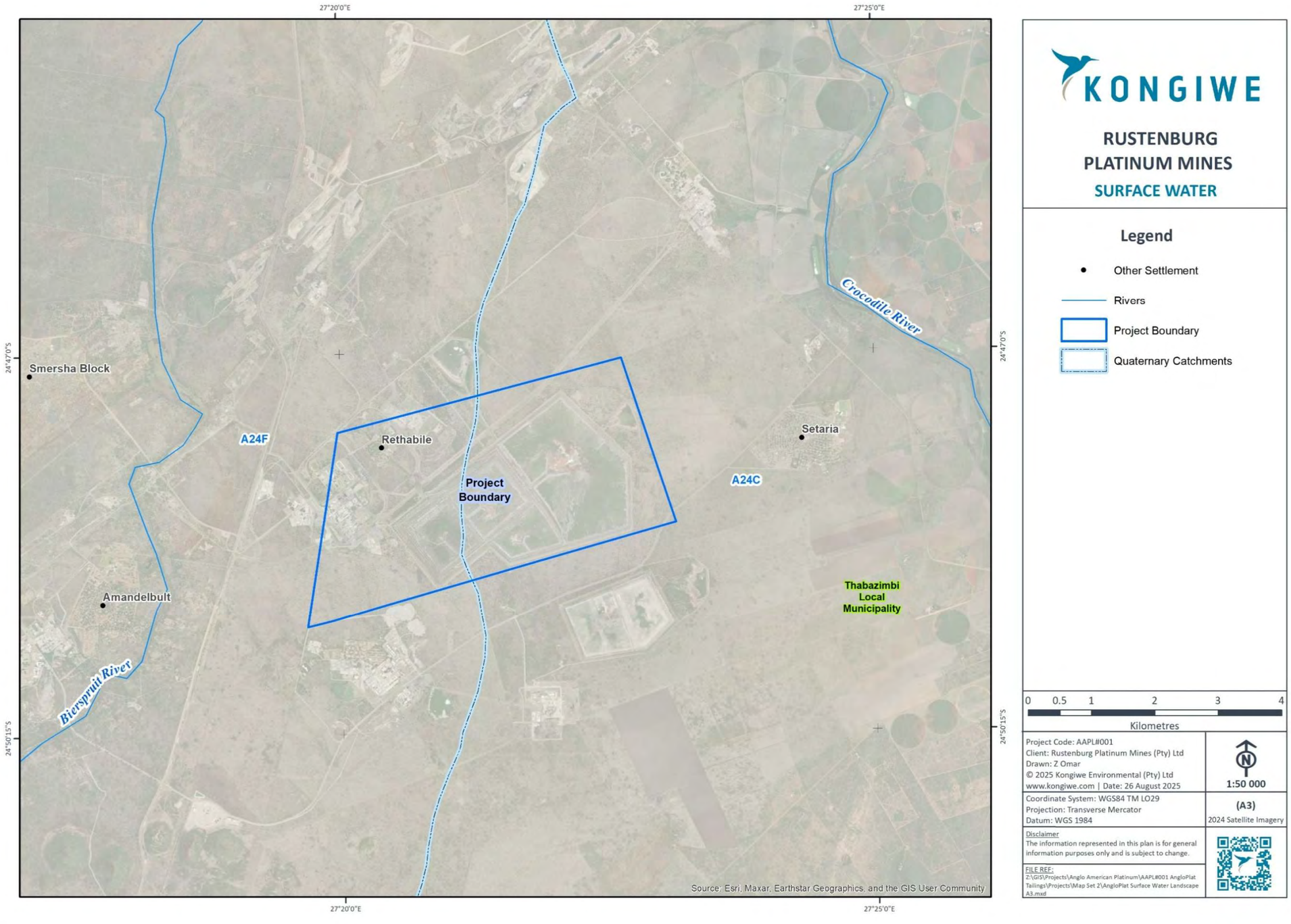

Figure 8-15: Surface Water Map of the Project site and surrounding area

8.7.3 Monitoring plan for Surface Water Quality

A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented

Water quality sampling should be done in accordance with the DWS Best Practice Guideline G3: Water Monitoring Systems. Samples must be kept cool (+-4°C), out of direct sunlight, and transported immediately to an accredited laboratory for water quality analysis within 24 hours of sampling. Since the watercourses surrounding the Project are non-perennial and generally dry, no additional monitoring points are recommended, and monitoring should continue at the locations specified in Table 8-16.

Surface water quality in and around the AMB Concentrator is monitored on a monthly basis. The water quality between March 2024 and February 2025 was obtained from the report: Amandelbult Concentrator Water Quality Monitoring Report (Shanko Projects, 2025) and was used to describe the surface water quality in the vicinity of the project (Hydrospatial, 2025). It should be noted that the tributaries surrounding the AMB Concentrator that flow into the Bierspruit and Crocodile River are non-perennial, flowing only briefly after receiving sufficient rainfall. These non-perennial streams were not flowing at the time of the site visit and could therefore not be sampled (Hydrospatial, 2025).

8.7.4 Monitoring plan for Stormwater Infrastructure

Water infrastructure (bunded areas, paddocks, channels and sumps) should be monitored on a monthly basis during the dry season, and on a weekly basis during the wet season. They should further be monitored immediately after any large storm events. Should blockages, silted up structures or breaches occur, immediate action should be undertaken to remove debris and repair breaches. Monitoring should be undertaken by the onsite Environmental Officer (EO) or maintenance manager. Inspections should be recorded and should include the following:

- Date of inspection;
- Rainfall amount received prior to inspection;
- Photographs of blockages, silted up structures or breaches witnessed;
- What action was undertaken to fix issues, where was debri waste taken to, and the amount of time taken to address them; and
- Photographs post action taken.

8.7.5 Monitoring Locations

The sampling locations are indicated and summarised in Table 8-15.

Table 8-15: Description of the locations of the surface water quality monitoring points

Monitoring Location	Description of Location	Latitude*	Longitude*
AMD J (AMC 02)	Return Water Dam	-24.78177	27.35029
AMD U (AMC 01)	Holding Dam	-24.79265	27.37930
AMD T1 (AMC t1)	Holdings trench	-24.79565	27.35788

Monitoring Location	Description of Location	Latitude*	Longitude*
AMD T2 (AMC 03)	Trench from plant to Stormwater Dam	-24.80627	27.33068
CRP Stormwater Dam	CRP Stormwater Dam	-24.80382	27.33265
Kilken Turf Dam	Kilken Turf Dam	-24.80348	27.33614

*Coordinates in decimal degrees, geographic coordinate system, WGS84 datum

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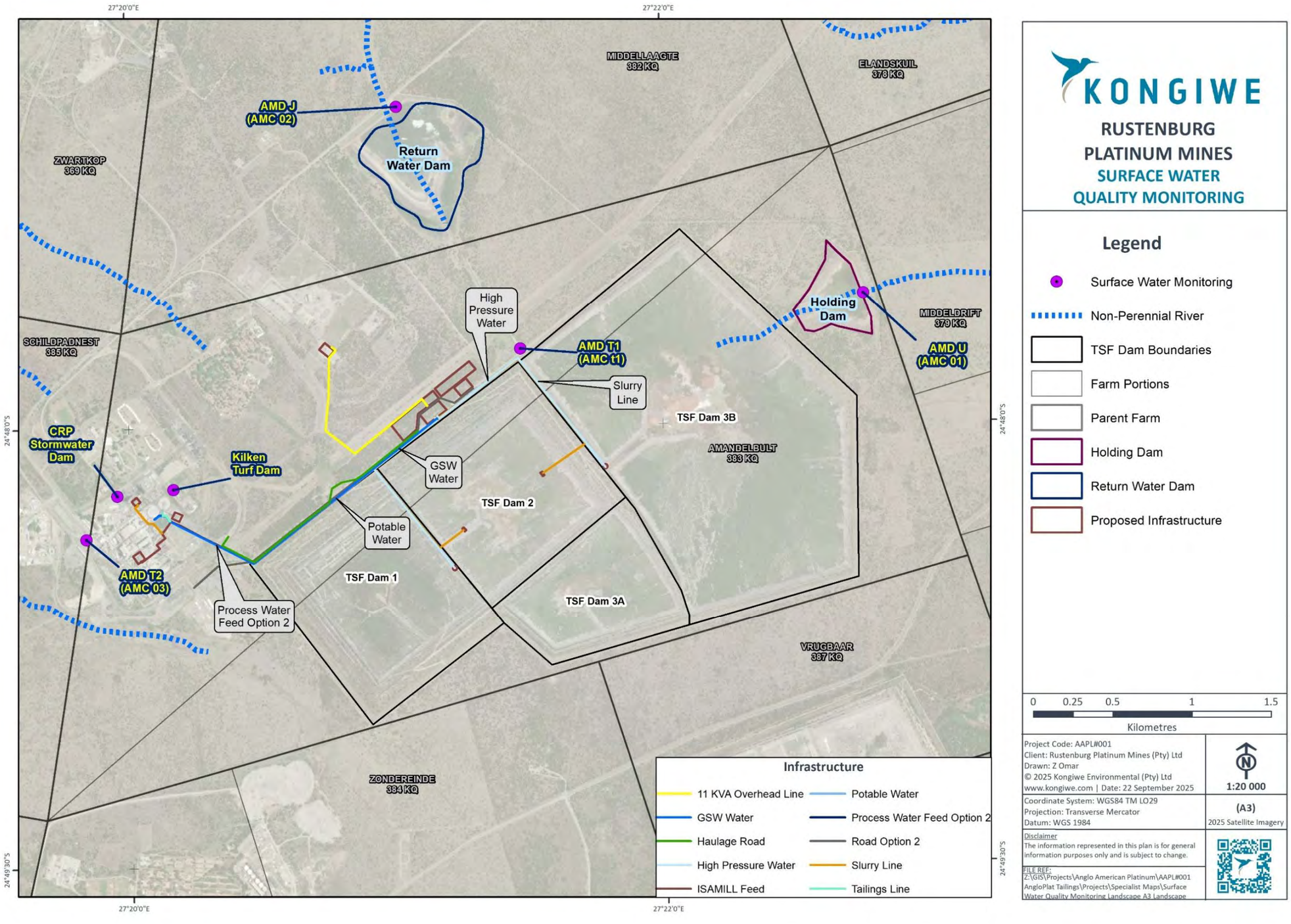

Figure 8-16: Surface water quality monitoring locations

8.7.6 Results and Discussion

The water quality results for February 2025 are provided in Table 8-16 whilst Table 8-17 summarises the average water qualities between March 2024 – February 2025. Variables exceeding limits are highlighted in red in the tables. Trends in water quality for pH, Total Dissolved Solids (TDS), sulphate, nitrate, E.coli, Sodium Absorption Ratio (SAR), chloride and sodium. It should be noted that the surrounding non-perennial streams are generally dry, and therefore, the monitoring points only monitor the dirty water dams and channels. The following provides a summary of the water quality:

- pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
- Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
- Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
- Sodium and chloride exceeded the limits at all of the monitoring points during most months;
- Elevated levels of nitrate were recorded at most of the monitoring points;
- Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
- E.coli was elevated at all monitoring points

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In summary, the water quality of the closed dirty water circuit at AMB can be described as having a neutral to alkaline pH, being very saline and hard, as well as having elevated nitrate, heavy metals and E. coli.

Table 8-16: Surface water quality for February 2025 (Shanko Projects, 2025)

PROJECT NAME	CONCENTRATOR					MONITORING DATE	2025/02/04			
LOCALITY TYPE	CONCENTRATOR MINE WATER					REPORTING PERIOD	February 2025			
		LIMITS				SAMPLE IDENTIFICATION				
VARIABLES	UNITS	WUL		GENERAL		AMD J	AMD T1	AMD T2	AMD U	CRP SWD	Kilken TD
pH - Value @ 25 ºC	pH	5.5	9.5	5.5	9.5	8.8	8.1	7.6	7.6	8.9	7.4
Electrical Conductivity in mS/m @ 25°C	mS/m	170	-	150	-	232	368	189	252	94.4	209
Total Dissolved Solids @ 180°C	mg/l	-	-	-	-	1586	2620	1236	1684	642	1394
Suspended Solids at 105°C	mg/l	-	-	25	-	99	41	16.7	59	70	55
Total Alkalinity as $CaCO_3$	**mg CaCO3/l**	-	-	-	-	232	588	104	132	92	148
Total Hardness as $CaCO_3$	**mg CaCO3/l**	-	-	-	-	616	1269	449	580	212	550
Sodium Adsorption Ratio (SAR)	SAR	6	-	-	-	5.3	4.8	4.6	5.2	2.7	5
Chloride as Cl	mg/l	300	-	-	-	390	539	290	412	151	325
Sulphate as SO_4	mg/l	500	-	-	-	329	660	267	362	107	292
Fluoride as F	mg/l	1.5	-	1	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate as N	mg/l	12	-	15	-	<0.1	1.7	18	18	1.4	15
Ortho Phosphate as P	mg/l	10	-	10	-	<0.1	0.6	<0.1	<0.1	<0.1	<0.1
Chemical Oxygen Demand as O_2 (Total)	mg/l	-	-	75	-	63	48	20	40	28	56
Total Coliform Bacteria	**CFU/100ml**	-	-	1000	-	3100	46000	5100	2400	76	58000
E. coli	CFU/100ml	0	-	0	-	28	110	4	160	2	310
Free and Saline Ammonia as N	mg/l	6	-	3	-	0.3	1.4	2.3	1.4	0.2	2.3
Sodium as Na	mg/l	200	-	-	-	304	390	223	289	92	270
Potassium as K	mg/l	50	-	-	-	30	47	18.4	28	9.7	22
Calcium as Ca	mg/l	-	-	-	-	60	45	95	96	40	105
Magnesium as Mg	mg/l	-	-	-	-	114	281	51	83	27	70
		LIMITS				SAMPLE IDENTIFICATION					
Aluminium as Al	mg/l	0.5	-	-	-	0.184	<0.100	0.142	<0.100	0.18	0.132

Cadmium as Cd	mg/l	0.01	-	0.01	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Chromium as Cr	**mg/l**	**0.05**	**-**	**0.05**	**-**	**<0.025**	**<0.025**	**0.046**	**<0.025**	**<0.025**	**<0.025**
Trivalent Chromium as Cr	mg/l	-	-	-	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Hexavalent Chromium as Cr	mg/l	-	-	-	-	0.01	0.011	0.026	0.031	0.01	0.017
Cobalt as Co	mg/l	-	-	-	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Copper as Cu	mg/l	0.01	-	0.01	-	0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Iron as Fe	mg/l	0.3	-	0.3	-	0.114	0.437	0.134	<0.025	0.205	0.076
Lead as Pb	mg/l	0.05	-	0.01	-	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Manganese as Mn	mg/l	0.1	-	0.1	-	0.04	0.168	<0.025	<0.025	<0.025	0.21
Nickel as Ni	mg/l	1	-	-	-	0.039	<0.025	<0.025	0.041	0.026	<0.025
Zinc as Zn	mg/l	0.1	-	0.1	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Table 8-17:Average surface water quality between March 2024 – February 2025 (Shanko Projects, 2025)

PROJECT NAME	**CONCENTRATOR**					**MONITORING DATE**	**MARCH 2024 TO FEBRUARY 2025**				
LOCALITY TYPE	**CONCENTRATOR MINE WATER**					**REPORTING PERIOD**	**FEBRUARY 2025**				
		LIMITS				**SAMPLE IDENTIFICATION**					
VARIABLES	UNITS	WUL		GENERAL		AMD J	AMD T1	AMD T2	AMD U	CRP SWD	Kilken TD
pH - Value @ 25 ºC	pH	5.5	9.5	5.5	9.5	8.75	8.11	8.40	8.12	8.73	8.66
Electrical Conductivity in mS/m @ 25°C	mS/m	170	-	150	-	311.96	349.80	248.13	306.83	243.93	194.60
Total Dissolved Solids @ 180°C	mg/l	-	-	-	-	2101.33	2462.73	1623.63	2065.80	1559.50	1254.83
Total Hardness as $CaCO_3$	mg CaCO3/l	-	-	-	-	818.46	1263.25	691.75	787.41	617.64	494.75
Calcium as Ca	mg/l	-	-	-	-	72.36	61.31	88.86	106.45	95.13	58.97
Magnesium as Mg	mg/l	-	-	-	-	155.60	271.05	114.26	126.28	84.05	84.41
Sodium as Na	mg/l	200	-	-	-	409.71	374.24	274.11	385.15	302.79	234.32
Potassium as K	mg/l	50	-	-	-	40.07	53.93	28.41	37.39	30.05	23.64
Total Alkalinity as $CaCO_3$	**mg CaCO3/l**	**-**	**-**	**-**	**-**	**188.91**	**491.45**	**214.29**	**178.38**	**116.90**	**173.58**
		LIMITS				**SAMPLE IDENTIFICATION**					
Chloride as Cl	mg/l	300	-	-	-	551.48	551.50	389.86	516.34	418.88	323.58
Sulphate as SO_4	mg/l	500	-	-	-	601.75	693.55	454.13	585.82	410.78	339.43
Nitrate as N	mg/l	12	-	15	-	10.19	10.90	10.61	22.36	17.60	3.27
Free and Saline Ammonia as N	mg/l	6	-	3	-	0.75	1.83	1.08	1.74	1.18	0.47

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Ortho Phosphate as P	mg/l	10	-	10	-	0.16	0.51	0.82	0.19	0.20	0.13
Fluoride as F	mg/l	1.5	-	1	-	0.30	0.50	0.40	0.36	0.49	0.42
Aluminium as Al	mg/l	0.5	-	-	-	3.93	3.21	0.22	18.82	2.94	3.04
Iron as Fe	mg/l	0.3	-	0.3	-	0.37	0.75	0.19	5.92	0.90	3.83
Manganese as Mn	mg/l	0.1	-	0.1	-	8.46	10.45	0.08	1.13	0.46	15.84
Total Chromium as Cr	**mg/l**	**0.05**	**-**	**0.05**	**-**	**1.37**	**1.06**	**0.05**	**0.46**	**0.37**	**5.11**
Copper as Cu	mg/l	0.01	-	0.01	-	1.59	0.04	0.15	0.66	2.35	0.17
Cobalt as Co	mg/l	-	-	-	-	4.12	4.23	1.35	0.69	2.79	1.74
Cadmium as Cd	mg/l	0.005	-	0.01	-	1.85	0.03	1.92	1.86	1.94	2.02
Nickel as Ni	mg/l	1	-	-	-	2.34	1.43	0.10	2.39	2.62	1.01
Lead as Pb	mg/l	0.05	-	0.01	-	2.06	4.67	0.53	1.16	1.08	0.51
Zinc as Zn	mg/l	0.1	-	0.1	-	5.00	4.04	1.51	5.15	17.20	17.53
Sodium Adsorption Ratio (SAR)	mg/l	6	-	-	-	6.03	4.49	4.70	5.65	5.03	4.33
Suspended Solids at 105°C	SAR	-	-	25	-	19.17	322.73	3960.74	37.42	195.25	149.48
E. coli	CFU/100ml	0	-	0	-	43.56	318.64	149.40	43.36	121.36	142.00
Total Coliform Bacteria	**CFU/100ml**	**-**	**-**	**1000**	**-**	**13524.91**	**11494.00**	**6325.38**	**3378.38**	**383.70**	**11579.38**
Chemical Oxygen Demand as O_2 (Total)	mg/l	-	-	75	-	73.88	44.00	5070.57	81.71	54.40	67.00
Trivalent Chromium as Cr	mg/l	-	-	-	-			0.04			0.10
Hexavalent Chromium as Cr	°C	0.05	-	-	-	0.01	0.01	0.03	0.03	0.01	0.01

8.7.7 Conceptual Stormwater Management Plan

The purpose of the conceptual Stormwater Management Plan (SWMP) is to ensure that clean and dirty water are adequately separated, by diverting clean water away from dirty areas, and ensuring that dirty water from the operation is captured, contained and managed appropriately in accordance with GN R704 regulations and DWS best practice guidelines.

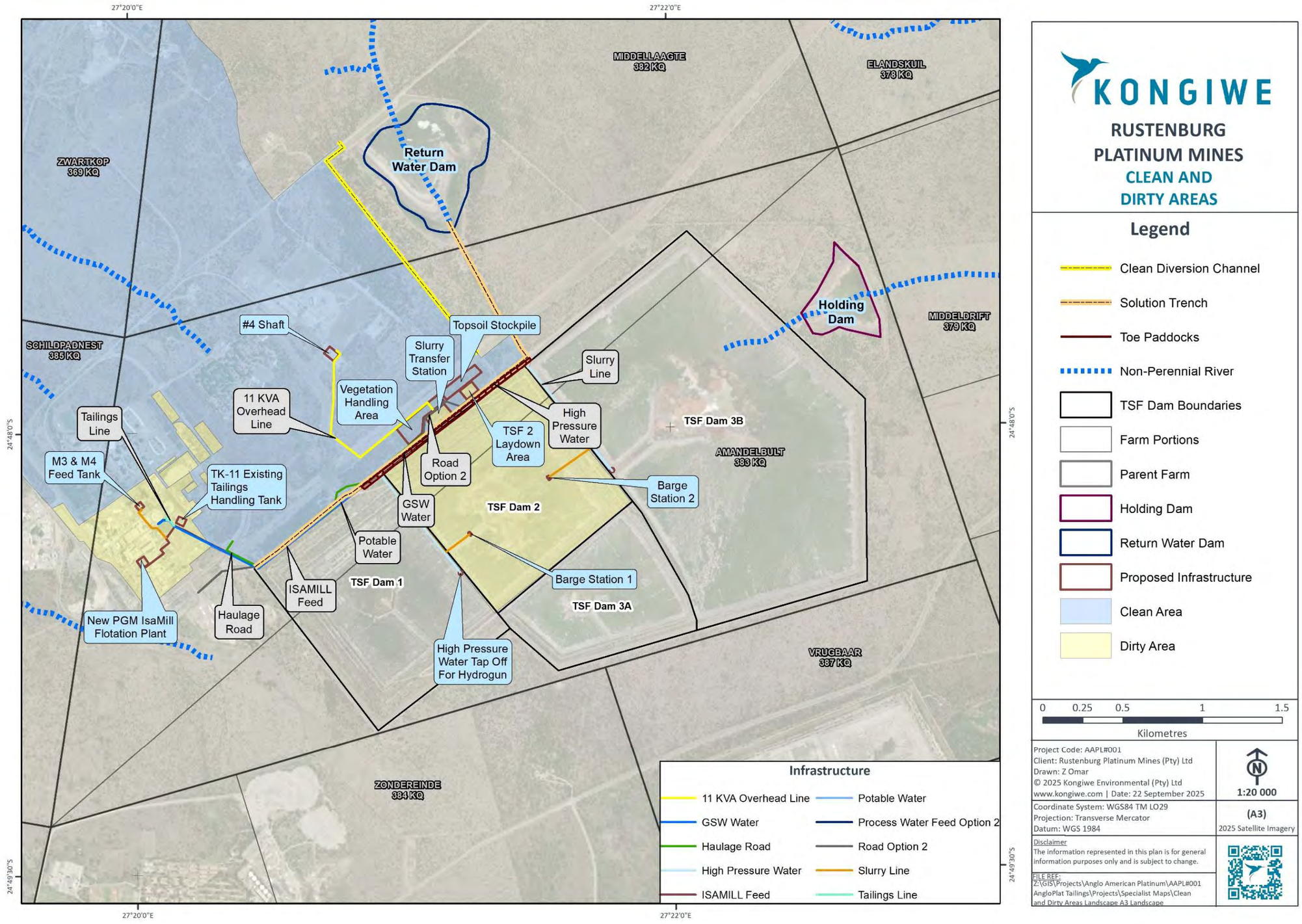
8.7.8 Terminology

The following definitions are relevant to the SWMP:

- **Activity:** Any mining related process on the mine including the operation of washing plants, mineral processing facilities, mineral refineries and extraction plants; the operation and the use of mineral loading and off-loading zones, transport facilities and mineral storage yards, whether situated at the mine or not; in which any substance is stockpiled, stored, accumulated, dumped, disposed of or transported;
- **Clean area:** This refers to any area at or near a mine or activity, which produces clean uncontaminated runoff;
- **Clean water system:** This includes any dam, other form of impoundment, canal, works, pipeline and any other structure or facility constructed for the retention or conveyance of clean unpolluted water;
- **Dam:** This includes any RWD, settling dam, tailings dam, evaporation dam, catchment or barrier dam and any other form of impoundment used for the storage of unpolluted water or water containing waste (i.e. contain polluted water);
- **Dirty area**: This refers to any area at a mine or activity which causes, has caused or is likely to cause pollution of a water resource (i.e. generate polluted water);
- **Dirty water system:** This includes any dam, other form of impoundment, canal, works, pipeline, residue deposit and any other structure or facility constructed for the retention or conveyance of water containing waste; and
- **Watercourse:** This is defined in the NWA as: -
    - A river or spring;
    - A natural channel in which water flows regularly or intermittently;
    - A wetland, lake or dam into which, or from which, water flows; and
    - Any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

8.7.9 Clean and Dirty Areas

Dirty areas include all proposed infrastructure except for the substation and topsoil stockpile. The areas surrounding dirty areas will be managed as clean areas.



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RUSTENBURG PLATINUM MINES
CLEAN AND DIRTY AREAS

Legend

- Clean Diversion Channel
- Solution Trench
- Toe Paddocks
- Non-Perennial River
- TSF Dam Boundaries
- Farm Portions
- Parent Farm
- Holding Dam
- Return Water Dam
- Proposed Infrastructure
- Clean Area
- Dirty Area

0 0.25 0.5 1 1.5
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 22 September 2025

1:20 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Specialist Maps\Clean and Dirty Areas Landscape A3 Landscape

Figure 8-17: Clean and dirty areas

8.7.10 Pollution Control Dam

The proposed PCD will receive dirty water from the new PGM and chrome processing plants, as well as potentially from the chrome stockpile area. The PCD will be positioned next to the existing Kilken PCDs. The PCD will be lined and designed to have slit controls to prevent sediment buildup in the dam. Furthermore, the PCD should have elevated sides to prevent external clean runoff from flowing into the dam. Water from the PCD will most likely be reused as process water. The PCD will occupy a footprint of 3 000 m^2 and will have a provided storage capacity of 6 000 m^3.

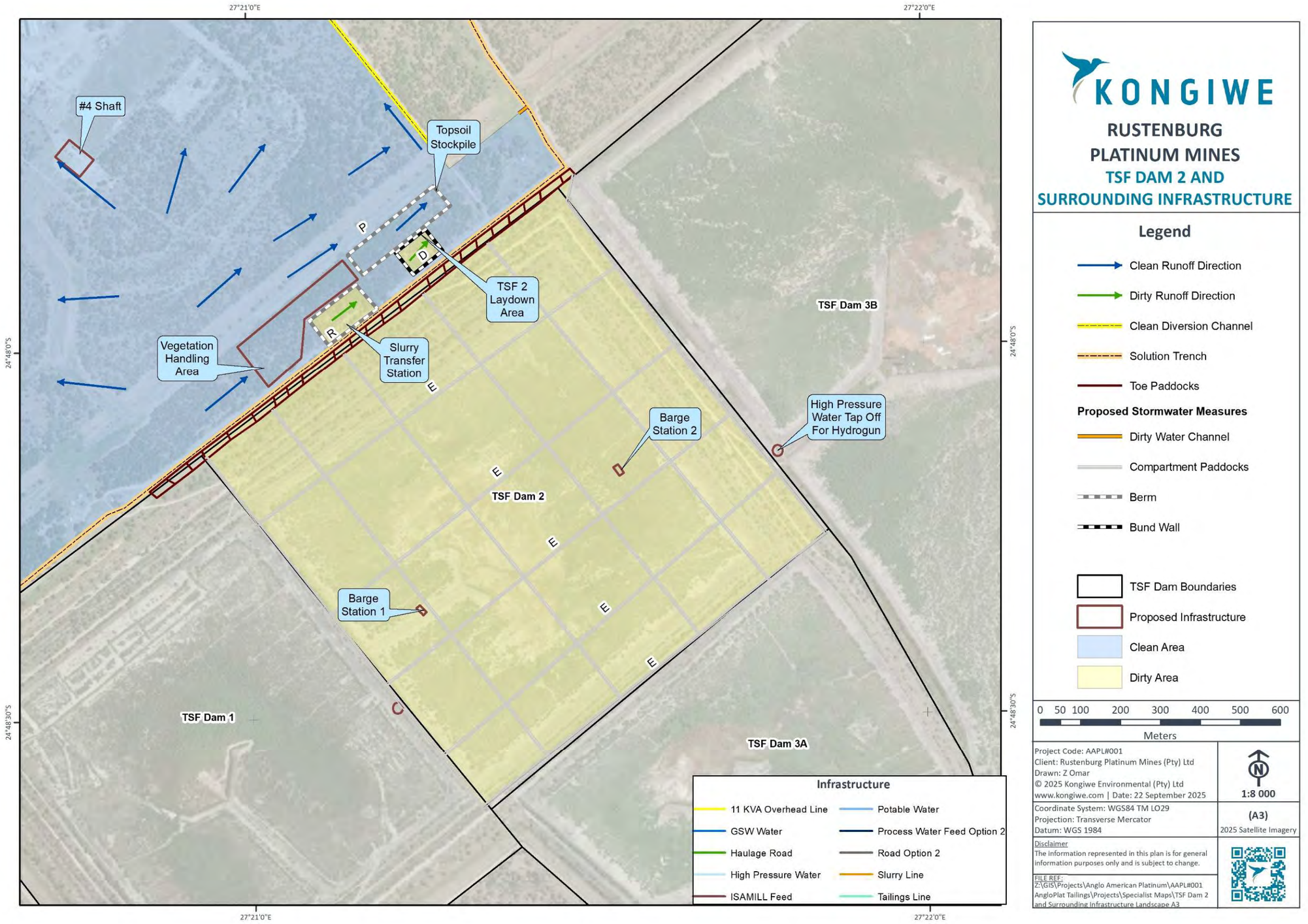

Figure 8-18: Conceptual stormwater management plan for TSF Dam 2 and surrounding infrastructure

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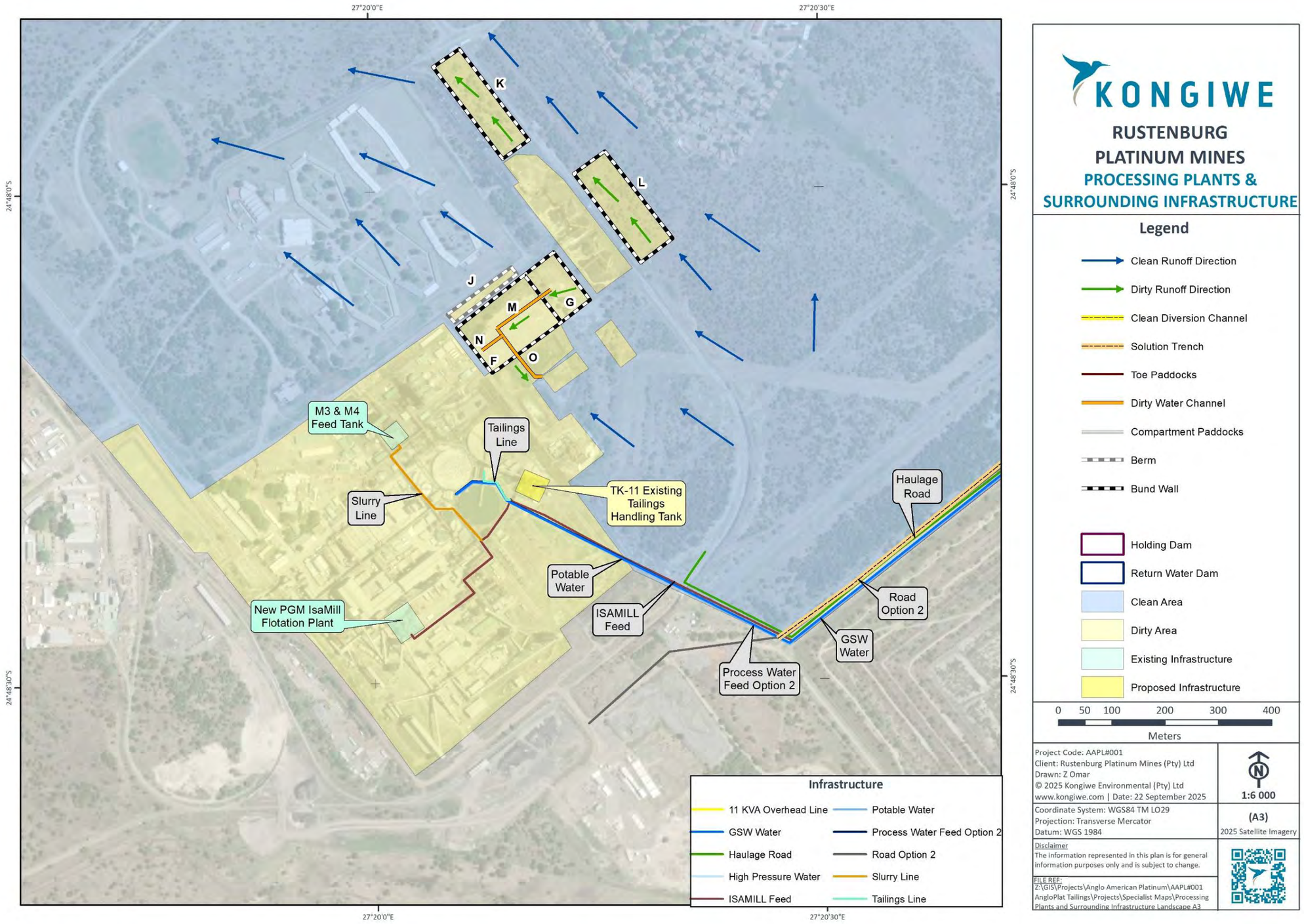

Figure 8-19: Conceptual Stormwater Management Plan for the processing plants and surrounding infrastructure

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8.7.11 Sizing of Stormwater Measures

8.7.11.1 Peak Flows and Volumes

GN 704 regulations requires that clean and dirty water systems are sized so that they do not spill more than once in 50 years. The 1:50 year flows and volume for the 1-day storm event, were calculated using the Soil Conservation Service (SCS) method (Schmidt and Schulze, 1987).

8.7.11.2 Channel and Berm Sizing's

The Manning's equation was used to calculate the channel and berm sizes required for the 1:50 year peak flows.

Calculations were undertaken using a Microsoft Excel spreadsheet. The typical proposed design for clean and dirty water channels and berms is shown in Figure 8-20.

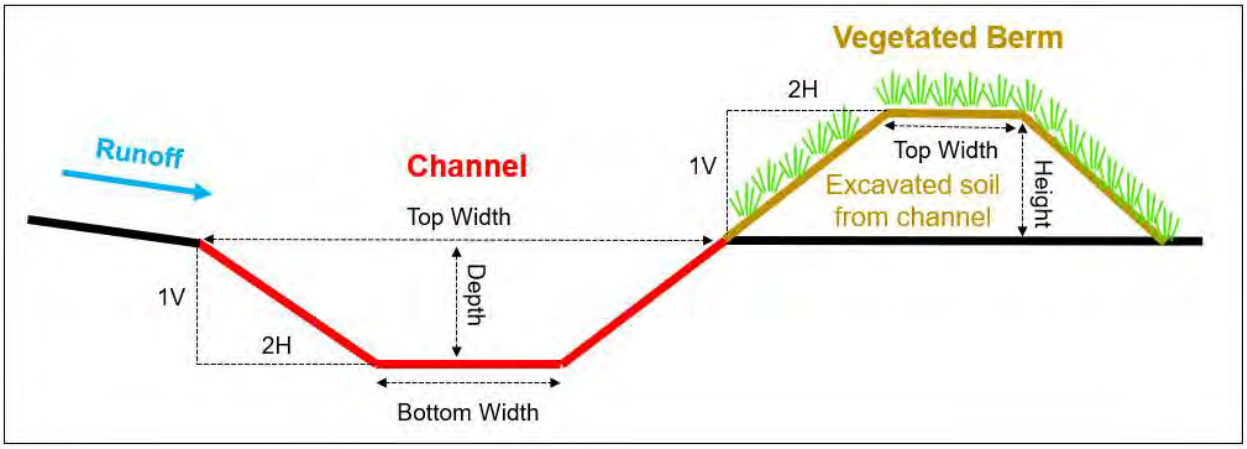

Figure 8-20: Typical proposed design for channels and berms

8.7.12 Proposed Stormwater Measure Sizing's

It is proposed that earth berms P, Q and R are constructed to be 0.5 m in height with side slopes of 1V:2H. The berms should be vegetated with natural occurring grass to prevent erosion.

Concrete bund wall D around the TSF 2 Laydown area should be constructed to contain at least 110 % of the diesel proposed to be stored there.

The compartment paddock walls E are proposed to be 1.5 m in height with side slopes of 1V:2H.

8.7.13 Water Balance

The water balance for the Project was prepared by ADP and Fraser Alexander in consultation with Anglo Platinum (recently renamed to Valterra Platinum) and is summarised below.

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8.7.14 Reprocessing Tonnages

The tonnages planned to be mined are 325 000 tonnes per month over 16 years (average of 10 684 tonnes per day). The mining is planned to start in July 2026.

8.7.15 Parameters

The parameters used in the water balance calculations are summarised in Table 8-18.

Table 8-18: Water balance input parameters

Input Parameter	Value	Comment
Hydraulic Mining of TSF2		
Target percent solids	47.5%	Percent solids targeted in slurry to barge pumps. The low percent solids has been used as it gives a larger water volume required as is therefore more conservative.
Percent solids in in-situ tailings to be mined	90%	The in-situ moisture was not included in the remining water balance as the exposed tailings area being mined dries out due to evaporation. The moisture is not available for the water balance.
Percent utilisation	90%	The percent of the day that the remining operates.
Design factor	10%	Factor of safety on the throughput.
Losses	5%	Calculated as 5% of water required to produce the target SG of 1.525 (47.5% solids)
Gland seal water (GSW) and service water	10%	Calculated as 10 % of the water volume required to meet target percent solids
Water for scrubber	179 m3/day	Based on FA initial assumption of 8.3 m3/h required
Volume water required at hydraulic mining to be supplied from the transfer station	Calculated	Calculated as the sum of the water required to reach target density plus losses plus GSW plus water for scrubber
Water sent to transfer station in slurry from hydraulic mining	Calculated	Difference between water sent to the hydraulic mining from the PWT and the losses
Transfer Station		
Percent solids	42.2%	Percent solids in slurry from Transfer Station to Reprocessing Plant
Flush and Wash water	433 m3/day	Daily volume calculated based on a 24 hour day
Reprocessing Plant		
Percent feed mass to Chrome product	12%	Percent of remined dry tonnes as chrome product deposited on chrome stockpile
Percent feed mass to PGM product	9%	Percent of remined dry tonnes as PGM product sent to Concentrator
Percent feed mass to tailings	79%	Percent of remined dry tonnes as tailings sent to Concentrator
Percent Solids in Chrome product deposited on Chrome stockpile	86%	Percent solids in Chrome product
Percent Solids in PGM product sent to Concentrator	30%	Percent solids in PGM product
Percent Solids of tailings slurry sent to Concentrator	25%	Percent solids in tailings slurry

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Input Parameter	Value	Comment
Hydraulic Mining of TSF2		
Process Water	-	Calculated as the difference between the outs and ins. To be supplied from the existing PWT

8.7.16 Process Flow Diagram and Volumes

Water for hydraulic mining and the reprocessing plant will be provided from the existing Process Water Tank (PWT) located at the concentrator. The slurry from the hydraulic mining at TSF 2 is first passed through a slurry transfer station for screening and density correction before the slurry is pumped to the reprocessing plant. The runoff from the transfer station area and the flush/wash water losses are passed through sediment traps before discharge to the existing stormwater drain discharging to the RWD. The PGM product and tailings from the reprocessing plant will be sent to the concentrator. The chrome product will be deposited on a chrome stockpile. The percent solids of the tailings slurry and concentrate from the reprocessing plant are lower than the PGM concentrate, and tailings produced by the concentrator. The density of the concentrate and tailings will be corrected in the concentrator with the excess water discharged to the PWT.

The Process Flow Diagram (PFD) and daily volumes in m^3/day for the project are provided in Figure 8-21.

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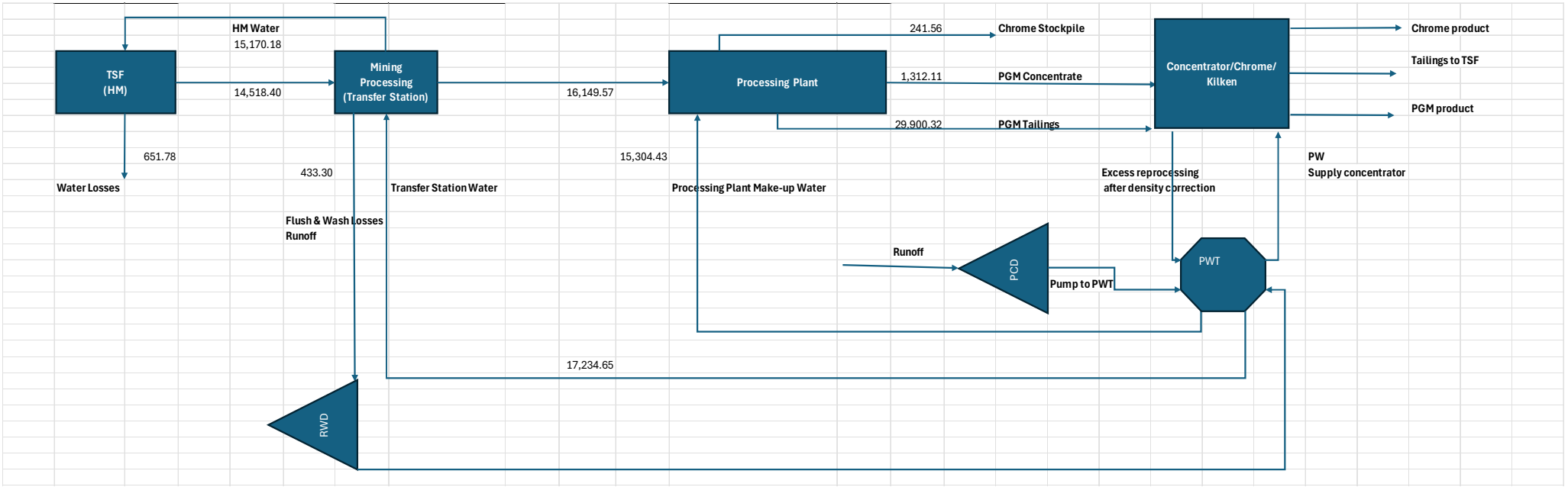


Figure 8-21: Water balance for the project

8.8 Groundwater

Refer to Specialist Study: Appendix D3– Groundwater impact Assessment

8.8.1 Hydrocensus

A Hydrocensus was completed by Groundwater Abstract during June 2025. The locations of the Hydrocensus boreholes, as well as boreholes tested by Water Hunters (2023), are indicated on Figure 8-22. The Hydrocensus data used in this report is summarised in Table 8-19. All coordinates were taken with a hand-held Garmin GPS (Global Positioning System) (WGS84) (Groundwater Abstract (Pty) Ltd, 2025).

Some of the boreholes tested by Water Hunters were included in the 2025 Hydrocensus. All the Hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the Hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m. The depth of the groundwater table varied between 0.52 m and 11.98 m below surface. Groundwater level trends are discussed in more detail later in this report (Groundwater Abstract (Pty) Ltd, 2025).

The Hydrocensus survey included accessible areas within a 2.5 km radius from TSF 2 and concentrated on identifying existing boreholes to enhance the knowledge of the groundwater movement and groundwater use. Sixteen (16) boreholes were identified, all on AMB properties (Table 8-19).

During the Hydrocensus the following information was collected for each site:

- Borehole position (X, Y, Z-coordinates);
- Information relating to equipment installed;
- Borehole construction details;
- Borehole yield – if known;
- Groundwater level; and
- Current use.

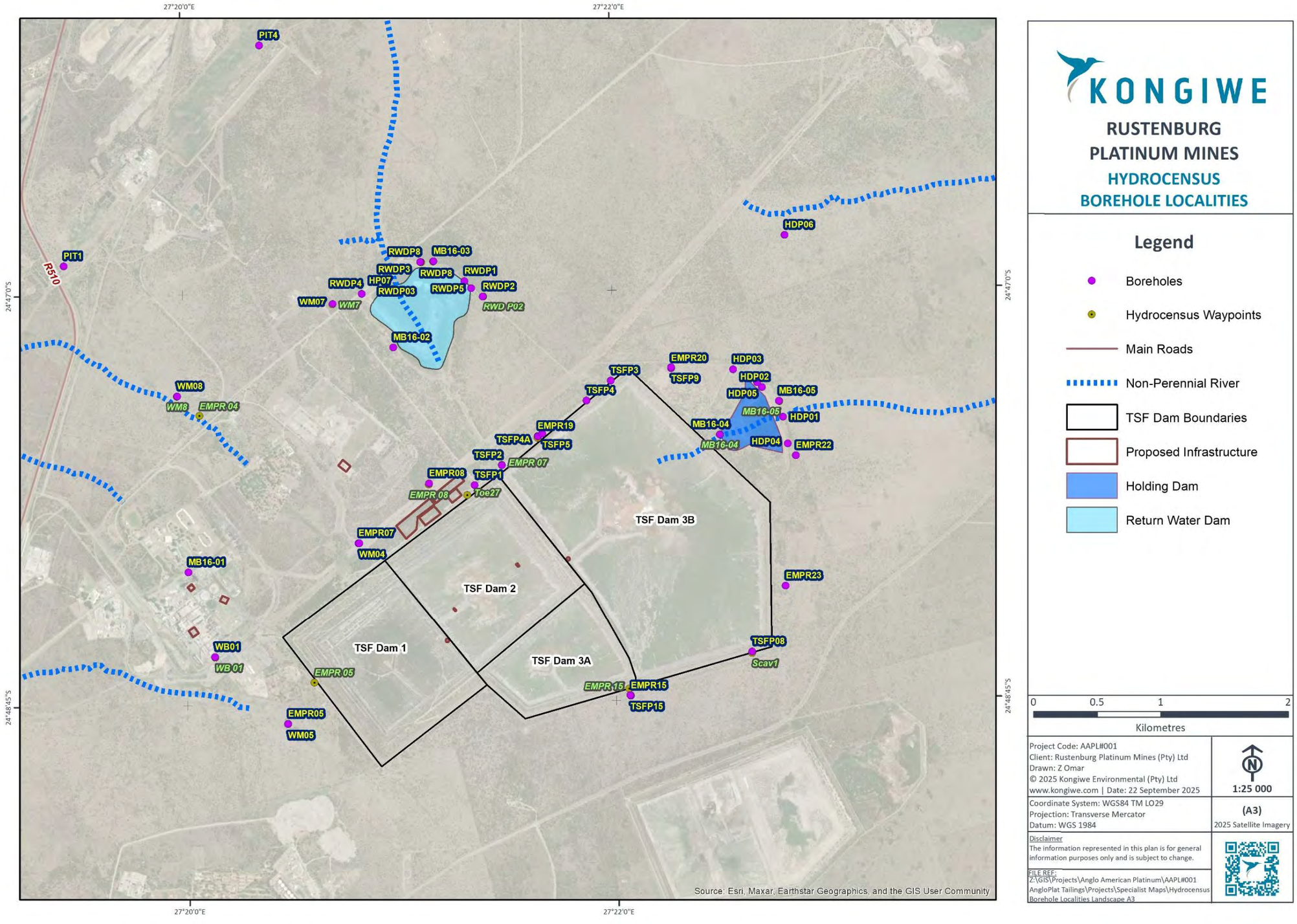
All 16 boreholes are used or were historically used for groundwater monitoring purposes. Some of the boreholes around the RWD were drilled to serve as scavenger boreholes, but to date they were only used for groundwater monitoring purposes.

The extent of the study area, budget and time constraints, and land access limited the Hydrocensus in terms of surveying every borehole in the area. The study aimed to cover the whole area to ensure a data set representative of the study area.

Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole. The height of the borehole collar was subtracted from the measured water level to define a water level below surface (measured in m bgl). Groundwater samples were also collected, where possible (see Section 8.7.2 below).

Groundwater level measurements were possible from 15 of the 16 boreholes (Table 8-19). It is shown that groundwater levels in the region varies, and this is possibly associated with the mining activities, recharge

from the TSFs and mine dams, or open fractured aquifer systems. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line) (Table 8-19). The boreholes adjacent to the RWD and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.



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RUSTENBURG
PLATINUM MINES
HYDROCENSUS
BOREHOLE LOCALITIES

Legend

- Boreholes
- Hydrocensus Waypoints
- Main Roads
- Non-Perennial River
- TSF Dam Boundaries
- Proposed Infrastructure
- Holding Dam
- Return Water Dam

0 0.5 1 2
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 22 September 2025

1:25 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Specialist Maps\Hydrocensus Borehole Localities Landscape A3

Figure 8-22:Hydrocensus borehole localities

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Table 8-19: March 2025 Hydrocensus data

Site ID	Lat (WGS84)	Long	Elevation (mamsl)	Water depth (mbgl)	Collar height (m)	Water elevation (mamsl)	BH depth (m)	Yield (L/hr)	Use	Note
EMPR 04	24°47'31.04"S	27°20'04.57"E	958	6,49	0,35	951,86			Monitoring	Old beehive inside
EMPR 05	24°48'39.51"S	27°20'35.79"E	975	6,83	0,43	968,60			Monitoring	West of Dam 1
EMPR 07	24°47'44.45"S	27°21'28.92"E	965	3,15	0,44	962,29			Monitoring	Between Dan 2 and Dam 3
EMPR 08	24°47'49.29"S	27°21'08.44"E	969	8,15	0,26	961,11			Monitoring	Under trees
EMPR 15	24°48'42.02"S	27°22'03.80"E	969	7,40	0,81	962,41	30	2052	Monitoring	South of Dam 3b
EMPR 19	24°47'37.69"S	27°21'39.02"E	964	4,93	0,43	959,50			Monitoring	North of Dam 3b
MB16-3	24°46'52.19"S	27°21'10.35"E	962	0,89	0,66	961,77			Monitoring	Downstream of RWD in north
MB16-4	24°47'37.39"S	27°22'29.93"E	952	0,87	0,98	952,11			Monitoring	BH in Holding Dam
MB16-5	24°47'29.01"S	27°22'46.70"E	949	1,84	0,85	948,01			Monitoring	East of Holding Dam
RWD P02	24°47'01.31"S	27°21'24.28"E	964	3,05	0,36	961,31	25	4212	Monitoring	East of RWD in north
RWD P03	24°46'56.67"S	27°20'55.05"E	961	0,52	0,43	960,91	21	720	Monitoring	North of RWD in north
RWD P08	24°46'52.39"S	27°21'07.03"E	961	sealed	--	--	25	3888	Monitoring	Downstream of RWD in north
Scav 1	24°48'33.30"S	27°22'38.23"E	963	6,17	0,67	957,50			Monitoring	South of Dam 3b

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Site ID	Lat (WGS84)	Long	Elevation (mamsl)	Water depth (mbgl)	Collar height (m)	Water elevation (mamsl)	BH depth (m)	Yield (L/hr)	Use	Note
WB01	24°48'32.86"S	27°20'08.20"E	969	9,56	0,90	960,34			Monitoring	Near Plant
WM07	24°47'03.00"S	27°20'42.06"E	967	9,78	0,32	957,54	33		Monitoring	Water level at bottom of BH
WM08	24°47'26.07"S	27°19'58.31"E	956	11,98	1,16	945,18			Monitoring	

If the groundwater levels are viewed as elevation above sea level, then the highest water elevations (968 m amsl) can be found at boreholes close to the TSF complex footprint (e.g. EMPR05, EMPR07 and EMPR15). The lowest water table elevation is 945 mamsl, at borehole WM08, followed by EMPR04 and MB16-5. Locally, surface drainage and possibly groundwater flow will be towards the local drainages, but the regional groundwater flow direction will be in a north to north-easterly direction (Groundwater Abstract (Pty) Ltd, 2025).

The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography. This correlation is known as the Bayesian relationship. The borehole collar elevation is plotted against the measured groundwater elevation to test if this relationship is applicable.

Detailed information in terms of borehole construction and yields, plus borehole depths and water strike depths, are not known for all identified Hydrocensus sites. Time series groundwater level or quality data were available for some of the monitoring boreholes.

8.8.2 Groundwater Quality

Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly. The long term groundwater quality data was used during this impact assessment. During the June 2025 Hydrocensus three additional water samples were collected: two groundwater samples up- and downstream from TSF 2 (boreholes EMPR08 and EMPR15) and one water sample was taken from toe drain 27, along the northern perimeter of TSF 2 (Table 8-20).

A sterilized 500 millilitre (ml) sample bottle was used and filled to the top, for each site sampled. Grab samples were taken using a single valve, decontaminated bailer, during the Hydrocensus. Samples were stored in a cooler box during the site assessment. The water samples were analysed for basic inorganic parameters, and the results were compared against the SANS 241:2015 Drinking Water Standards. The DWS's Drinking Water Standard was also considered.

The water samples were submitted to Aquatico Laboratories for analysis. Aquatico is a SANAS accredited laboratory (South African National Accreditation System) (Groundwater Abstract (Pty) Ltd, 2025).

The three water samples collected during the 2025 Hydrocensus are from:

- EMPR15 – monitoring borehole south (up gradient) of TSF 2. Borehole approximately 850 meters from TSF 2, with TSF 3A located between the borehole and TSF2.
- EMPR08 – monitoring borehole north (downgradient) of TSF 2. Borehole approximately 330 m from TSF 2.
- To Toe 27 – flowing to drain along the northern perimeter of TSF 2.

The Hydrocensus water quality results are presented in Table 8-20 and the laboratory certificates are presented in Appendix B of the (Groundwater Impact Assessment Report). Based on the water quality results the following conclusions were drawn in terms of the Hydrocensus water samples (SANS 241:2015 comparison):

- Health effects:

- **Iron** – An elevated iron concentration was measured for borehole EMPR15 (upgradient BH), with an Iron concentration of 4.33 milligrams per litre (mg/L), versus the maximum allowable concentration of 2 mg/L. This borehole is on the northern perimeter (upgradient) of TSF 2 and TSF 3A. The Total Iron concentration at EMPR 08 (downgradient) was 0.034mg/L and the Total Iron concentration was below the detection limit for the toe drain sample (downgradient).
- The concentration of dissolved Iron in potentially related to the historic mining activities and is dependent on the occurrence of other heavy metals, such as manganese, and the pH of the water.
- **Manganese** – Manganese is a relatively abundant element, constituting approximately 0.1% of the earth's crust. Borehole EMPR15 measured a Manganese concentration that exceeds the health impact limit – 0.66 mg/L versus the maximum allowable concentration of 0.4 mg/L. Manganese tends to precipitate out of solution to form a black hydrated oxide which is responsible for staining problems. The Manganese concentration at the other two sampled sites exceeds the aesthetic limit (0.1 mg/L), but was still below the health impact limit of 0.4 mg/L.
- **Sulphate** – Sulphate forms salts with various cations such as potassium, sodium, calcium, magnesium, barium, lead and ammonium (DWAF, 1996). Sulphate is a common constituent of water and arises from the dissolution of mineral sulphates in soil and rock. Since most sulphates are soluble in water it tends to accumulate to progressively increasing concentrations. Contamination by sulphate is to be expected in waters contaminated by mining activities, due to the oxidation of sulphides in the ore and waste.
- The Sulphate concentration was elevated for all three sampled sites, with the concentrations varying between 634 mg/L and 689 mg/L for the boreholes, and 941mg/L for the toe drain sample. The health limit is set at 500 mg/L.

❖ Aesthetic / Operational effects:

- **Sodium** – Sodium is abundant in the environment and usually occurs as sodium chloride, but sometimes as sodium sulphate, bicarbonate or even nitrate (DWAF, 1996). Sodium is highly soluble in water and does not precipitate when water evaporates, unless saturation occurs. Borehole EMPR15 (438 mg/L) and toe drain 27 (486 mg/L) present elevated Sodium concentrations that exceed the aesthetic limit (200 mg/L) for drinking water. With the reuse or recycling of water, the sodium concentration will tend to increase with each cycle or addition of sodium to the water. For this reason, sodium concentrations are elevated in runoffs or leachates.
- **Chloride** – Elevated chloride concentrations were measured at all sampled sites with the measured concentrations varying between 513 and 969 mg/L. The chlorides of sodium, potassium, calcium and magnesium are all highly soluble in water. Once in solution chloride tends to accumulate.
- **Ammonium** – The chemistry of ammonia is very complex, especially where transition metals are present in water, and while ammonia itself is of relatively low toxicity, this is not necessarily the case for some of its organometallic complexes (DWAF, 1996). Taste and odour complaints are likely to occur if the ammonia concentration exceeds 1.5 mg/L. High concentrations of ammonia can also give rise to nitrite, which is potentially toxic, especially to infants (DWAF, 1996). Water collected from toe drain 27 presented an elevated Ammonium concentration (4.7 mg/L) that exceeds the aesthetic limits for drinking water with the aesthetic limit set at 1.5 mg/L.

- The SANS 241 guideline limits for EC and TDS were exceeded for all sampled sites. EC level varied between 287 and 422 mS/m. TDS varied between 2039 and 3114 mg/L.
- **Total hardness** – Very hard total hardness values were measured at all three sampled sites. Water hardness is influenced by the presence of calcium and magnesium salts. Other metals such as strontium, iron, aluminium, zinc and manganese may occasionally contribute to the hardness of water, but the calcium and magnesium hardness usually predominates. The Total Hardness values vary between 1454 mg/L and 1755 mg/L.
- **Turbidity** – The turbidity value was elevated for all sampled sites. The boreholes are not in use and the sampling possibly disturbed the silt inside the borehole cavity. The water from toe drain 27 is associated with consistent water flow, with possible suspended matter in the water. Toe drain 27 presents a much lower Turbidity value.

The DWS uses a water classification system where the water is defined in different classes based on a fitness for use classification (see Table 8-21). The element concentrations are like the SANS guideline limits, but with the DWS system a classification is assigned to the water sample, e.g., Class 2 water.

Based on the DWS classification system the sampled water is categorised as:

- **EMPR08** – Class 3 water (water is unsuitable for use) due to the Magnesium and Sulphate concentrations and the Turbidity and Total Hardness levels, and then Class 2 (short term or emergency use only) due to the Calcium and Chloride concentrations, and EC and TDS. This borehole is not in use and is located downgradient from TSF 2.
- **EMPR15** – Class 3 water (water is unsuitable for use) due to the EC, TDS, Magnesium, Sodium, Chloride and Sulphate concentrations and the Turbidity and Total Hardness levels, and then Class 2 (short term or emergency use only) due to the Total Iron and Manganese concentrations. This borehole is not in use and is located upgradient from TSF 2.
- **Toe drain 27** – Class 4 water (water is unsuitable for use) due to the Magnesium concentration, and then Class 3 (short term or emergency use only) due to the EC, TDS, Magnesium, Sodium, Chloride and Sulphate concentrations and the Total Hardness level.

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Table 8-20:Hydrocensus groundwater quality

	DWS Drinking Water Guideline Limits					SANS241:2015 Drinking Water Standard Limits		EMPR 08	EMPR 15	TOE 27
	Class 0	Class 1	Class 2	Class 3	Class 4	Aesthetic effects	Chronic health effects			
pH	5-9.5	4.5-5 or 9.5-10	4-4.5 or 10-10.5	3-4 or 10.5-11	<3 or >11	≥5 to ≤9.7		7,86	6,69	8,44
Electrical Conductivity	<70	70-150	150-370	370-520	>520	Aesthetic ≤170		287	403	432
TDS	<450	450-1000	1000-2400	2400-3400	>3400	Aesthetic ≤1200		2039	2632	3114
Total Alkalinity								375	180	622
Total Hardness	<200	200-300	300-600	>600		more than 180 mg/l, very hard		1454	1510	1755
Aluminium		0 - 0,15	0,15 - 0,5	>0,5		Operational ≤ 0,30		-0,002	-0,002	-0,002
Arsenic	<0,01	0,01-0,05	0,05-0,2	0,2-2	>2		Chronic health ≤0,01	-0,006	-0,006	-0,006
Calcium	<80	80-150	150-300	>300				180	129	30,8
Copper	<1	1-1,3	1,3-2	2-15	>15		Chronic health ≤2	0,01	0,011	0,015
Total Iron	<0,5	0,5-1	1-5	5-10	>10	Aesthetic ≤0,3	Chronic health ≤2	0,034	4,33	-0,004
Magnesium	<70	70-100	100-200	200-400	>400			244	288	407
Manganese	<0,1	0,1-0,4	0,4-4	4-10	>10	Aesthetic ≤0,1	Chronic health ≤0,4	0,264	0,66	0,143
Potassium	<25	25-50	50-100	100-500	>500			2,63	4,92	64,3
Sodium	<100	100-200	200-400	400-1000	>1000	Aesthetic ≤200		198	438	486
Chloride	<100	100-200	200-600	600-1200	>1200	Aesthetic ≤300		513	969	770
Fluoride	<0,7	0,7-1	1-1,5	1,5-3,5	>3,5		Chronic health ≤1,5	-0,263	-0,263	-0,263
Ammonium						Aesthetic ≤1,5		0,906	0,223	4,7
Nitrate	<6	6 - 10	10 - 20	20-40	>40		Acute health ≤11	0,22	0,266	0,279
Ortho Phosphate as P								-0,009	-0,009	0,083
Sulphate	<200	200-400	400-600	600-1000	>1000	Aesthetic ≤250	Acute health ≤500	634	689	941

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	DWS Drinking Water Guideline Limits					SANS241:2015 Drinking Water Standard Limits		EMPR 08	EMPR 15	TOE 27
	Class 0	Class 1	Class 2	Class 3	Class 4	Aesthetic effects	Chronic health effects			
Cadmium							Chronic health ≤0.003	-0,002	-0,002	-0,002
Total Chrome	0 - 0,05		0,05 - 1	1 - 5	>5		Chronic health ≤0,05	-0,01	-0,01	-0,01
Chromium								-0,003	-0,003	-0,003
Trivalent Chromium (Cr^{3+})								-0,01	-0,01	-0,01
Hexavalent chromium (Cr^{6+})								-0,002	-0,002	-0,002
Nickel							Chronic health ≤0.07	-0,002	-0,002	-0,002
Cobalt								-0,003	-0,003	-0,003
Selenium							Chronic health ≤0.04	-0,002	-0,002	-0,002
Lead							Chronic health ≤0,01	-0,004	-0,004	-0,004
Zinc	0 - 5	5 - 10	10 - 50	50 - 700	>700	Aesthetic ≤5		-0,002	-0,002	-0,002
E.coli							Not detected	-1	-1	-1
Total coliform		0 - 5	5 - 100	>100		≤ 10		2	-1	-1
Turbidity	0 - 1	1 - 5	5 - 10	>10		Operational ≤ 1	Aesthetic ≤ 5	67,9	306	1,03
Sodium Adsorption Ratio								2,26	4,9	5,04
Chemical oxygen demand								34,6	40,4	47,8
Total suspended solids								51	108	14
Dissolved oxygen								7,92	6,96	8,55
DWS Classification								3	3	4

Table 8-21:DWS water quality "fitness for use" classes

Water use	Categorisation	Description
Domestic	Class 0	Water of ideal quality, which has no health or aesthetic effects, and which is suitable for lifetime use without negative effects.
	Class 1	Water of good quality, suitable for lifetime use with few health effects. Aesthetic effects may be apparent.
	Class 2	Marginal water quality. May be used without health effects by most individuals of all ages but may cause effects in some individuals in sensitive groups.
	Class 3	Poor water quality. Poses a risk of chronic health effects, especially in babies, children and the elderly.
	Class 4	Unacceptable water quality. Severe acute health effects, even with short-term use.

8.8.3 Groundwater Availability Assessment

A Hydrocensus was completed in April 2023 within a 5 km radius around the Amandelbult TSFs (Water Hunters, 2023). Six boreholes were visited, all of which are used for monitoring purposes by Valterra and the adjacent Northam Platinum Zondereinde Mine. Three private boreholes situated on the farm Witvley were included in the Hydrocensus. These boreholes (WV-BH01-03) are more than 5 km southeast of the Amandelbult TSFs. Two of these were blocked at 32 m and 34 m and the third borehole is not in use. No large-scale groundwater abstraction was observed within the 5 km radius survey. Groundwater is used for irrigation along the Crocodile River. The amount of groundwater abstracted from these boreholes is not known.

Water Hunters (2023) completed an assessment of the use of scavenger boreholes around the Amandelbult TSFs with the objective to assess the impact of abstracting groundwater to manage the movement of contaminated groundwater from the TSFs. The sustainable yields of the boreholes tested as part of this study are presented in Table 8-22. It is shown that the sustainable yields of boreholes around TSF 2 vary between 0.2 litres per second (L/s) and 21.5 L/s with a weighted average of 1.8 L/s. It is shown that boreholes with a higher yield are located down gradient of the RWD and Holding Dam. Boreholes tested south of the Amandelbult TSFs have yields ranging between 0.2 L/s and 0.57 L/s.

Unfortunately, borehole logs were not provided with the Water Hunters report. It is therefore not possible to confirm the geology or geological structures associated with higher groundwater occurrence in the vicinity of TSF 2. Groundwater strikes were recorded at depths of between 10 m and 13 m bgl in the boreholes tested at the TSFs. The available dataset suggests that no significant groundwater preferential flow paths are present immediately south of the Amandelbult TSFs. At the RWD and Holding Dam, the depth to groundwater strikes varies between 7.5 m and 27.5m below surface.

Table 8-22: Sustainable borehole yields around TSF 2

Borehole ID	Borehole depth (m)	Recommended sustainable yield (L/s)
RWDP1	30	5.27
RWDP2	25	1.17
RWDP4	30	0.83
RWDP5	30	5.87
RWDP8	25	1.08

Borehole ID	Borehole depth (m)	Recommended sustainable yield (L/s)
36W	61	21.50
PIT05	66	6.13
HDP02	38	2.80
HDP05	25	2.44
HDP06	25	0.37
RWDP03	21	0.20
TSFP08	25	0.20
TSFP15	30	0.57
HDP04	27	2.60
PIT7A	40	10.00

8.8.4 Groundwater Levels

Two groundwater level datasets were available for consideration as part of this assessment, namely the 2025 Hydrocensus and the 2023 Water Hunters information. The data is presented in Table 8-23.

Analysis of the dataset show three groundwater level trends. The first is the estimated natural or ambient groundwater level trend, which has a good correlation (86%) with topographical elevation, as indicated in Figure 8-23. This means that groundwater levels generally follow the topography and drains towards the rivers and streams. The average depth to groundwater in this trend group is 5.7m below surface.

Groundwater levels around the RWD are elevated above the natural trend because of recharge from the dam to the shallow weathered aquifer. The average depth to groundwater in this area is 0.58 m, which is on average 5.1 m higher than natural trends.

Groundwater levels around the pits and underground workings have been lowered because of dewatering. The average depth to groundwater in this area is 41.4 m. This means that groundwater levels have been lowered by 35.7 m due to the impact of dewatering.

Table 8-23: Groundwater level dataset

Borehole ID	Depth to groundwater (m)	Groundwater elevation (mamsl)	Borehole depth (m)	Source
EMPR 04	6,49	951,86		2025 Hydrocensus
EMPR 05	6,83	968,60		
EMPR 07	3,15	962,29		
EMPR 08	8,15	961,11		
EMPR 15	7,40	962,41	30	
EMPR 19	4,93	959,50		
MB16-3	0,89	961,77		
MB16-4	0,87	952,11		
MB16-5	1,84	948,01		
RWD P02	3,05	961,31	25	
RWD P03	0,52	960,91	21	
Scav 1	6,17	957,50		
WB01	9,56	960,34		

Borehole ID	Depth to groundwater (m)	Groundwater elevation (mamsl)	Borehole depth (m)	Source
WM07	9,78	957,54	33	
WM08	11,98	945,18		
36W	46,63	932,37	61	Water Hunters (2023)
HDP02	3,82	948,18	35	
HDP04	3,03	948,97	25	
HDP05	3,91	949,09	25	
HDP06	7,13	949,87	26	
PIT05	45,29	909,71		
PIT7A	32,28	899,72	40	
RWDP01	1,85	963,15	30	
RWDP02	3,37	963,63	25	
RWDP03	0,69	964,31		
RWDP04	2,90	960,10	30	
RWDP05	2,50	963,50	30	
RWDP08	0,00	963,00		
TSFP08	6,92	962,08	25	
TSFP15	8,26	964,74	30	

Groundwater flow contour and vectors were generated with the available dataset. The flow contours indicate the following:

- Groundwater flow is controlled by the position of the quaternary catchment divide. Flow from TSF 2 is in a north-easterly direction towards the Crocodile River. The groundwater flow gradient in this area is lower compared to other areas due to the impact of the water divide. Over the TSF 2 footprint area, the groundwater flow gradient is 0.004 (1:250).
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- Groundwater flow underneath the TSF 3A and TSF 3B is also in a north-easterly direction towards the Crocodile River at a similar gradient.
- The flow from TSF 1 is likely to be predominantly in a north-westerly direction towards the Bierspruit. Flow patterns in this area seem radial, which normally suggests active recharge, but this is not the case at TSF 1 as the radial flow is attributed to the position of the water divide along the quaternary catchment boundary.
- A strong radial flow has developed around the RWD due to infiltration of water from the dam to the shallow weathered aquifer. As discussed above, groundwater levels around the dam is on average 0.58 m below surface and at least 5 m above regional trends. In this area, the groundwater flow gradient has increased to 0.02 (1:50).
- Groundwater flow in the area north of the TSFs is impacted by dewatering with flow in a northerly to north-westerly direction towards the pits and underground workings. The flow gradient is also increased in this area to similar conditions as reported at the RWD.

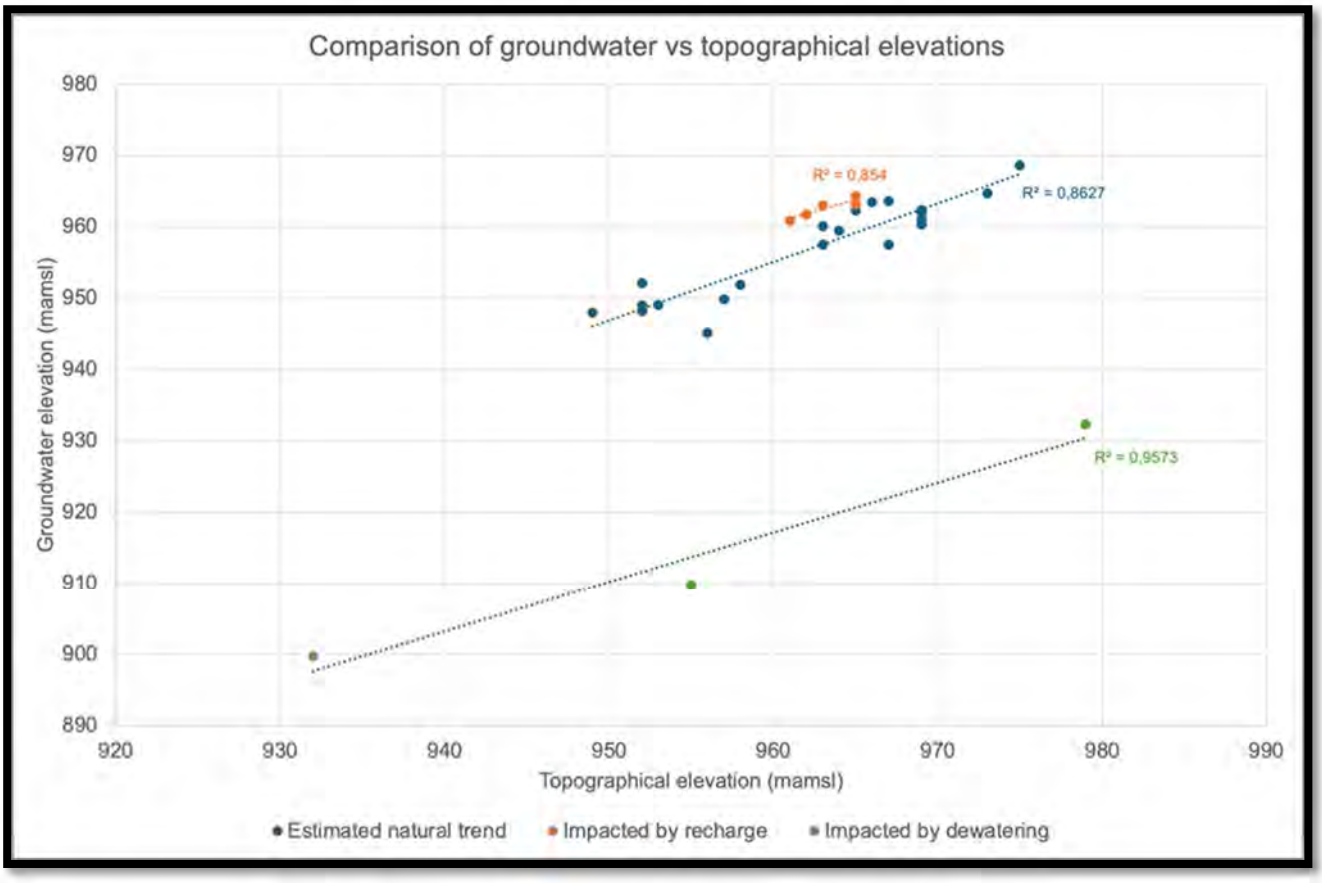

Figure 8-23:Comparison of groundwater and topographical elevations

8.8.5 Aquifer Characterisation and Vulnerability

Based on aquifer classification methodology and regions published in the Aquifer Classification Map Series of South Africa (DWS, 2012), the weathered and fractured Bushveld aquifers present at Amandelbult are minor with moderate yields and variable quality. The aquifers fall in a moderately vulnerable category, which means they are vulnerable to some pollutants when these are continuously discharged or leached. Overall, the weathered and fractured Bushveld aquifers present are ranked with a medium susceptibility to the impacts of pollutants. Based on the information above, as well as the methodology described by Parsons (1995), the Bushveld Aquifer protection classification is rated as medium (Groundwater Abstract (Pty) Ltd, 2025).

It is however noted that the alluvial aquifer associated with the floodplain of the Crocodile River is ranked as a major aquifer that is most vulnerable, especially to potential pollutants. The aquifer is regionally used for groundwater abstraction which is used for commercial irrigation farming. This aquifer is not present underneath the Amandelbult TSFs and is situated more than 5 km east and northeast of TSF 2. The alluvial is identified as a sensitive receptor for contamination associated with the project. Potential impacts are discussed section 9 below.

8.8.6 Groundwater modelling

The numerical modelling was undertaken according to accepted industry principles and standards, including the Department of Water and Sanitation's Best Practice Guideline for Impact Prediction (DWAF, 2008) (Groundwater Abstract (Pty) Ltd, 2025).

8.8.7 Numerical Model

8.8.7.1 Calibration Results

Calibration of a numerical model refers to the demonstration that the model is capable of reproducing field-measured data, which are the calibration values. Calibration is achieved when a set of parameters, boundary conditions, source terms and stresses are found that produce simulated heads and concentrations that match field-measured data within the calibration criteria set for the project. This is an important step in the modelling project, which ensures that model results are reliable. The calibration criteria set for the project are presented in Table 8-24.

Table 8-24:Flow model calibration criteria

Requirement	Acceptability criteria	Compliance
Model convergence	Maximum change in head of 0,001 m	Complied with (see discussion below)
Water balance	Difference between inflow and outflow <1%	Complied with (see discussion below)
Root Mean Square Error	<5 m for targets	Complied with (see discussion below)
Calibration error	80% of targets with <5 m error between simulated and measured head	Complied with (see discussion below)

Model calibration was undertaken with field-measured groundwater levels from the 2025 Hydrocensus and was augmented with groundwater level data reported by Water Hunters (2023). The Water Hunters dataset was assigned a low weight during the calibration process, as it originates from a different time compared to the 2025 data. There is still value in using the 2023 water level measurements as the information is comparable to the 2025 data and it provides additional observation points which increases confidence. Both steady state and transient calibration was completed. The results of the calibration process are presented in Table 8-24 and Figure 8-24. It is shown that 83% of the residuals are within the 5 m error set as a calibration criterion. The Root Mean Square Error of the residuals is 2,97 which complies with the calibration criteria. The sum of the residuals is -42 m, which indicates that the model slightly underestimates groundwater levels. This is mainly because groundwater levels are significantly elevated above regional trends around the RWD and the Holding Dam. The model underestimates groundwater levels by 1 m to 2 m in these areas. These differences are however within the calibration target of 5 m.

The model convergence of 0,001m was achieved during calibration. The water balance error for the model is 0.0003%, which also complies with the model calibration criteria. Based on the outcome of the assessment, it is concluded that the model calibration is sufficient to enable simulations to complete the groundwater impact assessment for this project.

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Table 8-25: Calibration results

Calibration point	Simulated head (mamsl)	Measured head (mamsl)	Residual (m)
EMPR4	952,061	951,86	0,20
EMPR5	968,825	968,60	0,23
EMPR7	962,730	962,29	0,44
EMPR8	958,171	961,11	-2,94
EMPR15	957,835	962,41	-4,58
EMPR19	956,018	959,50	-3,48
MB16-3	958,309	961,77	-3,46
MB16-4	950,872	952,11	-1,24
MB16-5	948,190	948,01	0,18
RWDP2	956,057	961,31	-5,25
RWDP3	956,290	960,91	-4,62
SCAV1	954,806	957,50	-2,69
WB1	954,801	960,34	-5,54
WM7	952,997	957,54	-4,54
WM8	951,472	945,18	6,29
RWDP1	962,589	963,15	-0,56
RWDP2	963,031	963,63	-0,60
RWDP4	958,593	960,10	-1,51
RWDP5	958,047	963,50	-5,45
HDP2	948,888	948,18	0,71
HDP5	949,097	949,09	0,01
HDP6	946,248	949,87	-3,62
HDP4	948,773	948,97	-0,20

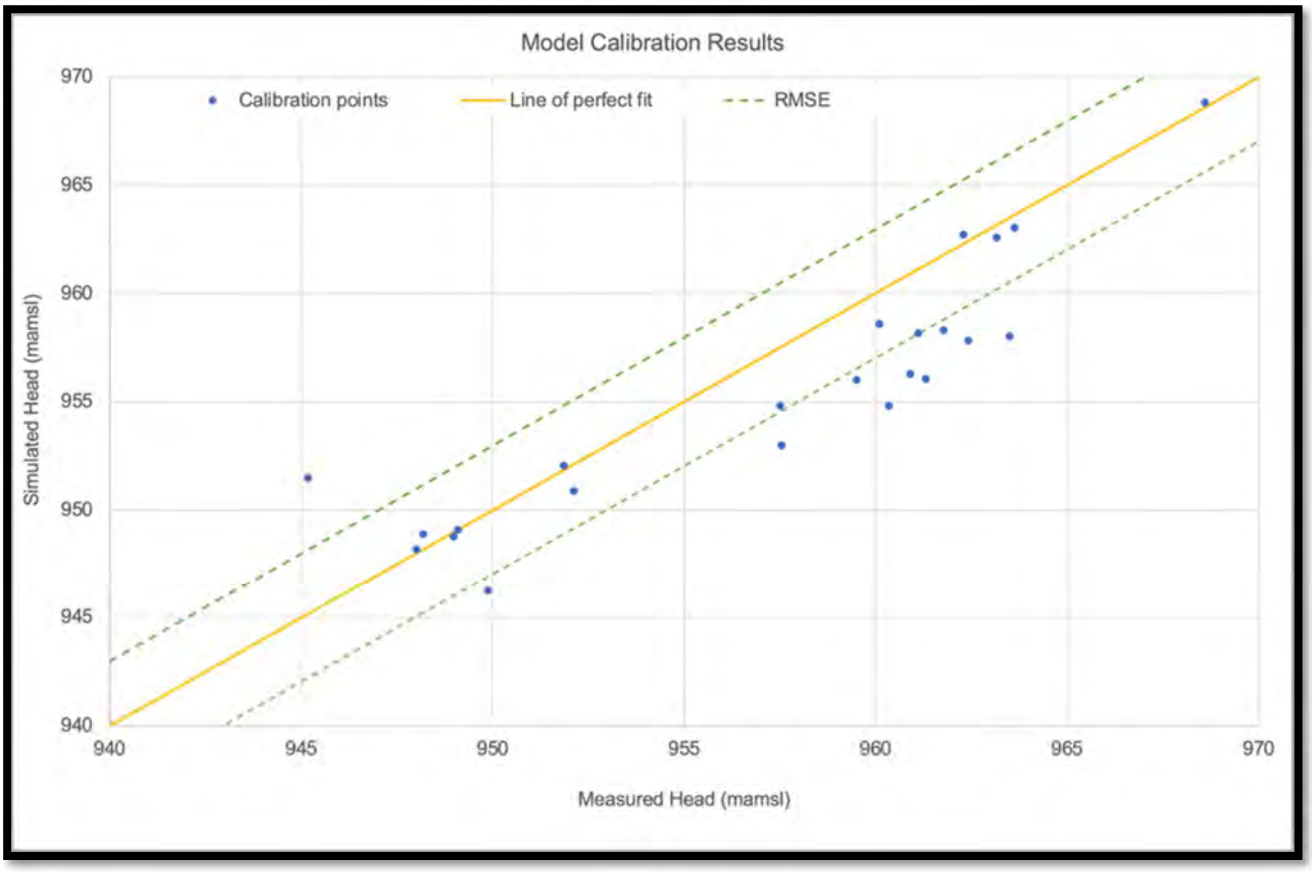

Figure 8-24:Model calibration results

8.8.7.2 Model Sensitivity

A sensitivity analysis was completed on the model to quantify the uncertainty in the calibrated model caused by uncertainty in the estimates of aquifer parameters, stresses and boundary conditions. The level of heterogeneity of the aquifer material can never be accurately measured with field data. The uncertainty of the impact of heterogeneity on simulations is therefore assessed as part of the sensitivity analysis.

The results of a sensitivity analysis can be used to identify data gaps and to plan for additional fieldwork, including monitoring requirements, once the modelling has been completed.

The comparative sensitivity for the parameters included during calibration is presented in Figure 8-25. The comparative sensitivity provides an indication of how sensitive the model is to changes in each parameter compared to the other parameters tested. A low value indicates a low sensitivity and a high value a high sensitivity.

The results indicate that the model is sensitive to changes in aquifer parameters assigned to the weathered aquifer. Confidence in these parameters can be improved by analysing groundwater monitoring data, especially groundwater levels, against rainfall to improve the understanding of the rate of recharge. Aquifer hydraulic conductivities are inferred from field tests, which means that the dataset used is representative of the parameters calculated from field data. Aquifer storage characteristics can also be obtained from

specialised field test that involves measurements in more than one borehole. These tests have not yet been completed, but information is available from Water Hunters (2023), which was used in this assessment.

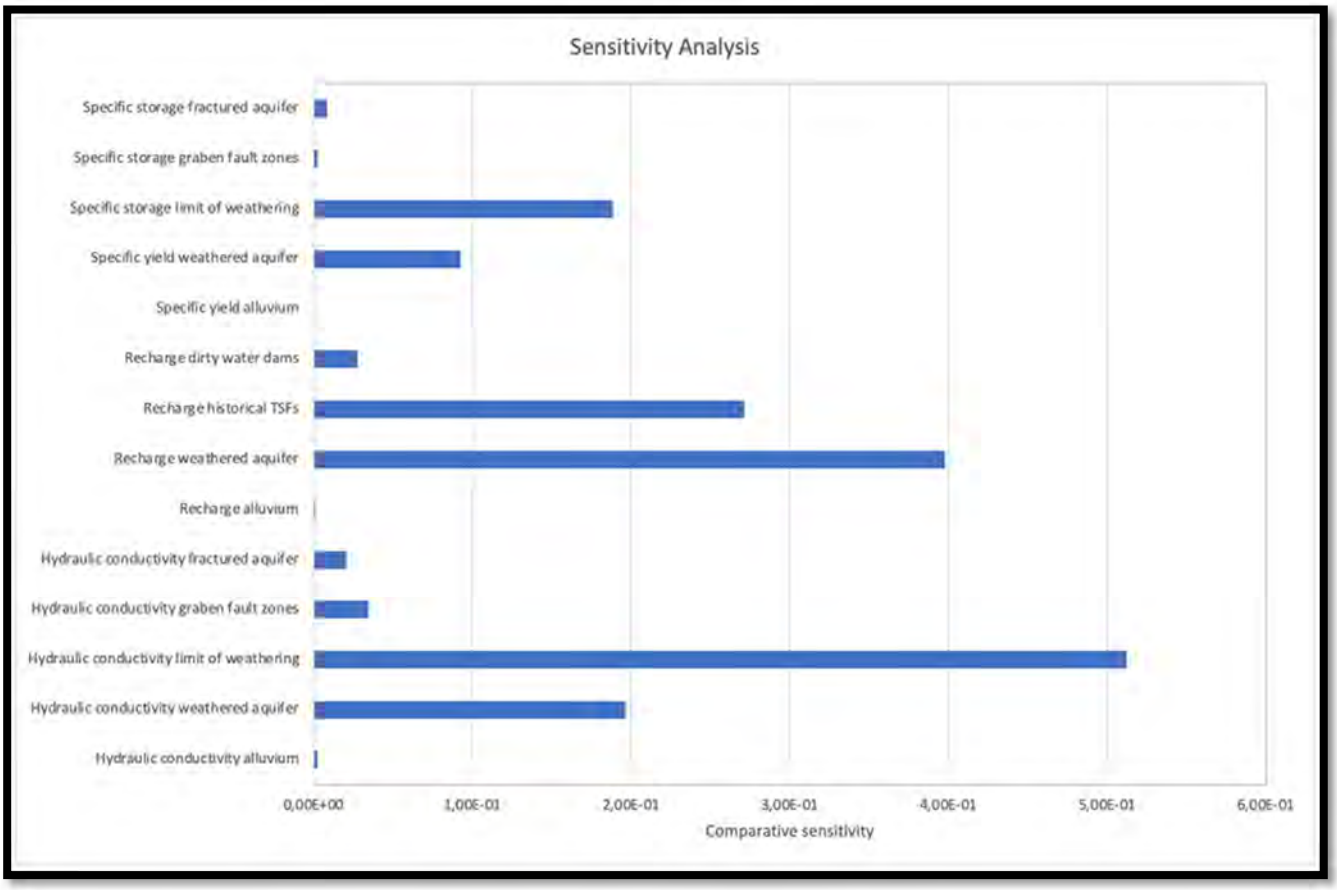

Figure 8-25:Sensitivity analysis

8.8.8 Risk of Decant

No risk of decant was identified for this project.

8.9 Air Quality

Refer to Specialist Study: Appendix D4 – Air Quality Impact Assessment

The main objective of the air quality impact assessment is to determine the significance of impacts on the receiving environment and sensitive receptors given emissions generated by activities proposed as part of the project and recommend suitable management and mitigation measures.

There are a number of potential sensitive receptors within and in the surrounding area of the Project area. These receptors include the Amandelbult Mine Town, Rethabile, Northam Mine Village as well as Setaria. Within these settlements there are medical facilities and schools (Airshed Professionals, 2023).

The impact assessment modelled by the specialist refers to the worst case scenario. The impact assessment was conducted prior to the reduction of the Proposed Project's infrastructure. The mitigation measures identified for the project remains appropriate and forms part of the EMPr.

8.9.1 Emissions Characterisation

8.9.1.1 Emissions Inventory

An emissions inventory lists all sources that would generate pollutants of concern such as construction activities, processing emissions, vehicle-entrained dust emissions, Tailings emissions, and Emissions from materials handling operations. $PM_{2.5}$ and PM_{10} are the criteria pollutants of concern expected from the Amandelbult TSF Dam 2 reclamation and processing project. The activities and the associated emissions are outlined below together with potential mitigation measures. Because the Amandelbult project area lies within the declared Waterberg-Bojanala Priority Area (WBPA) where particulate matter is one of the major pollutants of concern all aspects of the reclamation project should be mitigated to keep emissions to a minimum (Gondwana Environmental Solutions, 2025).

8.9.1.2 Source and Emission Parameters

To determine the significance of the potential for impacts, it is necessary to quantify atmospheric emissions and predicted airborne pollutant concentrations occurring as a result of each emission source identified in the emissions inventory. Both emission factors and empirically derived predictive emission factor equations are used for this purpose. Emission factors require activity rates to quantify the pollutant released into the atmosphere. Predictive emission factor equations require inputs of parameters that are specific to the site being evaluated as well as activity rates to quantify emissions. The parameters used for the modelling are documented in Table 8-26. The background to the selection of the particle density used is outlined below.

Table 8-26: Parameters used for the modelling.

Site parameters	Units	Total
Silt content of the haul roads (particles between 2 µm - 75 µm)	%	61.30
Average particle density for tailings emissions	g/cm3	2.86

Site parameters	Units	Total
Mass fraction of PM2.5 used for modelling PM10 of tailings emissions	%	29
35-ton ADT empty weight	kg	16 200
35-ton ADT total rated load	kg	51 200
35-ton ADT transport height	m	2.30
Maximum TSF material moved per month	t	330 000
Working days in a year	days	365
Single shift, daylight hours only	hrs	8
Haul road width	m	9
Haul road width of plume modelling volume source	m	15.00
Haul road modelling top of plume height volume source	m	3.91
Haul road modelling volume source release height	m	1.96
Initial σy parameter	m	6.98
Initial σz parameter	m	1.82

8.9.1.3 Emission Rates Summary

Hauling of TSF material from the workface to the scrubber/repulping plant represents the largest source of emissions from the reclamation part of the project (Figure 8-26)Emissions from the TSF Dams are caused by wind erosion and will continue regardless of whether the reclamation project takes place or not – this source is included here to give a perspective of the different sources in relation to each other. Materials handling is a significant source of emissions even though it results in far less emissions than the emissions caused by haul trucks. Both the materials handling and haul truck emissions only occur during work hours; thus, the comparative impacts will be increased during the day. Emissions from the stripped band for hydraulic reclamation results in the lowest emissions (This is assuming that the stripped band is kept to a width of 30 m – if the width of the band is increased, emissions will increase). The hydraulic reclamation process, therefore, will have a far lower air quality impact than the mechanical reclamation process.

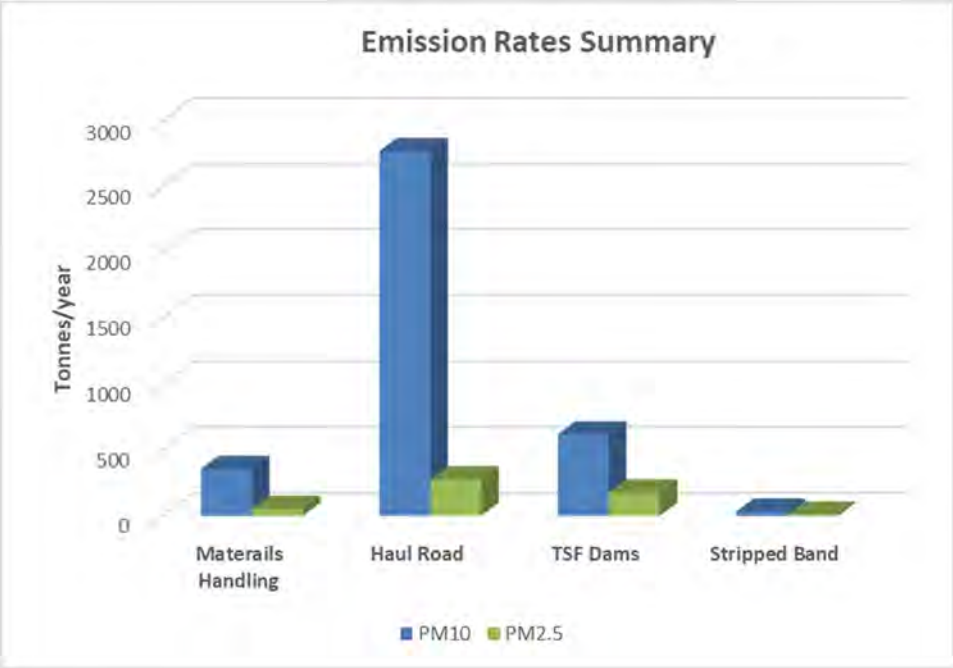

Figure 8-26: Annual emission rates from the major sources in the Amandelbult TSF Dam 2 reclamation project.

8.9.2 Surface data

The preferred data for modelling would be data collected on site. Wind roses graphically present wind conditions over a period of time at a specific location. Wind roses for the project are presented in Figure 8-27 to Figure 8-28 below. In the wind roses, the length of each spoke represents the percentage of time that the wind blew from that direction during the period. The percentage scale is presented on the concentric grey lines (the circle scale increment is indicated on each of the wind roses). Each spoke is divided by colour into wind speed ranges.

The predominant winds at the Amandelbult TSF site (as given by the WRF data for the period from 2021 to 2023) are from a south-south-easterly direction for approximately 13 % of the time (Figure 8-27). The highest number of winds with speeds greater than 6 m/s are expected from the north and north-north-westerly directions. The average hourly wind speed predicted by the WRF model is approximately 2.3 m/s. Calm conditions (wind speeds below 0.5 m/s) are predicted for approximately 0.8 % of the time.

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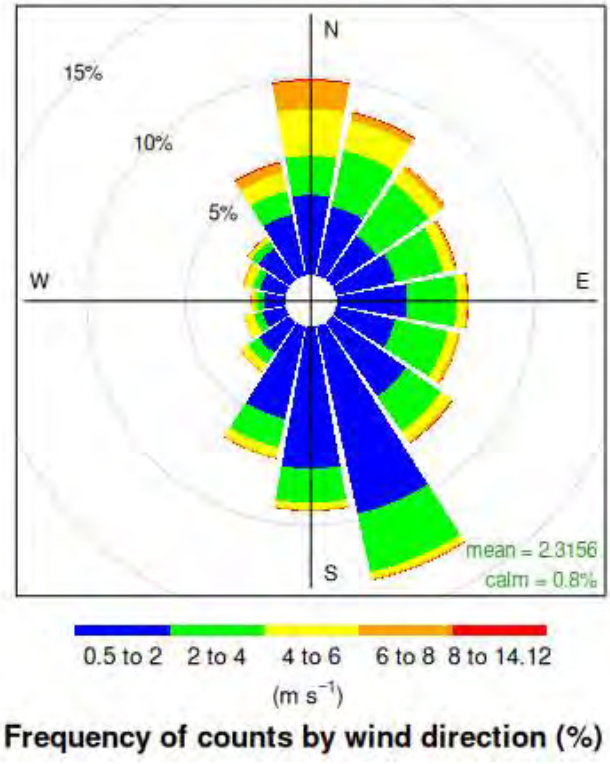

Figure 8-27:Wind rose of the average winds produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

There is a clear diurnal variation in the predominant wind direction. During the day, most winds originate from the north, while at night most winds blow from the south-south-easterly direction. However, winds with the highest speeds during the night are not aligned with the predominant direction, while they are aligned with the predominant wind direction during the day. Most frequent winds with speeds above 6 m/s are expected from a northerly direction during the day and night. On average, wind speeds are higher during the day and there are also more incidences of calm conditions during the day than at night (Figure 8-28).

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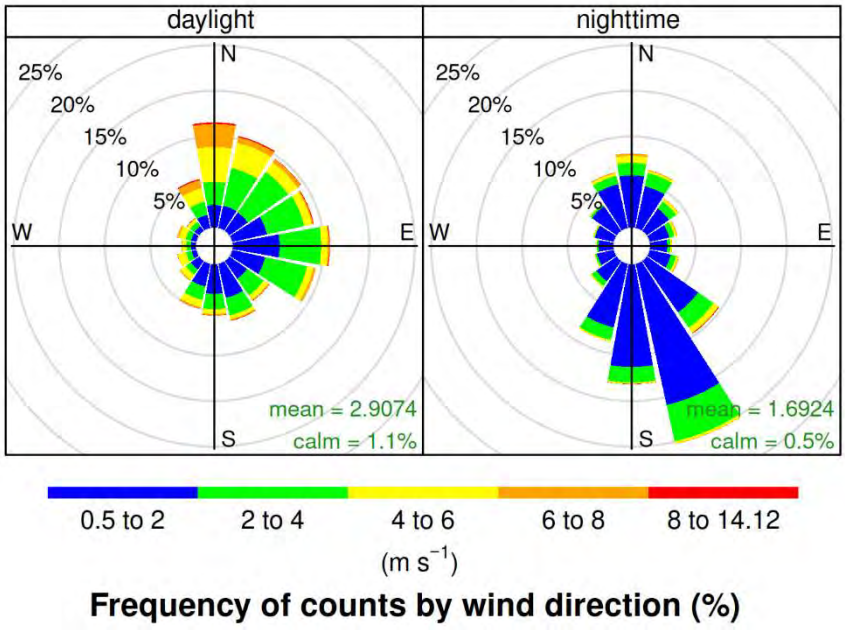

Figure 8-28:Diurnal wind roses produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

The seasonal variations in wind direction for the Amandelbult TSF Dam 2 are illustrated in Figure 8-29. During summer and autumn, the predominant wind direction is from the south-south-easterly direction. In spring and winter, the predominant winds originate from the north and south respectively. Across all four seasons the highest number of winds with speeds above 6 m/s originate from the north. Average wind speeds are highest in spring, and most of the calm conditions are experienced in autumn.

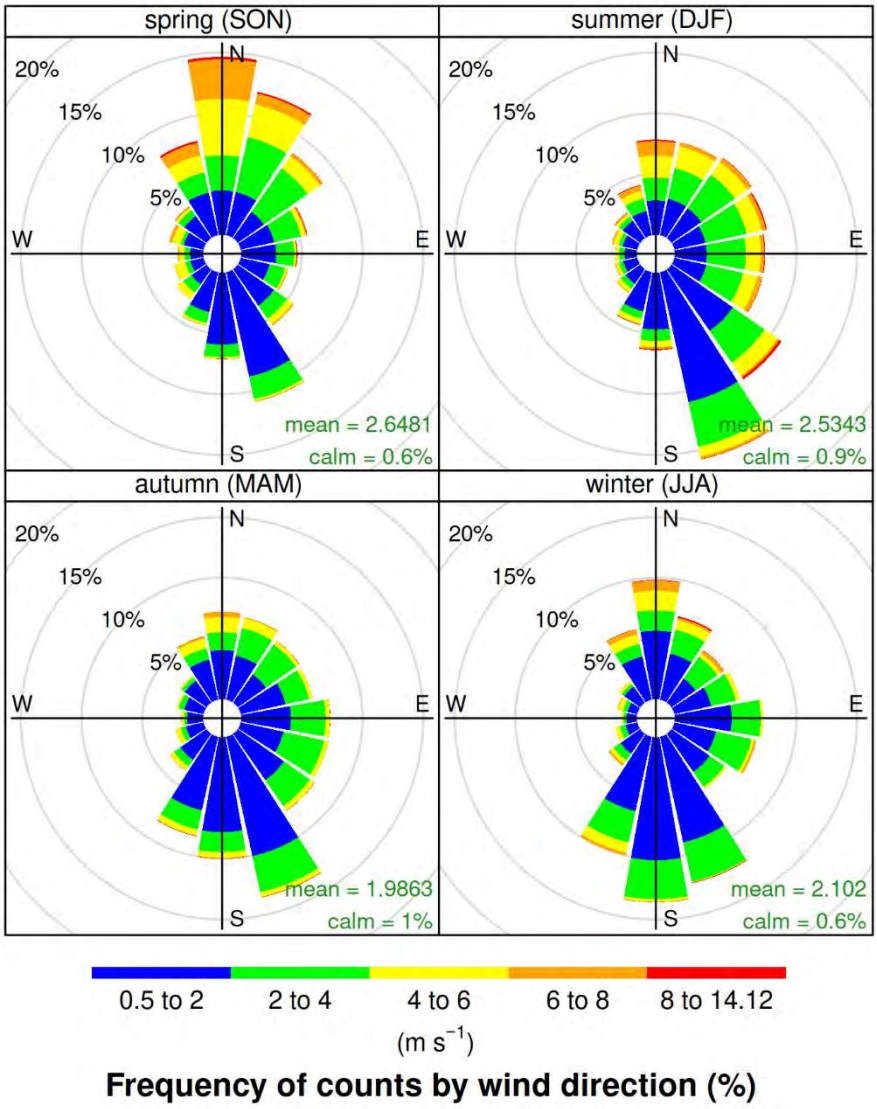

Figure 8-29:Seasonal wind roses produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

8.9.3 Ambient Air Quality

8.9.3.1 Air Quality Legislation and Standards

Air quality in South Africa is governed under the National Environmental Management: Air Quality Act, Act 39 of 2004 (NEM: AQA) (Gondwana Environmental Solutions, 2025). The main objective of the act is to ensure the protection of the environment and human health through reasonable measures of air pollution control within the sustainable (economic, social and ecological) development framework. The NEM: AQA shifted some of the approach of air quality management from source-based control to receptor-based control. With receptor-based control the ambient air quality of receptors is the factor which is used to determine the compliance of the emission source. The measured, or expected, ambient air quality of receptors is compared to National Standards. These standards prescribe the maximum ambient concentrations of pollutants permitted (and the number of exceedances allowed) during a specified time period in a defined area. If the air

quality standards are exceeded, the ambient air quality is poor and the potential for health effects is greatest. The ambient air quality standards, therefore, provide a basis for protecting public health from adverse effects of air pollution and for eliminating, or reducing to a minimum, those contaminants of air that are known, or likely, to be hazardous to human health and wellbeing (WHO, 2000). The South African NAAQS for PM_{10} were published in 2009 in terms of Section 9(1) of the NEM: AQA. The NAAQS for $PM_{2.5}$ were published in 2012 (Government Notice No. 486, 2012)(Table 8-27).

In terms of the NEM: AQA, local government is responsible for air quality management, control and enforcement. This includes the control of all major sources, including mining, industrial, vehicle and domestic sources, in terms of ambient air concentrations. District and Metropolitan Municipalities are the licensing authorities. Provincial government is primarily responsible for ambient monitoring and ensuring municipalities fulfil their legal obligations. National government is primarily the policy maker and co-ordinator.

Table 8-27:National Standards for Ambient Air Quality for PM10 (Government Notice No. 1210, 2009) and for PM2.5 (Government Notice No. 486, 2012).

National Ambient Air Quality Standards for Particulate Matter (PM10)			
Averaging Period	Concentration (µg/m3)	Frequency of Exceedance	Compliance Date
24 hours	75	4	1 January 2015
1 year	40	0	1 January 2015
The reference method for the determination of the PM10 fraction of suspended particulate matter shall be EN 12341.			
National Ambient Air Quality Standards for Particulate Matter (PM2.5)			
Averaging Period	Concentration (µg/m3)	Frequency of Exceedance	Compliance Date
24 hours	40	4	1 January 2016 – 31 December 2029
24 hours	25	4	1 January 2030
1 year	20	0	1 January 2016 – 31 December 2029
1 year	15	0	1 January 2030
The reference method for the determination of the PM2.5 fraction of suspended particulate matter shall be EN 14907.			

The acceptable dustfall rates as set out in the National Dust Control Regulations (Government Notice No. 1210, 2009) are shown in Table 8-28.

Table 8-28: National Dust Control Regulations

Restriction Areas	Dustfall Rate (D) (mg/m2/day) (30-days average)	Permitted Frequency of Exceeding Dustfall Rate
Residential area	D < 600	Two within a year, not sequential months.
Non-residential area	D ≤ 1 200	Two within a year, not sequential months.

International standard practice prohibits or avoids locating residential areas closer than 500 m from TSFs (Gondwana Environmental Solutions, 2025). LEDET developed a set of buffer zones to demarcate safe distances for development around mine residue areas. The two buffers were devised with windblown dust as the determining factor. At a distance of 500 m from mining waste disposal facilities such as slimes dams and

ash dumps, dust levels are generally acceptable, and the dust can no longer be distinguished from ambient dust pollution. Beyond a distance of 1 000 m, dust from mining areas cannot be detected (Gondwana Environmental Solutions, 2025).

Both the amount of fine dust and the chemical and mineralogical composition of the dust will dictate the potential for health impacts (Schwegler, 2006). Metalliferous mine dusts may contain potentially toxic elements such as arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, uranium and zinc. Epidemiological and toxicological studies have indicated that there are many complex factors that play a role in the associated toxic, carcinogenic or other health effects (Schwegler, 2006) As a result, causal links between ambient air concentrations of metalliferous dust and health impacts from exposure have not yet been quantified in such a way that control can be legislated.

8.9.4 Air quality impact assessment results

Dispersion simulations were undertaken to determine ambient concentrations of PM2.5 and PM10 resulting from the reclamation of the Amandelbult TSF Dam 2. Three scenarios were simulated – a status quo scenario showing the current emissions from all of the Amandelbult TSF Dams before the start of the reclamation process; a worst-case scenario; and a mitigated scenario. The dispersion of particulate matter was modelled up to a distance of 5 km from a central point.

The isopleths of the modelling results for PM2.5 and PM10 are presented in Figure 8-30 to Figure 8-37 below. The red isopleths represent the NAAQS, therefore, all areas on the maps that lie within the red coloured isopleth can be expected to experience exceedances of the relevant National Standards. It should be noted that isopleth plots reflecting the 24-hour averaging periods contain the 99th percentile or the average of the fifth-highest predicted ground level concentrations, over the three-year period for which simulations were undertaken. This is in line with the NAAQS which allows for four exceedances per year. Concentrations are presented in µg m-3.

8.9.5 Status Quo Ambient Impact Results

8.9.5.1 Figures Showing Isopleths of the Status Quo Concentrations

The isopleths of the status quo modelling results are given in Figure 8-30 to Figure 8-33 below.

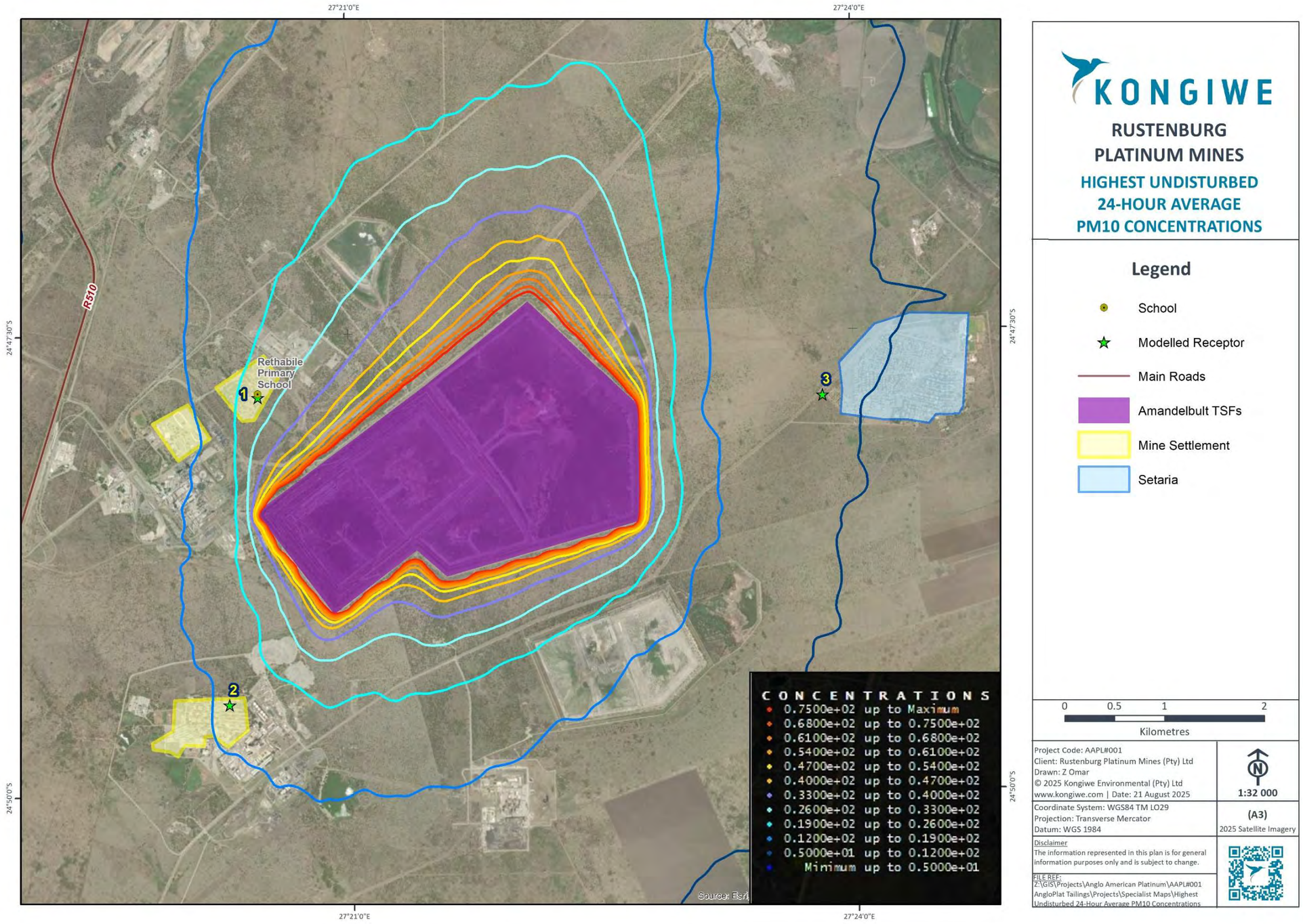

Figure 8-30: Modelled prediction of highest 24-hour average PM10 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

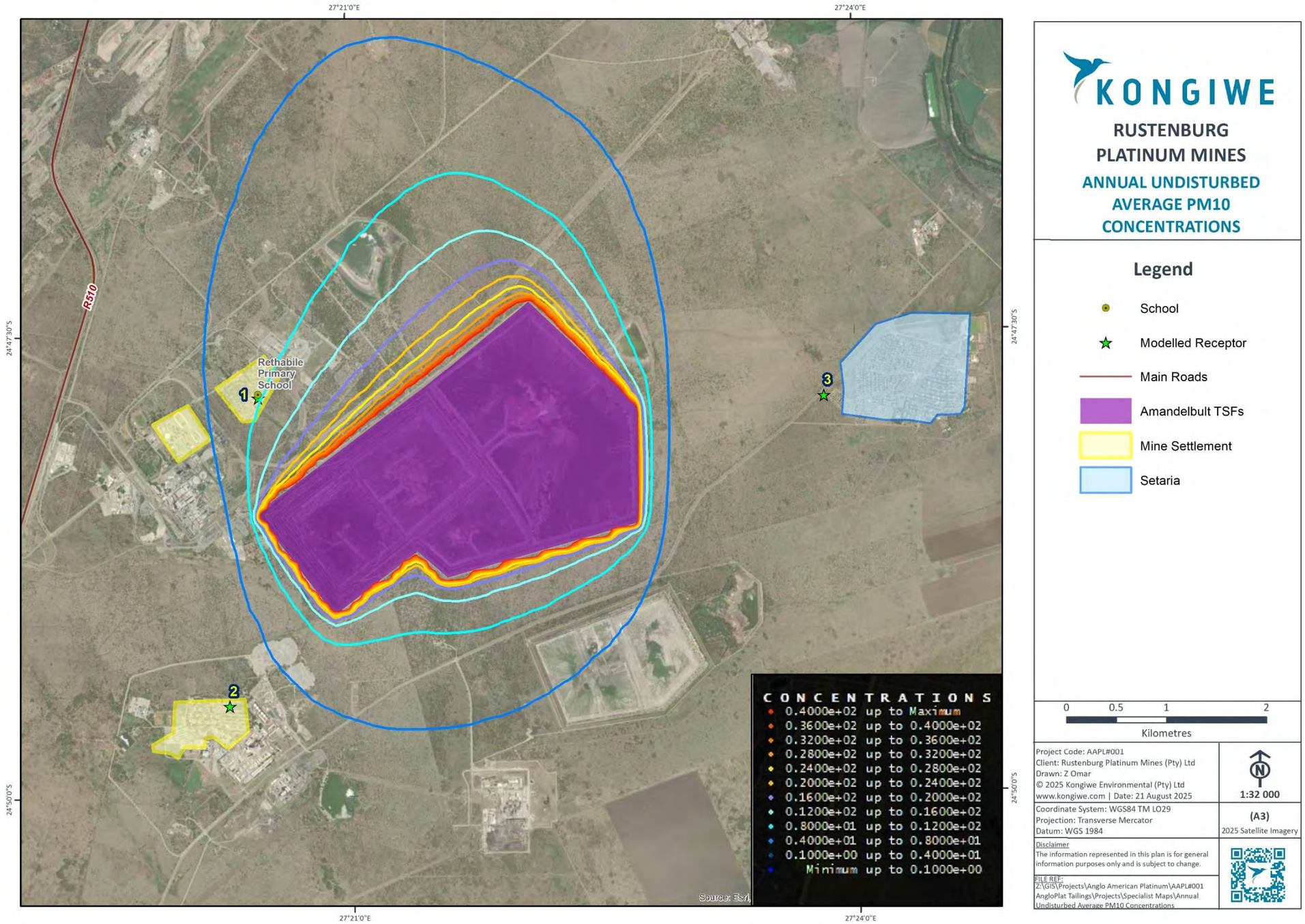

Figure 8-31:Modelled prediction of the annual average PM10 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

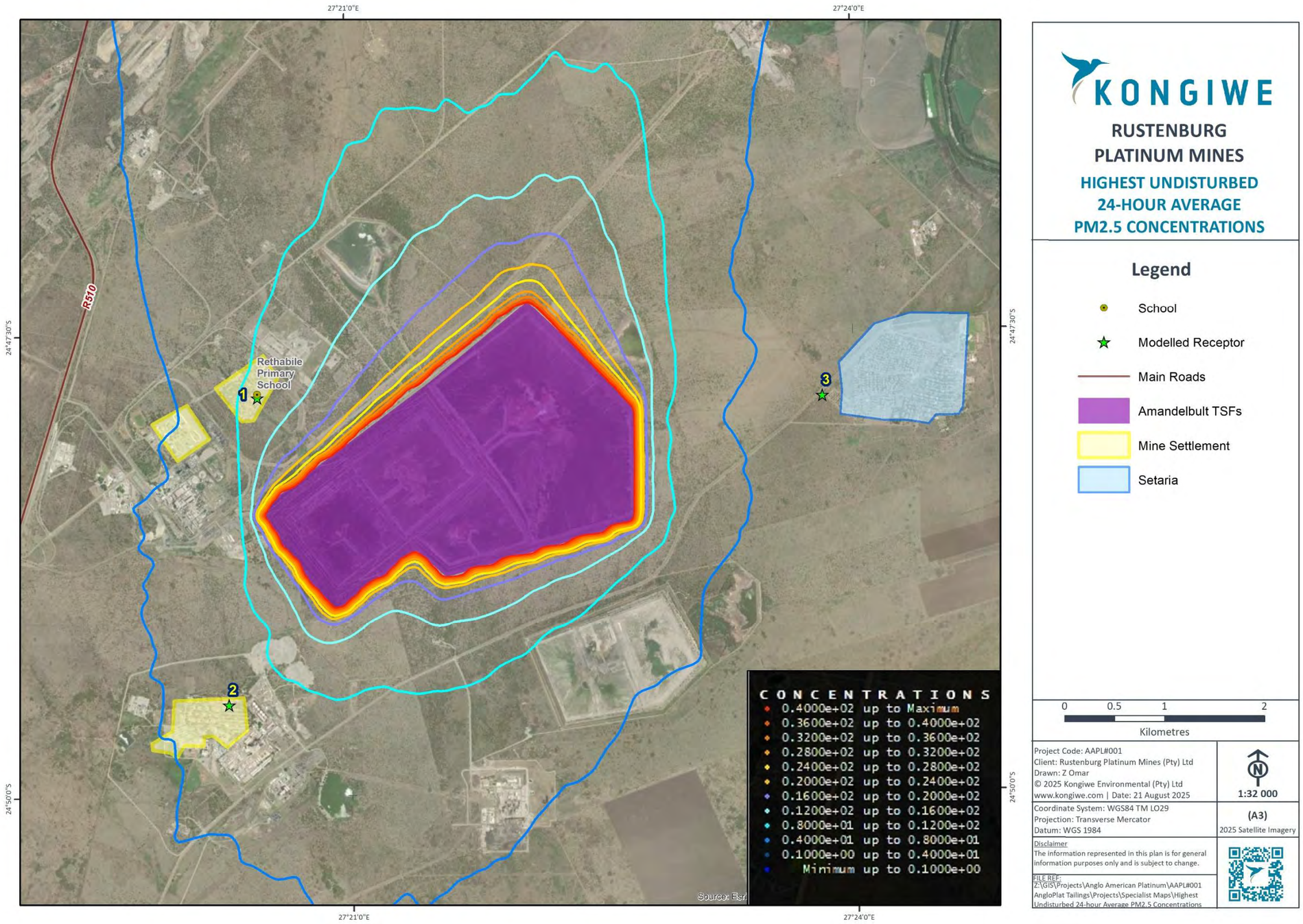

Figure 8-32:Modelled prediction of the highest 24-hour average PM2.5 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

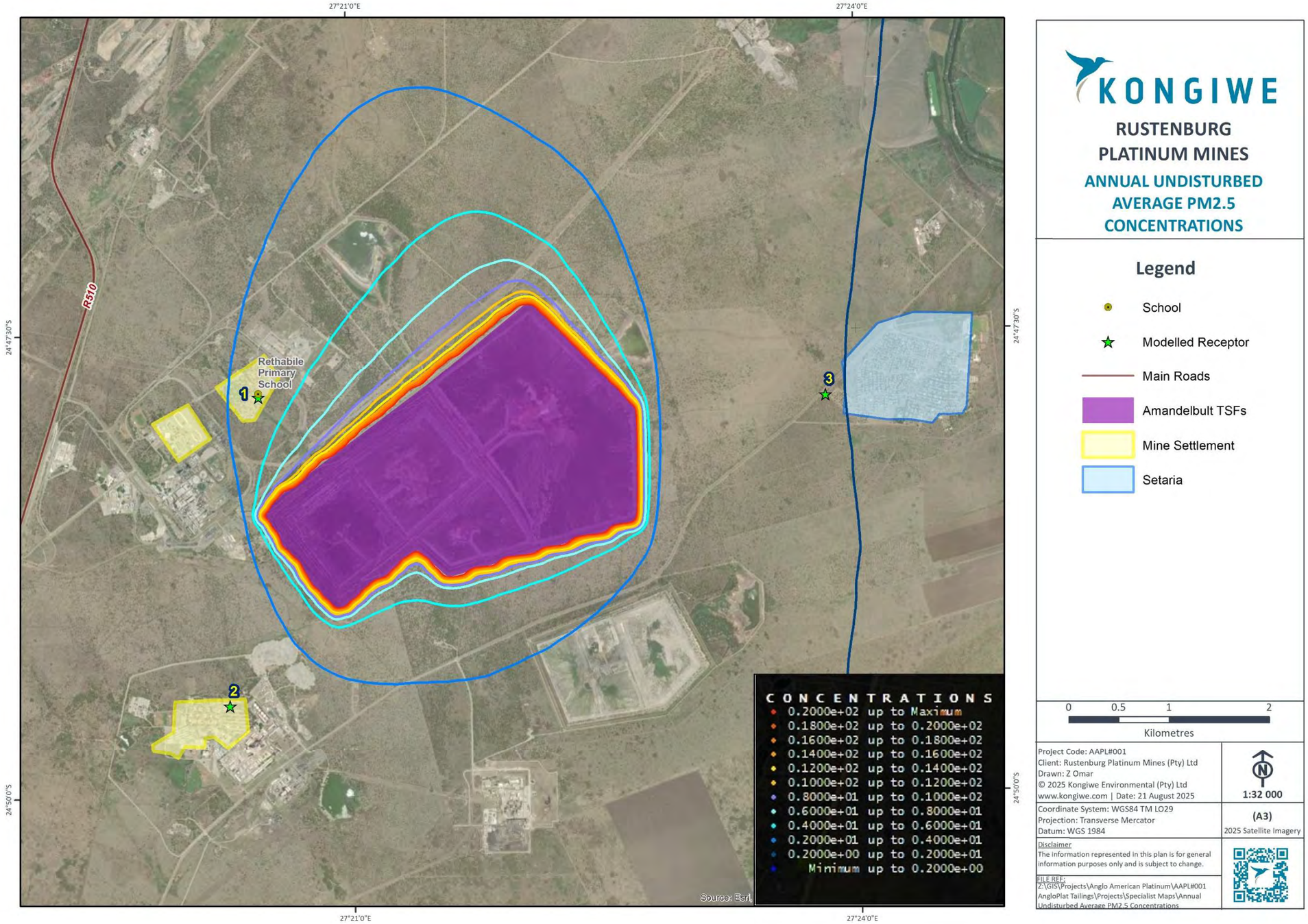

Figure 8-33:Modelled prediction of annual average PM2.5 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

8.9.5.2 Table of the Status Quo Modelling Results

Table 8-29:Maximum modelled status quo concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m3)	NAAQS (µg/m3)
PM10 24 hours (99th percentile)	1	16-12-2022	22.6	75
	2	15-11-2021	14.5	
	3	10-03-2023	6.4	
PM10 Annual	1	Annual average	7.9	40
	2	Annual average	2.4	
	3	Annual average	0.6	
PM2.5 24 hours (99th percentile)	1	27-12-2022	9.4	40
	2	28-10-2021	5.7	
	3	10-03-2023	2.5	
PM2.5 Annual	1	Annual average	2.9	20
	2	Annual average	0.9	
	3	Annual average	0.2	

8.9.6 Evaluation of the Status Quo Modelling Results

- The modelled highest daily average concentrations of PM10 and PM2.5 resulting from emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B indicate that exceedances of the national daily standards of 75 µg/m3 and 40 µg/m3, respectively, are only expected immediately around the TSF Dams (Figure 8-30). Under worst-case meteorological conditions, the discrete receptors included in the modelling (representing the closest residential areas and the closest school) may expect to experience ambient concentrations of less than 30% of the limit set by the NAAQS, caused by emissions from the TSF Dams (Table 8-29).
- The modelling also indicates that annual average concentrations of both PM10 and PM2.5 are not expected to exceed the national standards of 40 µg/m3 and 20 µg/m3, respectively, much beyond the TSF Dams footprints (Figure 8-31 and Figure 8-33).

8.9.7 Worst-Case Reclamation Scenario Ambient Impact Results

8.9.7.1 Isopleths of the Worst-Case Reclamation Scenario Concentrations

The isopleths of the worst-case reclamation scenario modelling results are given in Figure 8-34 and Figure 8-35 below.

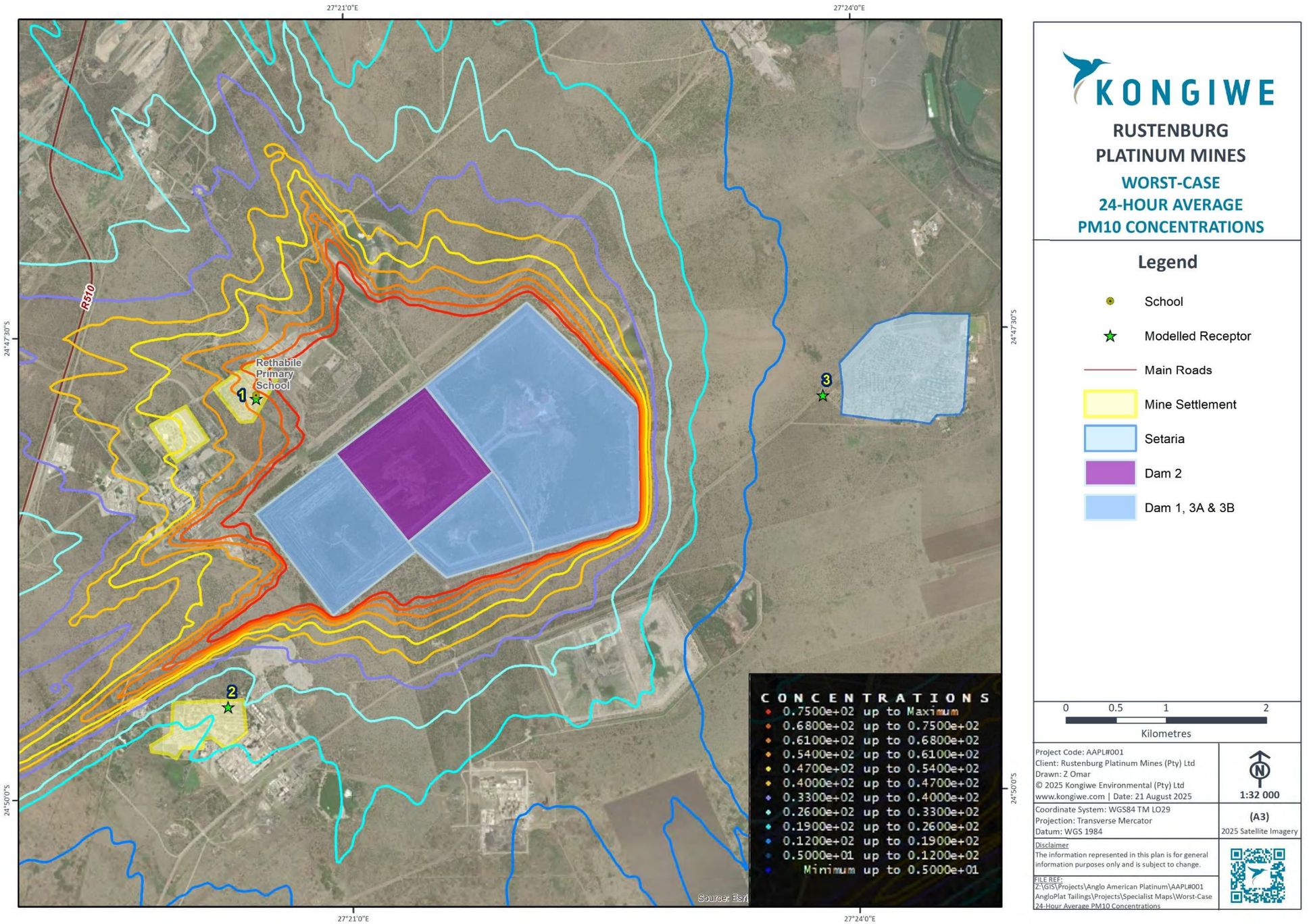

Figure 8-34:Modelled prediction of the worst-case 24-hour average PM10 concentrations resulting from reclamation at Amandelbult TSF Dam 2.

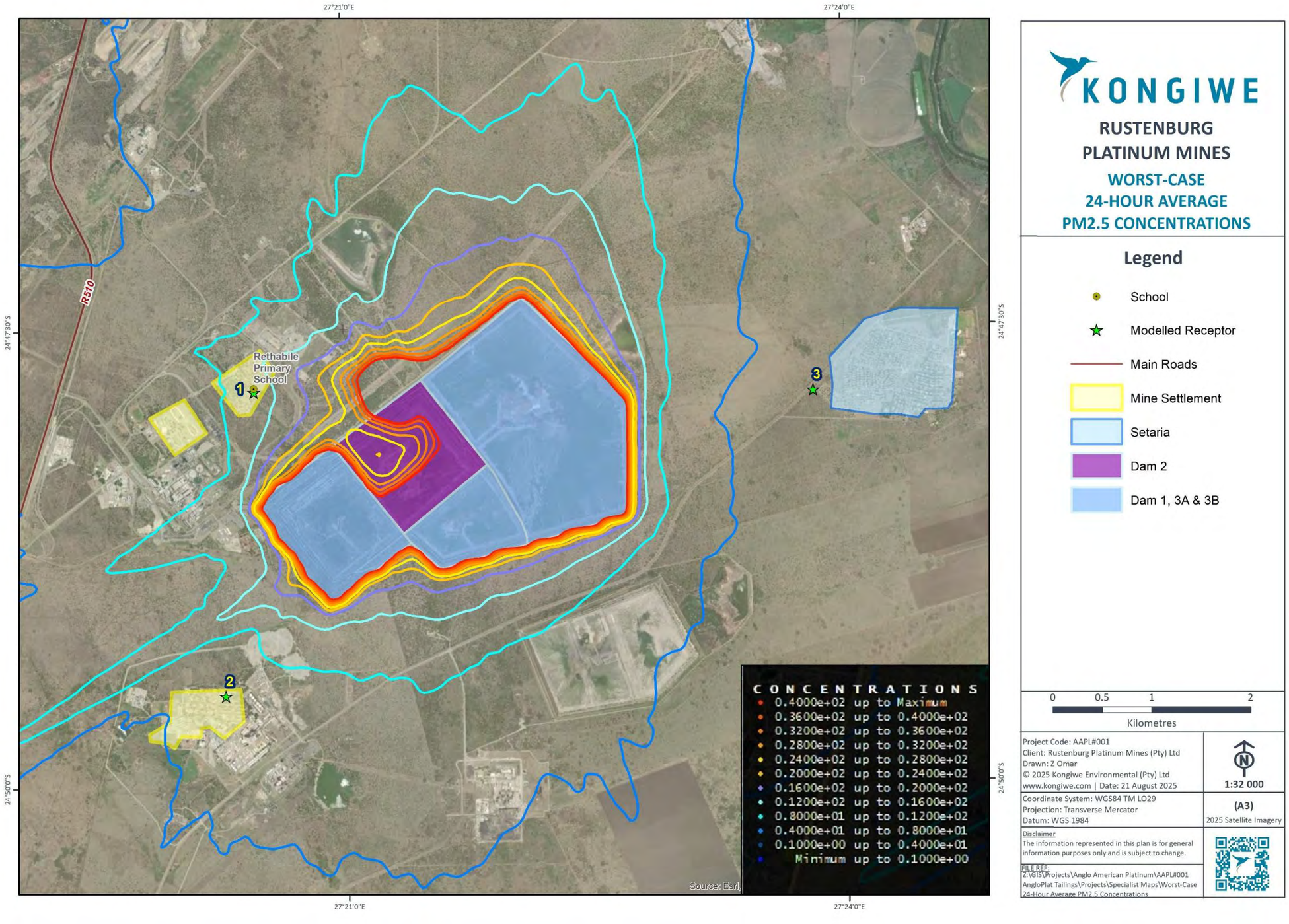

Figure 8-35:Modelled prediction of the worst-case 24-hour average PM2.5 concentrations resulting from reclamation at Amandelbult TSF Dam 2

8.9.7.2 Table of the Reclamation Scenario Modelling Results

Table 8-30:Maximum modelled reclamation scenario concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m3)	NAAQS (µg/m3)
PM10	1	01-06-2022	66.8	75
24 hours	2	22-06-2023	21.8	
(99th percentile)	3	21-05-2022	16.3	
PM2.5	1	17-07-2023	10.1c	40
24 hours	2	09-01-2022	6.0c	
(99th percentile)	3	10-03-2023	2.4	

Note: An average that includes a calm hour is flagged with a 'c'.

8.9.8 Evaluation of the Reclamation Scenario Modelling Results

This scenario represents the worst-case emissions expected from the reclamation process. This scenario represents all of the status quo emissions continuing from TSF 1, 3A and 3B; with the added increase in emissions resulting from the stripping of vegetation in a 30-metre-wide by 1 000-metre-long band for reclamation; as well as emissions from the trucks hauling TSF material along the length of the strip and then along the north-eastern side of the TSF; and emissions from materials handling. This is not expected to be the situation for a long period of time. It is unlikely that mechanical reclamation will continue for a long time once hydraulic reclamation has started. Furthermore, the length of haul road represented, is close to the greatest distance possible for the entire reclamation period.

- The modelled highest daily average concentrations of PM10 indicate that exceedances of the national daily standard of 75 µg/m3 can be expected on windy days up to approximately 1 500 m to the north-west of the Amandelbult TSF Dams 1, 2, 3A and 3B (Figure 8-34). However, none of the modelled sensitive receptors are expected to experience ambient concentrations exceeding the NAAQS on worst-case days. Rethabile Primary School may expect to experience ambient concentrations of up to approximately 89% of the limit set by the NAAQS while discrete receptors 2 and 3 are expected to experience ambient concentration less than 30% of the limit (Table 8-30). It should be noted that the increase in emissions from the TSF during reclamation will be temporary and are most likely to be lower than the worst case for most of the reclamation process.
- The modelled highest daily average concentrations of PM2.5 indicate that exceedances of the national daily standard of 40 µg/m3 can be expected on windy days up to approximately 400 m from the proposed scrubber plant (Figure 8-35). None of the sensitive receptors in the vicinity are expected to experience exceedances of the PM2.5 NAAQS from the reclamation phase of TSF Dam 2 (Table 8-30).

8.9.9 Mitigated Scenario Ambient Impact Results

8.9.9.1 Figures Showing Isopleths of the Mitigated Haul Road and Materials Handling Scenario Concentrations

The isopleths of the mitigated haul road and materials handling scenario modelling results are presented in Figure 8-36 and Figure 8-37 below.

8.9.9.2 Table of the Mitigated Reclamation Scenario Modelling Results

Table 8-31:Maximum modelled mitigated reclamation scenario concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m3)	NAAQS (µg/m3)
PM10 24 hours (99th percentile)	1	09-06-2021	41.0c	75
	2	22-12-2022	16.9	
	3	15-12-2022	6.5c	
PM2.5 24 hours (99th percentile)	1	15-03-2021	9.2	40
	2	19-02-2022	5.1	
	3	15-12-2022	2.3c	

Note: An average that includes a calm hour is flagged with a 'c'.

8.9.10 Evaluation of the Mitigated Reclamation Scenario Modelling Results

When a mitigation efficiency of 40% is applied on the roads and materials handling is reduced by a third, modelled ambient concentrations indicate that the impact of the reclamation activities will be markedly lower for the Rethabile Primary school and surrounding residential area.

- The modelled highest daily average concentrations of PM10 indicate that exceedances of the national daily standard of 75µg/m3 can be expected on windy days up to approximately 700 m to the north-west of the Amandelbult TSF Dams 1, 2, 3A and 3B (Figure 8-36). On worst-case days, the Rethabile Primary School may expect to experience ambient concentrations of up to approximately 55% of the limit set by the NAAQS, while discrete receptors 2 and 3 are expected to experience ambient concentration less than 23% of the limit (Table 8-31). This indicates that the expected ambient concentrations at the Rethabile Primary School should be reduced by approximately 34% if rigorous mitigation measures are implemented and adhered to.

The modelled highest daily average concentrations of PM2.5 indicate that exceedances of the national daily standard of 40µg/m3 can be expected on windy days up to approximately 270 m from the north western side

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of TSF Dam 2 (Figure 8-37). None of the modelled receptors in the vicinity are expected to experience exceedances of the PM2.5 NAAQS from the reclamation of TSF Dam 2 (Table 8-31).

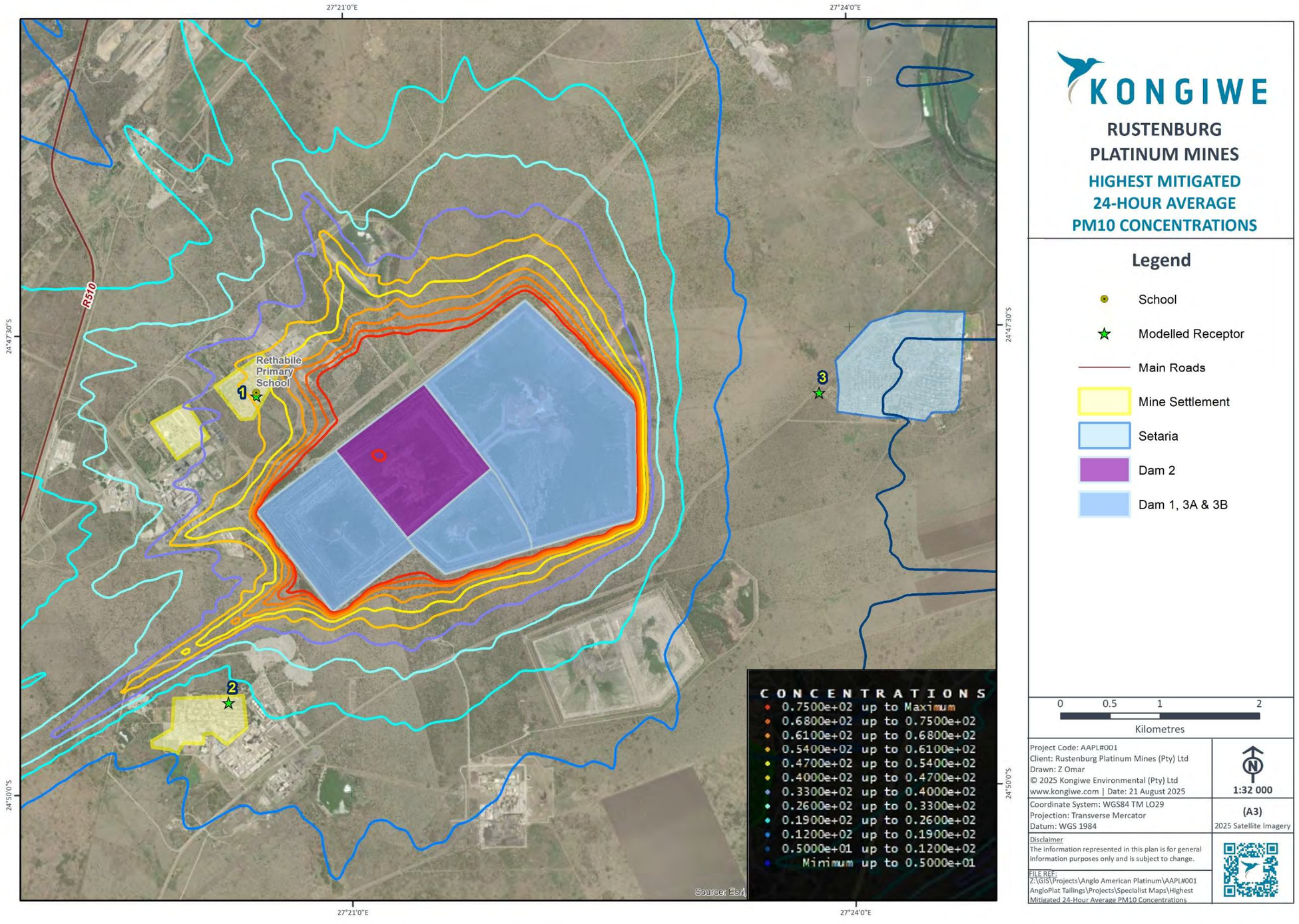

Figure 8-36: Modelled prediction of the highest 24-hour average PM10 concentrations resulting from the mitigated reclamation scenario

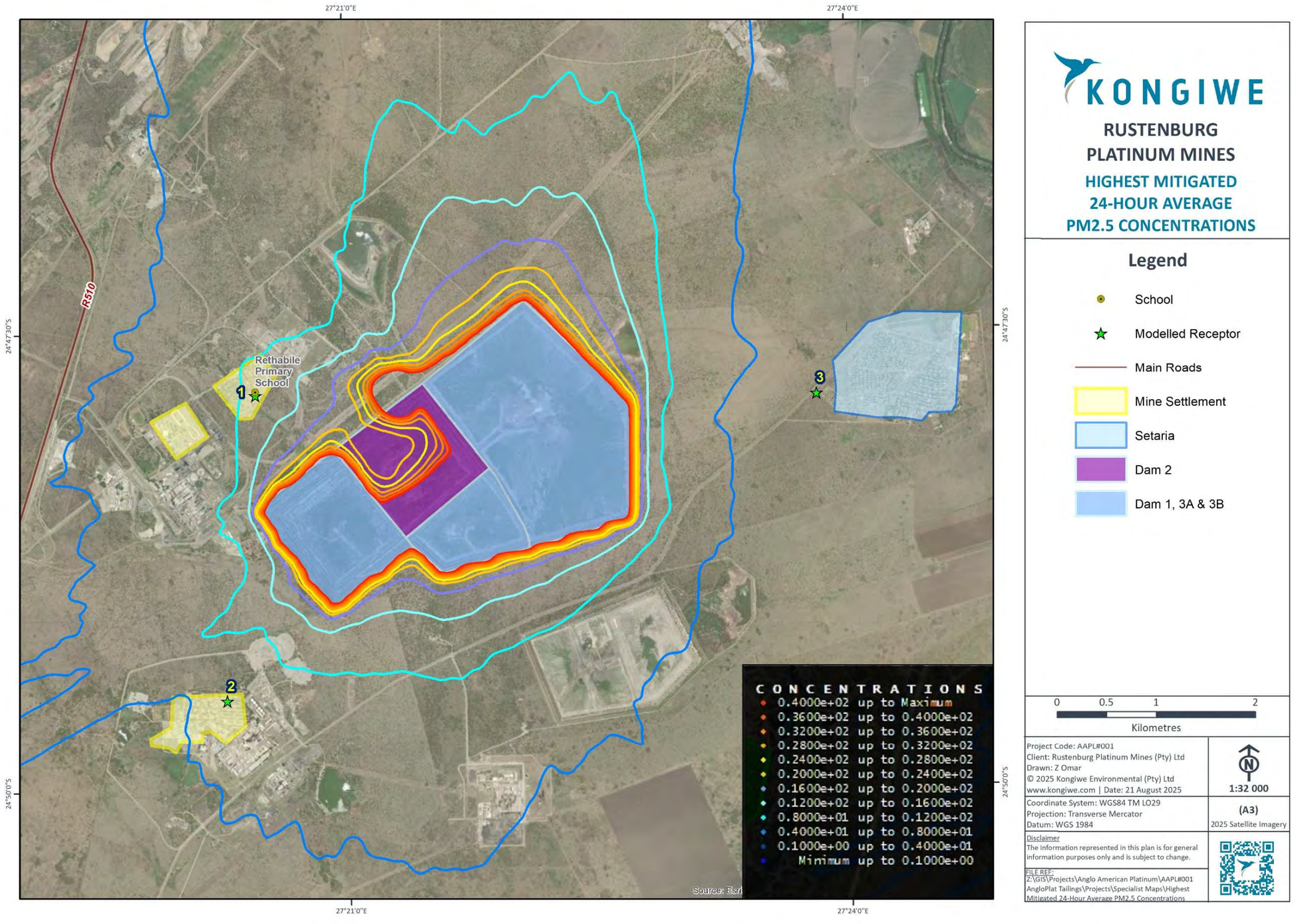

Figure 8-37:Modelled prediction of the highest 24-hour average PM2.5 concentrations resulting from the mitigated reclamation scenario

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8.9.11 Receptor Grids

A cartesian receptor grid was used for the modelling the Amandelbult TSF Dam 2. Receptors were spaced at 100 m intervals up to 5 000 m from the centre point. The UTM coordinates of the centre point are: 536065.00 m E 7256716.96m S. Three discrete receptors were included in the modelling to illustrate the impact of emissions from Amandelbult TSF Dam 2 on the surrounding populations. The location of the modelled discrete receptors is shown in Figure 8-38 with their elevation and coordinates presented in Table 8-32. Receptor 1 represents the closest school (Rethabile Primary School) to the west-north-west of the Amandelbult TSF Dam 2 in a mine settlement. Receptor 2 represents the closest house to a mine settlement south-west of the Amandelbult TSF Dam 2. Receptor 3 represents the closest house to the east of the Amandelbult TSF Dam 2.

Table 8-32:UTM coordinates and elevation of modelled receptors.

Modelled Receptor	Description	UTM Coordinates	Elevation (m)
1	Closest school west-northwest of Amandelbult TSF Dams 1, 2, 3A and 3B	534478.00m E 7257436.00 m S	970.69
2	Closest house south-west of Amandelbult TSF Dams 1, 2, 3A and 3B	534230.00m E 7254419.00 m S	985.38
3	Closest house east of Amandelbult TSF Amandelbult TSF Dams 1, 2, 3A and 3B	540207.00m E 7257386.00 m S	949.91

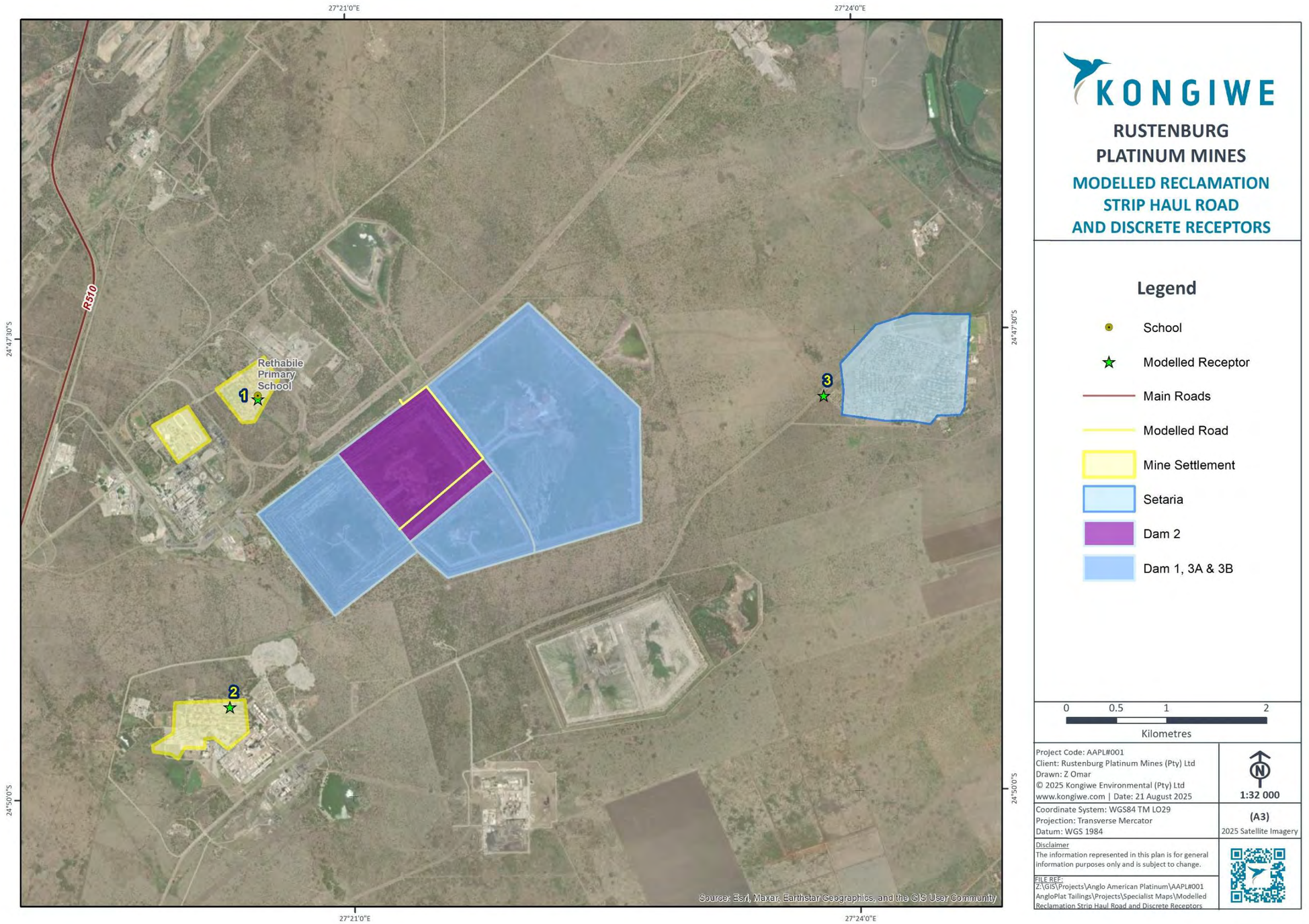

Figure 8-38:Modelled reclamation strip haul road and discrete receptor

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8.10 Heritage

Refer to Specialist Study: Appendix D8 – Heritage and Palaeontology

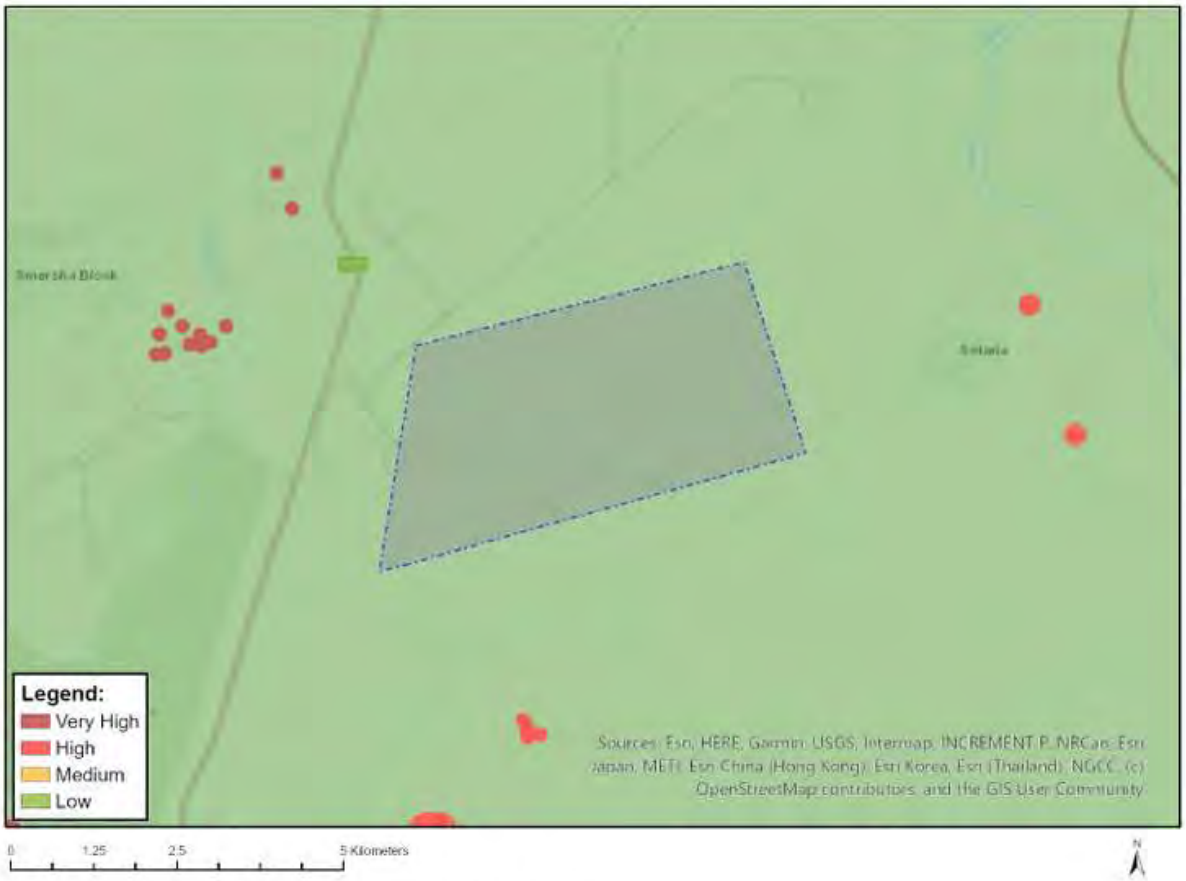
8.10.1 Fieldwork findings

The fieldwork was conducted on 10 and 11 April 2025 by a field team of PGS Heritage. Their movement on site was tracked by GPS (PGS, 2025).

During the fieldwork no heritage features or resources were identified.

8.10.2 Heritage screening

A heritage screening report was compiled by the Department of Forestry, Fisheries and the Environment (DFFE) National Web-based Environmental Screening Tool as required by Regulation 16(1)(v) of the EIA Regulations 2014, as amended. According to the heritage screening report, the project area has a Low Heritage Sensitivity (Figure 8-39). The fieldwork has shown that there are no archaeological or other tangible heritage resources present within the study area and therefore, the DFFE screening rating remains low. There are however archaeological stone walled settlements located within the general surroundings (PGS, 2025).



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

Figure 8-39:Screening tool map indicating a low sensitivity rating for archaeology and heritage

8.10.3 Heritage sensitivity

Analysis of maps and satellite imagery enabled the identification of possible heritage sensitive areas. By superimposition and analysis, it was possible to rate these structures according to age and thus their level of protection under NHRA. Table 8-35 lists the possible tangible heritage sites identified in the vicinity of the study area and the relevant legislative protection (PGS, 2025).

Table 8-33:Tangible heritage site in the study area.

Name	Description	Legislative protection
Archaeology	Older than 100 years	NHRA s3 and 35
Structures	Possibly older than 60 years	NHRA s3 and 34
Burial grounds	Graves	NHRA s3 and 36

Additionally, evaluation of satellite imagery has indicated the following areas that may be sensitive from a heritage perspective. The analysis of the studies conducted in the area assisted in the development of the following landform type to heritage find matrix (Table 8-34).

Table 8-34:Landform type to heritage find matrix

Landform type	Heritage type
Crest and foot hill	Late Stone Age (LSA) and Middle Stone Age (MSA) scatters, LIA settlements
Crest of small hills	Small LSA sites – scatters of stone artefacts, ostrich eggshell, pottery and beads
Water holes/pans/rivers	MSA and LSA sites, LIA settlements
Farmsteads	Historical archaeological material
Ridges and drainage lines	LSA sites, LIA settlements

8.10.4 Heritage features

As no tangible heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as MEDIUM NEGATIVE before and LOW NEGATIVE after mitigation if a chance finds procedure is followed (PGS, 2025).

8.10.5 Cultural landscape

The AMD TSF was developed as an integral component of the broader mining landscape, which encompasses shafts, workshops, offices, and various other infrastructure. In conjunction with this development, the community infrastructure includes the AMD residential area, schools, and recreational facilities. Over the past 60 years, this infrastructure development has transformed the Bushveld landscape into a mining landscape, reflecting a contemporary shift from a natural to a cultural landscape. Within the framework of the NHRA, such transformations are recognised as part of South Africa's layered cultural heritage, where landscapes embody both tangible elements (such as mining infrastructure) and intangible values (such as community identity, memory, and lived experience).

However, this transformation cannot be equated with the scale of change experienced during the Witwatersrand gold rush of the late 19th century, which resulted in a complete transformation of the landscape. That period marked an unprecedented change in technology and industrialisation. The remnants of the Witwatersrand Gold Rush are few and continue to be affected by landscape changes and the need to rework old dumps, as well as address their environmental impacts, such as acid mine drainage and air pollution. According to the Burra Charter (2013), the significance of such landscapes is not only rooted in their material remains, but also in their associative values and the stories they carry. The Witwatersrand mining landscape illustrates this principle, as its cultural significance derives as much from its contribution to South Africa's industrial and political development as from its surviving physical fabric.

The AMD complex and its development are associated with the later development of the Western Platinum Belt, including Thabazimbi. Although the broader development of the platinum sector has significantly impacted the landscape, it does not exhibit the same influence on unique scientific and technological advancements or social changes as those experienced during the late 19th century. Those changes influenced the development of the Witwatersrand, its impact on South Africa's development, and large-scale events such as the subsequent South African War and the formation of the Union of South Africa, ultimately leading to the establishment of the Republic of South Africa. In line with the NHRA, the recognition of these later mining landscapes as heritage resources requires careful assessment of their relative significance, considering not only their material presence but also their role in shaping community life, regional identity, and economic history.

The ongoing reclamation of the TSF is assessed as having a negligible impact on the cultural landscape, given that it is integrated into the current mining operations and does not entail the complete eradication of tangible remnants of the mine and its associated history.

While it is not possible to predict the future impact of the AMD on the history of the area, province, and ultimately South Africa, it is important to consider that the extensive data collected and documentation of such mining developments, including the mining of this TSF and the subsequent reutilisation of the space for mining purposes, provide an opportunity to preserve and curate this data for future generations through these processes.

The Burra Charter and UNESCO’s recognition of cultural landscapes (1992) emphasise the importance of documentation, conservation, and community participation in safeguarding heritage. By treating the AMD TSF and associated mining infrastructure as a cultural landscape, opportunities arise not only for heritage conservation but also for integrating historical knowledge into sustainable land-use planning and community development. The integration of the CHMP with community development initiatives offers an opportunity for the social and cultural documentation of both the cultural landscape and the historical context of AMD communities. Figure 8-40 indicates that no possible heritage features are visible on the first edition (1963) 1:50000 topographic map.

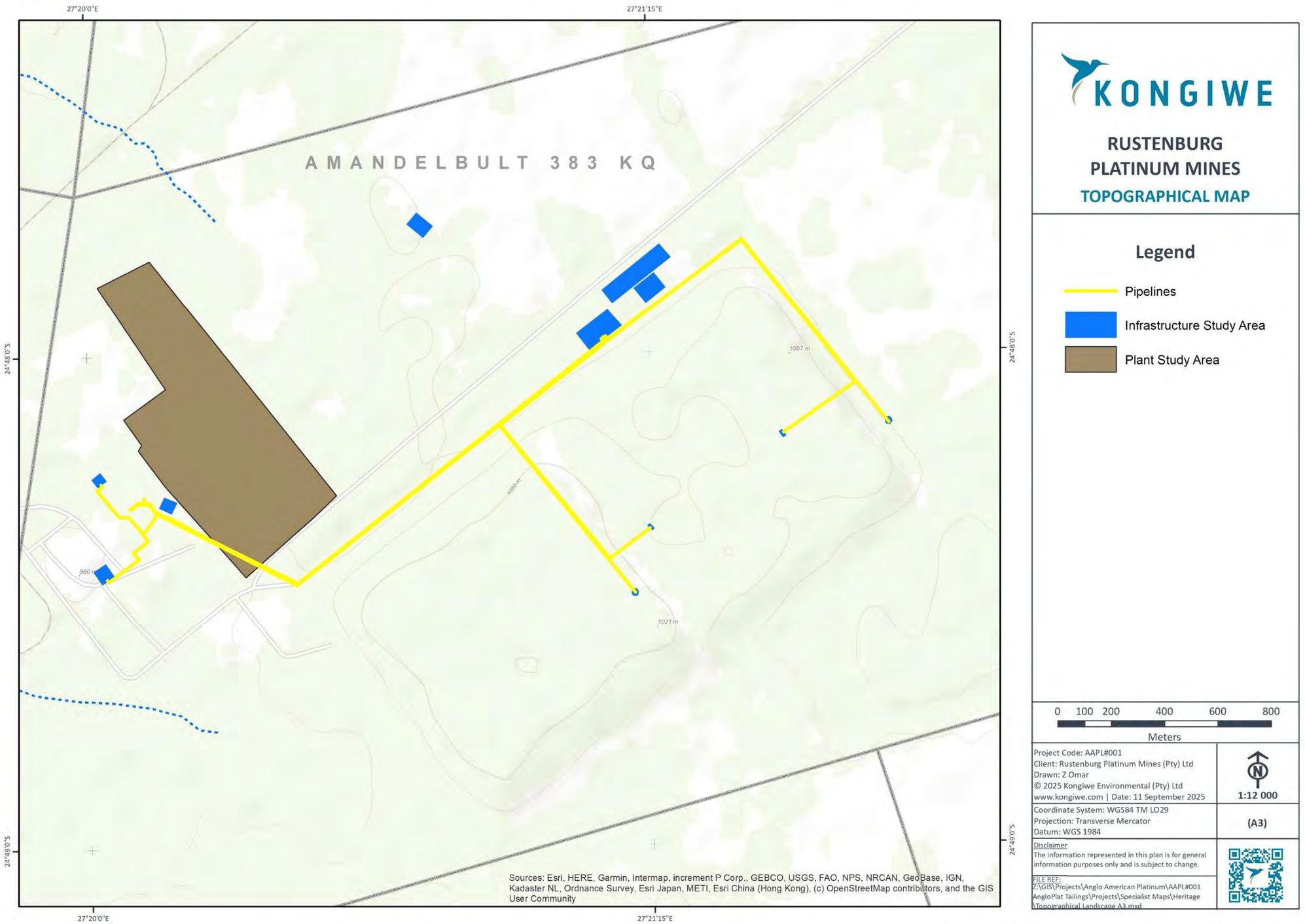


Figure 8-40: First Edition Topographical Map

8.10.6 Cumulative impact

As no tangible heritage features of cultural significance are located within the development plan the foreseen cumulative impact can be seen as negligible (PGS, 2025).

8.10.7 Palaeontology

According to the SAHRIS Palaeontological Map (Figure 8-41) the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website). No further studies will be needed.

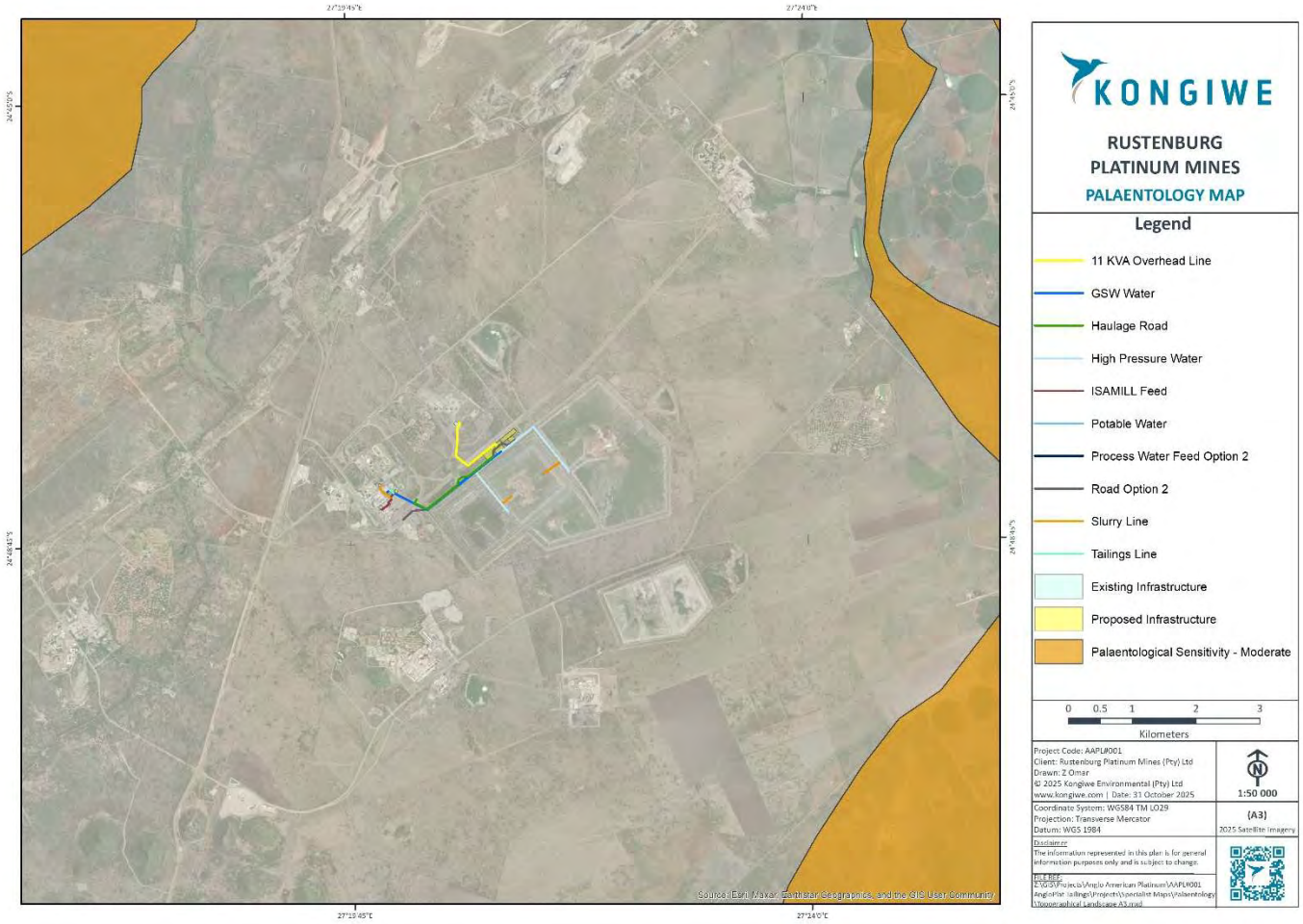


Figure 8-41:SAHRIS Palaeontological sensitivity map of study area within the Grey Insignificant/Zero palaeontological sensitivity.

Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 8-42: SAHRIS Palaeontological sensitivity legend

8.11 Social

Refer to Specialist Study: Appendix D5 – Socio-Economic Impact Assessment

Socio-economic is provide the background of the socio-economic characteristics of the local area relevant to the project; to provide an assessment of potential impacts that are anticipated during the construction, operational, and decommissioning phases, and provide a socio-economic management plan to enhance positive impact and mitigate negative impacts which were assessed and evaluated on the EIA phase.

8.11.1 Demographics

There are approximately 113 574 people who live within the TLM i.e. the area of study. There are on average 54% males and 46% females within the, with the area's population is predominately black Africa, followed by white, then coloured. Indians are the least represented in all communities (Stats SA, 2024; Census SA, 2025) The relatively low household sizes, high number of people born outside South Africa, high portion of Xhosa speaking people from the Eastern Cape, low female ratios and high ratios of people in their economically active years indicates to decades of past in-migration into the local area mainly due to numerous mining activities in the municipal area (SED, 2025).

The smaller average household sizes as well as continued low female ratios and high ratios of economically active aged in the municipal area suggests that a large portion of migrants remained in the municipal area despite having lost their jobs or not yet finding jobs in the local mining and agricultural sectors. This situation is underlined by the relatively high portion of people born in the Eastern Cape still present in the area in 2016, i.e. 11% in TLM compared to 0,2% for Limpopo on average. In contrast the high percentage of foreign migrants that was present in the municipal area in 2011 (17%) declined to 7% in 2016, suggesting an out-migration of foreign job-seekers from the area (Based on Stats SA, 2011 and 2016) (SED, 2025).

Table 8-35:Basic Demographics of the Local Area, 2011 and 2022

AREA	Population nr	Population growth %	Households nr	Household growth nr	Population density, persons/km2	Average household size	% Females	Econactive
	2022	2011-2022	2022	2011-2022	2022	2022	2022	2022
TLM	65 047	-2,4%	26 832	0,6%	6	2,4	46,3%	74%
TLM ward 6	3 280	-2,4% est	1 470	0,6% est	19	2,2	49,0%	77%
TLM ward 8	14 000	2.8% est	5 300 1)	2.8% est	64	1,9	38,9%	83%
TLM Ward 11	3 030	-2,4% est	N/A	0,6% est	38	-	15,2%	97%
Limpopo	6 572 721	1,8%	1 811 565	2,3%	52	3,6	52,8%	61%
South Africa	62 027 503	1,7%	17 828 778	1,9%	50	3,5	51,5%	67%

Source: Stats SA (2011) and Stats SA (2022) Note: Ward information based on population and household growth rates in TLM since 2011 1) based on electricity backlogs in the area in 20240 (TLM, 2025).

Apart from Ward 8 where Smersha Block informal settlement is located, population densities in the wards around the Project area is very low, characterised by either agricultural activities (Ward 6) or mining activities (Ward 11). In 2011 both Wards 6 and 8 adjacent to the project area where characterised by high levels of migrants from the Eastern Cape as well as from neighbouring countries. In Ward 6 to the east of the project area around 14% of the population were born outside South Africa in 2011 and around 15% came from the Eastern Cape. In Ward 8 where Smersha block is located the portion of population from the Eastern Cape was as high as 29% while around 27% were born outside South Africa (SED, 2025).

Ward 11 is dominated by the Amandelbult complex and largely represents families and workers residing in hostels and family units in the Amandelbult Mine Village (Rethabile and Mlanje) as indicated by the low female ratios and high ratio of economically active age group in the area. With the hostel accommodation at Mlanje being phased out in favour of family units at Rethabile, the gender and age group ratios could be expected to shift more towards municipal averages over time (SED, 2025).

8.11.2 Language and Ethnic Group

The proposed study area consists of a predominantly African population, with fewer Indian, Coloured and White groups (i.e. 82.5% TLM). The principal spoken languages in TLM are Tswana (2 %), followed by IsiZulu (0,6 %) and IsiXhosa (0,3 %), the predominant languages are Sepedi (54.7%), followed by Tshivenda (16.7%) and Xitsonga (16.2%). Table 8-38 further details on population groups and languages.

Table 8-36:Dominant languages

Languages	Thabazimbi Local Municipality
Afrikaans	2.2%
English	0.7%
IsiNdebele	1.3%
IsiXhosa	0.3%
IsiZulu	0.6%
Sepedi	54.7%
Sesotho	1.1%
Setswana	2%
Siswati	0.4%
Tshivenda	16.7%
Xitsonga	16.2%

8.11.3 Gender and Age

TLM population consists of more males (59.5%) than females (40.5%) (see Table 8-37). The gender make-up of TLM is more pronounced than in the rest of the country, where the gender profile is skewed towards females. The skewed gender profile, as recorded in TLM, is typical in areas that tend to attract male migrants from rural areas in search of work.

Table 8-37:TLM Gender

Gender	TLM Percentages
Female	40.5 %
Male	59.5 %

The Age distribution is an essential indicator of the development of an area's character and economically active age segment. Figure 8-43 displays the age profiles of the TLM municipality have high percentages (67.3% for TLM) in the working-age category.

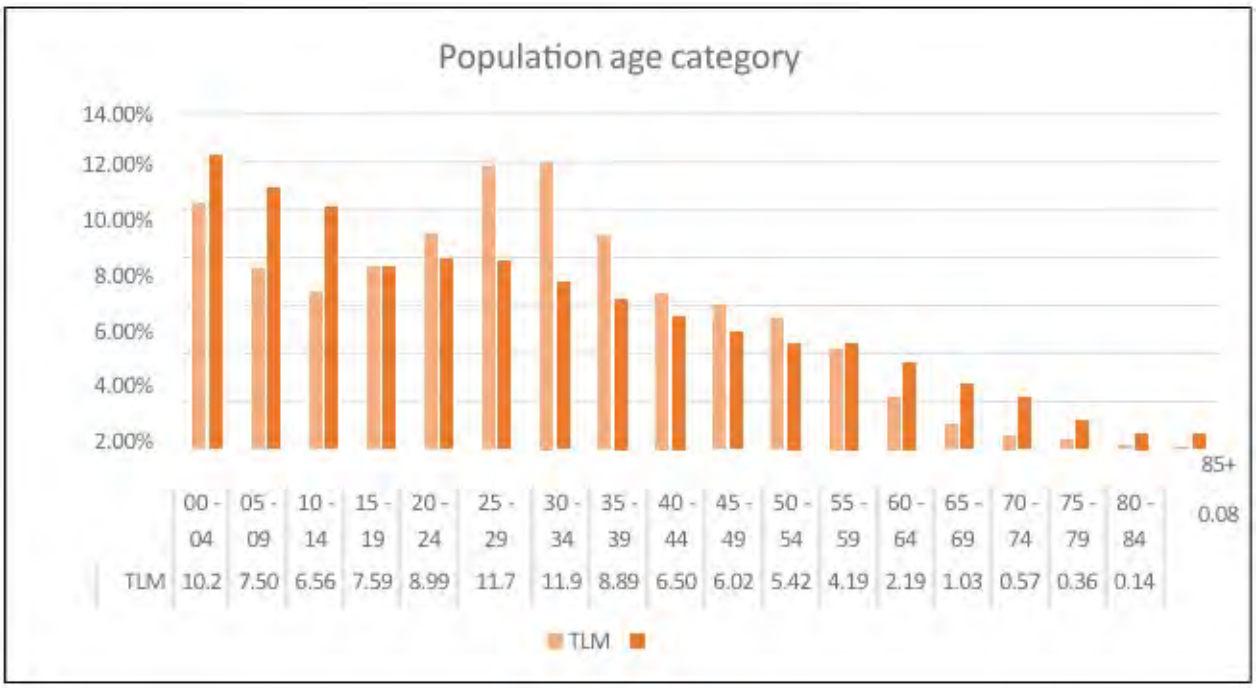


Figure 8-43:Population age category

8.11.4 Health status and services

Compared to educational institutions, the per capita availability of medical facilities in TLM indicates a relative deficiency in healthcare infrastructure. The TLM operates ten primary healthcare centres and three mobile clinics. While Ward 8 benefits from two facilities, including a mobile unit, Wards 9 and 11 lack any primary healthcare services. TLM also has five hospitals, three owned by mining companies, mostly concentrated near Thabazimbi town, including Amandelbult Hospital in Ward 11 (SED, 2025).

After retrenchments at the Amandelbult mine in 2024, many former workers lost access to mining healthcare and medical aid. This led to a significant shift in demand toward municipal clinics in Thabazimbi and Northan, which have since faced overwhelming caseloads and capacity pressures (SED, 2025).

Furthermore, the municipality shows a higher rate of Anti-Retroviral Treatment (ART) uptake than the national average, suggesting a higher prevalence of HIV/AIDS (SED, 2025). This may be partly attributed to historic in-

migration patterns that increased the local population's vulnerability to the disease (basic health indicators shown on the (Table 8-38).

Table 8-38:Basic Health Indicators

Indicator	TLM	South Africa
Primary Health Care (PHC) Clinics / 100 000 persons	2	6
Community Health Care facilities1) as % of PHC clinics	0%	25%
Hospitals/ 100 000 persons	0,8	2,2
ART treatment (% of population) 2017	9%	7%

8.11.5 Safety and security

The TLM hosts six South African Police Service (SAPS) stations, with most situated in its northern region—including Thabazimbi, Cumberland, Hoopdal, and Dwaalboom. Rooiberg SAPS lies to the east of the project area, while Northam SAPS stands as the nearest station to the site.

Crime data from 2022 reveals that the municipal area's per capita rates for both general and violent crimes were higher than the national average. Although there has been a downward trend in reported crimes since 2015, this decline has not matched the sharper reduction observed nationwide (SED, 2025).

Notably, Northam accounts for the highest proportion of reported crimes in the municipality at 48%, followed by Thabazimbi town with 45%, indicating that these two areas are the primary hotspots for criminal activity in the region (Census SA, 2025).

Table 8-39:Crime Statistics

Indicator	TLM	National average
Crime rate per 1000 people	36,5	26,4
Violent crimes 1) per 1000 people	11,9	10,2
Increase in crimes (2015-2022)	-7,5%	-22,6%

The current safety and security challenges that TLM faces are (TLM, 2025):

- Monitoring of proper utilisation of licenses and permits issued to liquor sellers;
- Illegal operation of unlicensed shebeens and taverns;
- Lack of access to certain crime scenes due to bad conditions of roads and lights;
- Domestic violence (women and child abuse especially in informal areas;
- The lack of crime awareness
- Crimes related to substance abuse.

8.11.6 Education and Skills

Within the TLM, only 9.6% of the population has tertiary education (huge implications in terms of the skills community); 39.9% have Matric while 4,8% of the population have not received any schooling. 5.6% of the population have some primary schooling, 3.5% have completed primary schooling; with 33.9% of the

population having done some secondary schooling (Stats SA, 2024). 2.6% of the population have been classified as having another form of education.

As indicated in Table 8-40 below, the skill levels of the adult population (based on educational attainment) are slightly higher than the national and provincial average in terms of the presence of semi-skilled workers (adults that completed secondary education) while lower in terms of skilled workers (adults with tertiary qualifications) (SED, 2025).

Table 8-40:Education levels: Percentage of the adult population above 21 years, 2022

Category	TLM	Limpopo	National
Without schooling	5%	14%	7%
Some but less than secondary	44%	44%	43%
Completed secondary education	41%	32%	38%
With tertiary education	10%	10%	12%
Total	100%	100%	100%

Source: Stats SA (2022)

As indicated in Table 8-41 below, TLM is well serviced in terms of pre-primary, primary and secondary education facilities as well as teachers with per capita rates higher than the national average. There are 31 Early Childhood Development (ECD) centres; 28 primary schools; 6 secondary schools and 4 combined schools. Tertiary educational institutions in the province as well as the municipal area is limited with just 1 Further Education College (FET) registered in the municipal area as well as a Training centre in the Amandelbult Mining Complex (SED, 2025).

Despite the adequate educational institutions in the municipal area, educational attainments in TLM are below the national average as indicated by the low-grade 12 pass rate in Table 8-43 below.

The current challenges that TLM faces in terms of education include (TLM, 2025):

- Provision of water, sanitation and electricity to schools (Shortage of Water Tanks in schools);
- Lack of classrooms (overcrowding in classrooms);
- High water bills to schools;
- The curriculum of the FET college needs to be more demand orientated;
- Partnership is needed between locals, private sector and FETs on skills development;
- Increased teenage pregnancy; and
- Many young people do not complete school or study further because of expectations to find a lower skilled job in the mining sector.

Table 8-41: Educational facilities, 2022

Category	TLM	National
Primary schools/10 000 people	5,2	3,8

Category	TLM	National
Secondary schools/10 000 people	1,5	0,8
Pupil: educator ratio	24,1	30,1
Grade 12 pass rate (2018)	61%	78%

Source: Municipal Demarcation Board (2018); TLM (2025)

Within the immediate area around the project area, there is a lack of educational facilities. This is observed in ward 8 as well as in the informal settlement of Jabulani in Ward 6, placing more pressure on the educational institutions in the Amandelbult mining village (Rethabile primary school and Thekganang Technical Secondary School to service the pupils in these wards (SED, 2025).

8.11.7 Social Infrastructure

On average, 59.7% of the people have water inside their dwellings, and 89.3% of people have access to electricity for lighting within their dwellings (Census SA, 2025). Social infrastructure has improved since the 2011 Census, with access to basic service delivery having improved (Census SA, 2025).

8.11.8 Employment

The Figure 8-44 defines employment terms used in this report section. Table 8-42 shows the employment status of the population aged between 15 and 65 in the Limpopo Province, Waterberg District and TLM. unemployed people (11.04%) than the Limpopo Province, with 16.39% employed and 10.45% unemployed. TLM has the highest percentage (38.62%) of employed people between TLM.

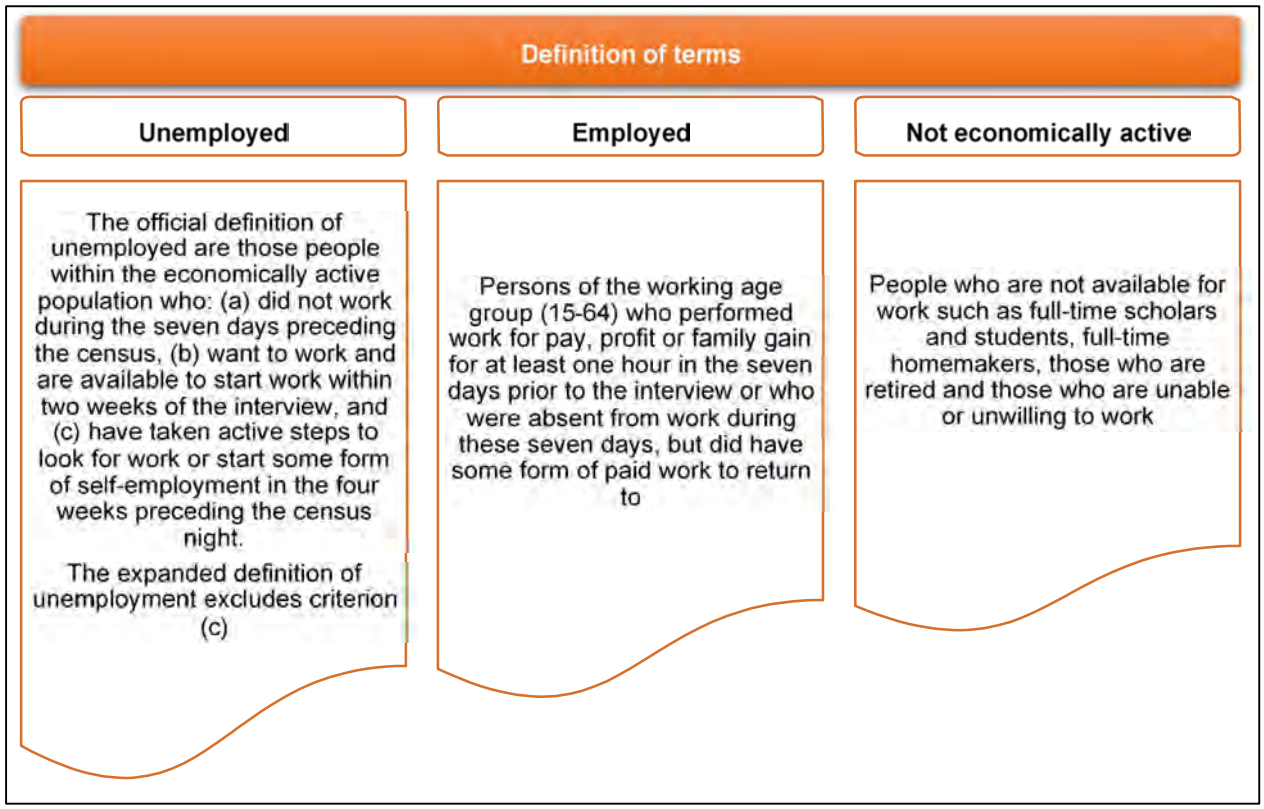


Figure 8-44:Employment definitions

Table 8-42:Employment status per region (Limpopo province)

Employment status	Limpopo	WDM	TLM
Discouraged work-seeker	3.75%	2.39%	1.45%
Employed	16.39%	24.70%	38.62%
Not applicable (N/a) (in this case, N/a refers to the percentage of people who did not respond to the survey)	40.21%	35.69%	23.56%
Other not economically active	29.19%	27.55%	26.32%
Unemployed	10.45%	9,66%	10.05%

8.11.9 The Structure of the Local Economy

The economy in the Thabazimbi Municipality generated around R 53.3 billion in Gross Value Added (GVA) employing around 40 200 people in 2019 (National Treasury, 2021) (SED, 2025).

The mining sector plays a dominant role in the local economy producing 87,4% of GVA and 46,3% of employment. The services' sector (mainly the public sector) is the second largest employer in TLM, contributing to 21,3% of employment opportunities (but only 2% towards GVA) in the municipal area as indicated in Table 10 below (National Treasury, 2021) (SED, 2025).

As discussed above, the agricultural sector is dominated by wheat, maize, soya beans and sunflowers with a large portion of arable land under irrigation. While the agricultural sector only contributed 1,3% towards GVA, the sector provided 14,1% of jobs in the municipal area. The agriculture sector in the Municipal area is

declining, which poses a threat in terms of jobs on farms (TLM, 2025). There is a sizeable tourism sector in the area, largely based on wildlife and nature tourism, inter alia hosting the Marakele National Park. Business tourism related to mining activities have declined due to the downsizing of the platinum mining sector in the area (SED, 2025).

The commercial, retail and manufacturing sectors of the economy contributes very little to the municipal economy (TLM, 2025).

Table 8-43:The sectoral employment distribution, 2019

Sector	TLM	National
Agriculture	14,1%	20,7%
Mining	46,3%	4,3%
Manufacturing	5,0%	7,4%
Utilities	0,3%	0,7%
Construction	3,6%	4,3%
Trade	6,0%	13,3%
Transport	1,2%	3,2%
Finance	2,2%	4,9%
Services	21,3%	41,2%
Total	100,0%	100,0%

Source: Municipal Demarcation Board (2018)

The major commodity mined in the local area is platinum and iron, and the larger mines in the area include Amandelbult (RPMs); Union Section (Rustenburg Platinum Mine); Northam Platinum Mine (Northam); Thabazimbi Iron Ore mine (Kumba Resources); and Dwaalboom Palygorskite (PPC: Rhono Andalusite Mine (Trollope Mining Services) (TLM, 2025).

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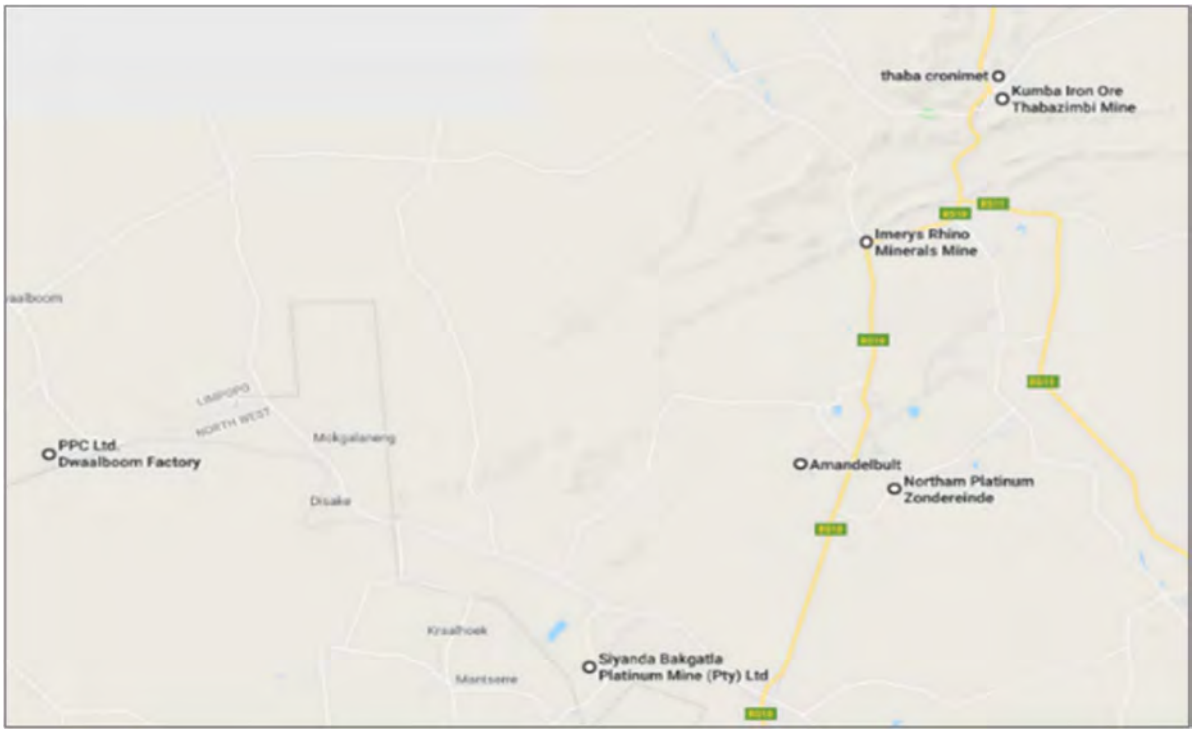

Source; Anglo American (2023)

Figure 8-45: Mining Operations in Thabazimbi

The RPM Amandelbult Complex (AMB) has been operating since the 1970s. In 2023 the complex employed around 16 462 employees and contractors sourced from 140 local municipalities across the country's nine provinces (including employees from SADC countries). AMB is a significant operation comprising Tumela and Dishaba mines, as well as three concentrators. The main activity at AMB is the mining from both the Merensky and UG2 reefs using underground and open pit mining methods (American, Anglo, 2023).

Apart from being a major employer in the area, AMB also sponsors a number of local economic development (LED) projects through its SLP. The projects focus on food security, water infrastructure, school development programmes, internet connectivity, waste management, enterprise development, road infrastructure and health care. The total LED budget for the SLP period 2021 to 2025 was R 352m of which around R200 m was to be spent in TLM (Anglo American, 2023).

For the past decade employment and production at AMB has been slowly declining echoing the trend in the South African platinum industry in general. Since 2012 employment in the platinum group metals mining industry in South Africa declined from 206 764 jobs to 148 388 in 2022 (Stats SA, 2024). Industry analysts contends that South Africa's platinum mining industry has entered a phase of irreversible decline as producers struggle with low prices, low demand due to the rise of electric vehicles as well as high operational costs due to the lack of mechanisation of the South African platinum mines (Reuters, 2024).

In 2024, Anglo American Platinum (AAP) announced 3 700 job cuts across all its platinum operations in South Africa, including the then owned, Amandelbult. More retrenchments (mostly unskilled) are possibly on the

way in future. Due to the industry-wide retrenchments, retrenched workers receive packages and are not deployed in other mining operations of the company (Mining Review, 2024).

8.11.10 Composition of the Labour Force

The table shows that, despite the job-shedding in the platinum industry since 2012, TLM still could have experienced a slight decline in unemployment since 2011 (TLM, 2025). Informal employment also plays a relatively small role in the municipality since the local labour force rather relies on formal jobs in the mining sector. This is especially the case with the local wards close to the project area.

Since 2011 the unemployment rate in Ward 8 was much higher than the national average. This situation could have escalated since the job cuts at Amandelbult in 2024 (SED, 2025).

As is the case nationally unemployment among young people is much higher than the municipal average and could have worsened since 2022.

As is the case nationally unemployment among young people is much higher than the municipal average and could have worsened since 2022.

Table 8-44:The local labour force, 2011 and 2022

Indicator	TLM	Ward 6	Ward 8	Ward 11	National
Estimated employment 2022	41 000	n.a.	n.a.	16 000 1)	15.4m
Estimated employment 2011	33 000	2 000	4 000	n.a.	14.1m
Average annual growth 2022-2011	2.0%	n.a.	n.a.	n.a.	0,9%
Informal employment as % of employment 2011	17%	5%	8%	n.a.	19%
Unemployment % 2022	18%	n.a.	n.a.	n.a.	34%
Unemployment % 2011	21%	14%	25%	n.a.	25%
Youth unemployment rate, 2011	27%	n.a.	n.a.	n.a.	39%

Source: Stats SA (2011and 2022); TLM (2025)) 1) Based on employment at AMB

With the retrenchments at AMB in 2024, unemployment in the adjacent wards 6 and 8 must have increased significantly, especially in the informal areas of Jabulani and Smersha Block.

8.11.11 Income and Poverty Levels

The percentage of households that earned less than R 20 000 per year in 2011 largely corresponds with the lower bound poverty rate[6] of that period. Corresponding to the lower unemployment rates in TLM, the poverty rates in the municipal area were also lower than the national average in 2011. In the local wards

adjacent to the project area, poverty rates were the highest in Ward 8, While poverty rates were low in Ward 11 where the project is located the portion of households earning relatively low-income levels were also fairly low, suggesting that the majority of households in the ward were employed in low-income positions in 2011.

Table 8-45:Percentage of households in different income, categories, 2011

Income category (per year)	TLM	Ward 6	Ward 8	Ward 11	National
Less than R20 000	34%	22%	29%	13%	45%
Between R20 000 and R 75 000	37%	18%	40%	67%	32%
Between R 75 000 and R 150 000	14%	16%	15%	19%	9%
More than R 150 000	15%	44%	16%	1%	14%
Total	100%	100%	100%	100%	100%

Source: Stats SA (2011)

8.11.12 Socio-Economic development priorities and initiatives

The Limpopo Development Plan 2020-2025 (Limpopo Provincial Government, 2021) focus on the following provincial strengths namely agriculture, tourism, mining, manufacturing, construction, and the waste economy. The plan regards mining as one of the major economic drivers in the province. Although mining development presents valuable development opportunities, the plan also emphasises the importance to promote diversification and multi-skilling to mitigate the risks of shocks associated with commodity price fluctuations and mine closures. Thabazimbi has been highlighted in the Development Plan as one of the municipalities with the highest growth rates in the province and thus identified as a priority provincial growth point.

The Thabazimbi Integrated Development Plan (IDP) (TLM, 2025) has as vision a diversified economy in the provision of excellent sustainable services. The development priorities for the local area as expressed through the official planning documents include the following:

- Unemployment (top priority)
- Community facilities
- Cemeteries
- Water and sanitation
- Paving of internal streets
- Roads and storm water
- Education
- Land

Job creation is specifically highlighted as a priority in Wards 6 and 8 of TLM.

The Thabazimbi SDF (TLM, 2023) focuses on the following core development principles:

- Optimising the utilisation of agricultural potential of Limpopo Province to provide sustainable livelihoods to marginalised communities in rural areas in partnership with commercial farms;

- Utilising provincial environmental resources as attractions to promote sustainable tourism development (and conservation) in all parts of the province;
- Promoting mining activity and associated job creation potential in an environmentally sustainable manner. In Northam-Thabazimbi it is specifically mentioned that platinum mines should be nurtured;
- Address industrial sectoral diversification by way of area specific investment in high value production and value added technologies and industries especially agro-processing and metal fabrication.

8.12 Noise

Refer to Specialist Study: Appendix D6– Noise Screening Report

Natural sounds are a part of the environmental noise surrounding humans. Ambient sound levels are significantly affected by the area where the sound measurement location is situated. When the sound measurement location is situated within an urban area, close to industrial plants or areas with a constant sound source (ocean, rivers, etc.), seasons and even increased wind speeds have an insignificant to massive impact on ambient sound levels.

The Project site is in an area with a mixed-use development character. The major noise sources in the area include vehicular traffic on the national and provincial roads in the areas, noises from the local communities and mining related noises.

8.12.1 Existing Ambient Sound Levels

Sound pressure levels were measured in the residential village to the north of the AMB Concentrator between 6 and 17 May 2025, with average night-time data indicating ambient sound levels typical of an urban noise district. There were periods when the night-time ambient sound levels were very low.

Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.

The results and findings of the ambient sound level measurements are summarised in section 8.12.6.

8.12.2 Potential noise-sensitive receptors (developments) and no-go areas

Potentially sensitive receptors, also known as noise-sensitive developments (“NSR”), located near the project area was identified using Google Earth®. All NSRs are associated with a residential village to the north of the AMB Concentrator (EAR, 2025).

The online screening tool did identify that most of the area having a “very high” sensitivity to noise with representative NSR locations illustrated in Figure 8-46.

Also indicated on Figure 8-46 are generalized 500 and 2,000 m buffer zones. Generally, noises from mining and industrial activities:

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- Could be high and very significant within 200 m both night and day;
- Can be significant at receptors staying within 500 m from active mining/industrial activities. Noises are at a sufficient level to be considered disturbing at night;
- Are normally limited to a distance of approximately 1,000 m from the active mining/industrial activities. Ambient sound levels are increased due to noises from the activities, with the potential noise impact measurable. Noise levels from such activities are generally less than 45 dBA further than 1,000 m from these activities; and
- May be audible up to a distance of 2,000 m at night, though the noises may be audible up to 4,000 m during very quiet periods at night (during certain meteorological conditions). These noises are normally of a low concern at distances greater than 2,000 m from activities at night.

These buffer distances may not be valid with very large mining or industrial operations, or in areas with very low ambient sound levels (EAR, 2025).

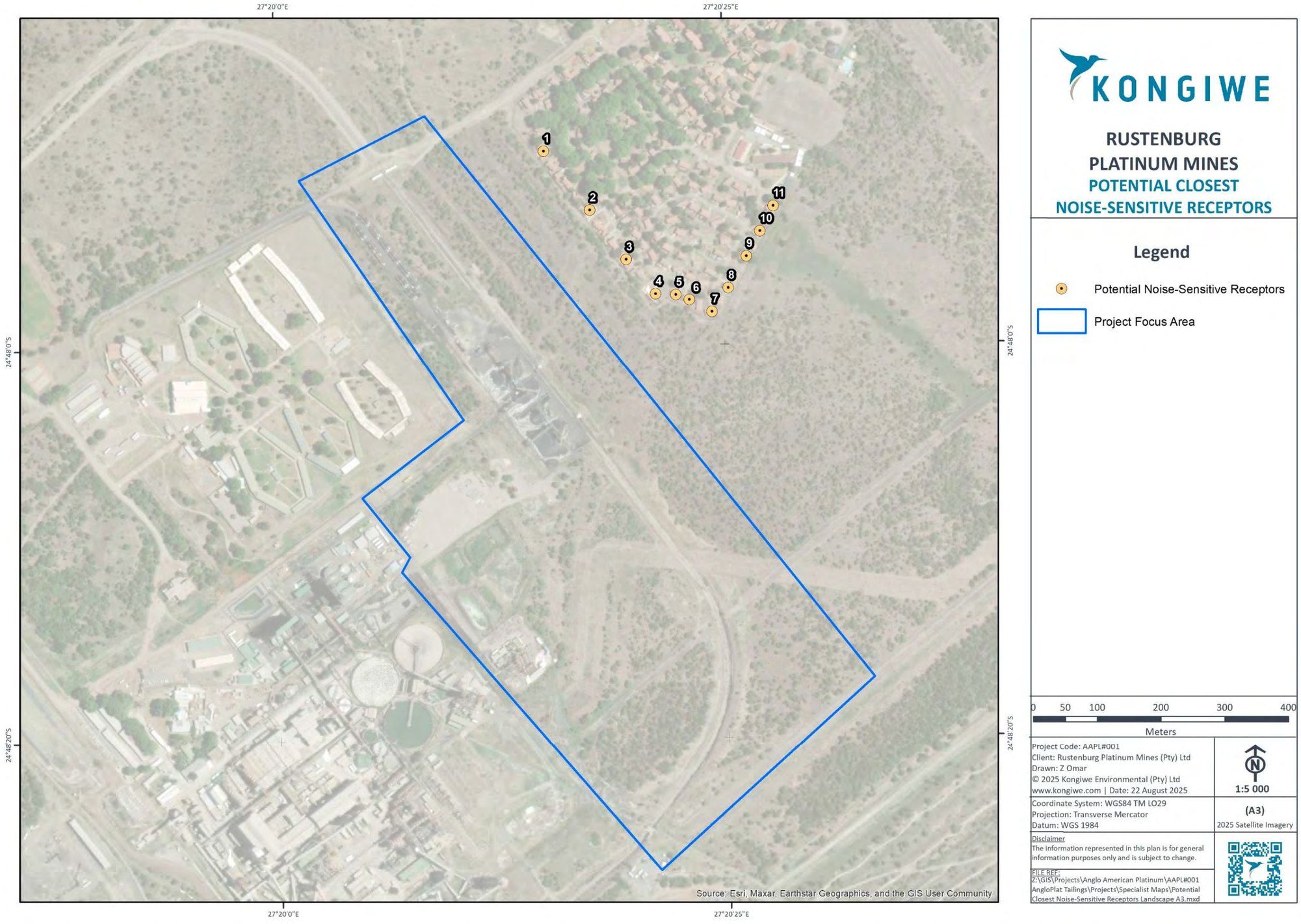

Figure 8-46: Aerial image indicating verified noise-sensitive receptors close to the AMB project

8.12.3 Noise Standards

There are a few South African Scientific Standards (SABS) relevant to noise from developments, industry and roads. They are:

- SANS 10103:2008. 'The measurement and rating of environmental noise with respect to annoyance and to speech communication'.
- SANS 10210:2004. 'Calculating and predicting road traffic noise'.
- SANS 10328:2008. 'Methods for environmental noise impact assessments'.
- SANS 10357:2004. 'The calculation of sound propagation by the Concave method'.
- SANS 10181:2003. 'The Measurement of Noise Emitted by Road Vehicles when Stationary'.
- SANS 10205:2003. 'The Measurement of Noise Emitted by Motor Vehicles in Motion'.

8.12.4 SANS 10103:2008

SANS 10103 provide standard procedures to measure and define rating levels with respect to annoyance and speech communication, with a number of important principles discussed in subsections:

- Clause 4.1 - Ambient indoor noise;
- Clause 4.2 – Typical noise in various districts; and
- Clause 4.5 – Assessment of annoyance.

8.12.4.1 Clause 4.1 – Ambient indoor noise

This is a critical section, frequently ignored by authorities and even acoustic specialists. This clause provides recommended rating levels (LReq,T) for ambient noise for different areas of occupancy during the time periods when the areas are used for their intended purposes and with the building services (e.g. ventilation systems, air-conditioning systems, lifts, plumbing and lighting) under normal operating conditions. The rating levels given in column 2 of the table are design values, while those given in column 3 are the maximum levels beyond which the ambient noise can be considered to be annoying or otherwise intrusive. Note 2 highlights that, where these levels are used as guidance for the design of buildings in non-residential areas where the ambient noise exceeds the typical level for the type of development, the building design should provide sufficient acoustic isolation to result in the occupancy level specified in Table of SANS 10103 (see example for residential use in Table 8-46.

Table 8-46:Recommended ambient noise for different areas of occupancy indoors (SANS 10103:2008)

1	2	3
Types of occupancy or activity	**Design equivalent continuous rating level (LReq,T)for ambient noise dBA**	**Maximum equivalent continuous rating level (LReq,T)for ambient noise dBA**
9. Residential buildings		
Living rooms	35	45
Kitchens and service areas	45	55
Bathrooms and toilets	40	55

1	2	3
Bedrooms	30	40

8.12.4.2 Clause 4.2 – Typical noise in various districts

This section covers typical rating levels (LReq,T) for ambient noise in different districts in Table 8-47. This standard recommends that these values not be exceeded, and outdoor ambient noise exceeding these levels will be considered to be annoying to the community. The levels may be used as a guide for zoning purposes and assumes that a building with natural ventilation and open windows will provide sound insulation of about 10 dBA, with the rating levels considering Table 8-47 rating levels. This standard highlight in note 1 that, where occupancies have to be allowed within areas where the acceptable outdoor values are exceeded for the particular type of occupancy, the sound insulation of the building housing the occupancy should be proven to comply to the indoor levels defined in Table 8-47 of this standard.

Table 8-47:Acceptable Zone Sound Levels for noise in districts (SANS 10103:2008)

1	2	3	4	5	6	7
Type of district	Equivalent continuous rating level (LReq,T) for noise dBA					
	Outdoors			Indoors, with open windows		
	Day/night LR,dn	Daytime LReq,d	Night-time LReq,n	Day/night LR,dn	Daytime LReq,d	Night-time LReq,n
a) Rural districts	45	45	35	35	35	25
b) Suburban districts with little road traffic	50	50	40	40	40	30
c) Urban districts	55	55	45	45	45	35
d) Urban districts with one or more of the following: workshops; business premises; and main roads	60	60	50	50	50	40
	65	65	55	55	55	45
e) Central business districts f) Industrial districts	70	70	60	60	60	50

It must be noted that SANS 10103:2008 does stipulate “for industries legitimately operating in an industrial district during the entire 24 h day/night cycle, LReq,d = LReq,n =70 dBA can be considered as typical and normal”.

8.12.4.3 Clause 4.5 – Assessment of annoyance

This section recommends investigation only when the rating level (LReq,T) of the ambient noise exceeds the rating level (LReq,T) of the residual noise (ambient sound levels) at the same location during the relevant time period. The ambient indoor or outdoor sound level should be compared with the appropriate level given in (see 8.12.4.1) or (see 8.12.4.2). This standard state that it is probable that the noise is annoying or otherwise intrusive to the community or to a group of persons if the rating level of the ambient noise under investigation exceeds the applicable of the following:

- The rating level of the residual noise (determined in the absence of the specific noise under investigation);
- The maximum rating level for the ambient noise given in Table 8-46 or
- The typical rating level for the ambient noise for the applicable environment given in Table 8-47. The probable community or group response to the excess (ΔLReq,T) is given in Figure 8-47.

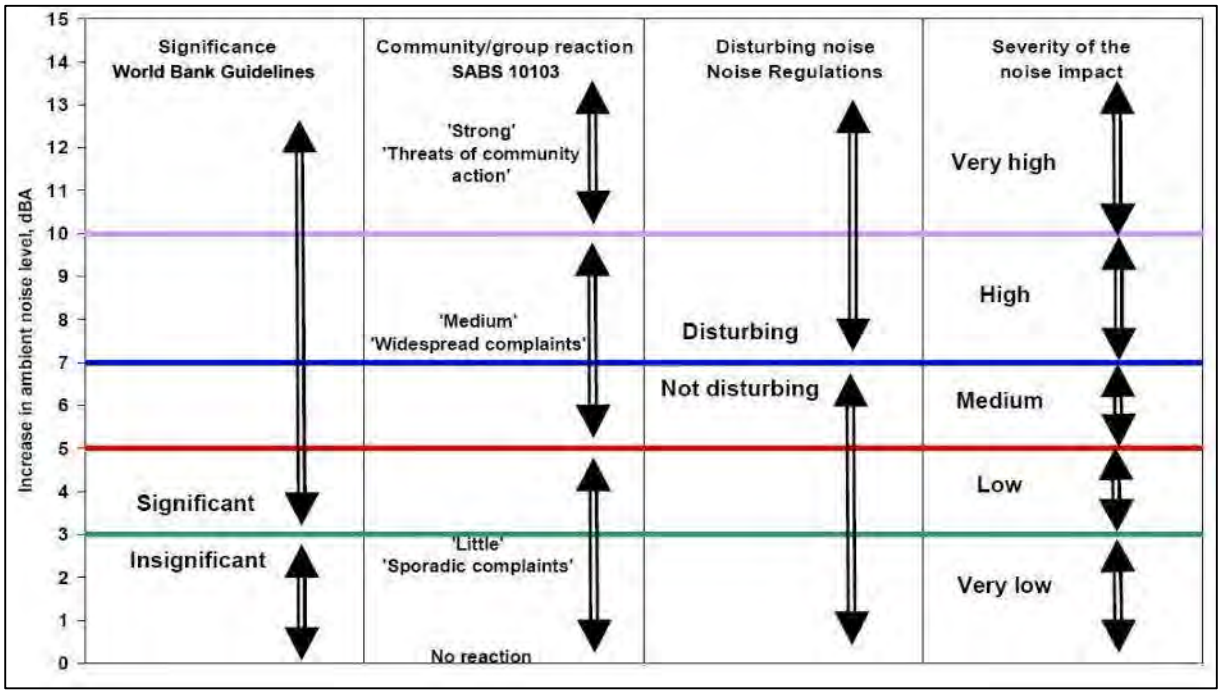

Figure 8-47:Criteria to assess the significance of impacts stemming from noise

8.12.4.4 SANS 10328:2008

SANS 10328 recommends that the procedures given in clause 6 to clause 8 (inclusive) be followed if:

- An application, in respect of any activities identified in terms of the current relevant legislation are proposed, if noise sources listed in clauses 3.17 and 3.18 (of SANS 10328) are to be developed, or the issues listed in clause 5 (of SANS 10328) may take place, is made to the relevant authority;
- An application for a noise-sensitive development (of SANS 10328) is made to the relevant authority;
- An application for a change in land use is made to the relevant authority; or
- An environmental noise impact investigation is requested by an applicant or any interested or affected party.

8.12.5 Ambient Sound Level Measurements

Ambient (background) sound levels were measured at one location from 6 – 17 May 2025, with a number of short measurements collected closer to the existing AMB Concentrator.

8.12.6 Ambient Sound Levels – Findings and Summary

Excluding the short term measurements, the measurements done from 6 – 17 May 2025 resulted in more than 1,079 daytime and 528 night-time (22:00 – 06:00) measurements. Each measurement was collected over a 10-minute period and included a number of sound level descriptors, including; equivalent values, minimum and maximum levels, statistical sound levels as well as spectral information. Confidence levels in the resulting data are high and it is expected that the ambient sound level data would be similar, or less at other locations with the village.

Considering the average fast-weighted sound level data collected in the area, average:

- daytime fast-weighted sound levels ranged from 32 to more than 70 dBA, with average sound levels being 47.3 dBA. This is typical of a rural to suburban noise district, setting a zone sound level of 45 dBA for the daytime period; and
- night-time fast-weighted sound levels ranged from 37 to 56 dBA, with average sound levels being 45.1 dBA. This is typical of an urban noise district, setting a zone sound level of 45 dBA for the night-time period.

Considering the requirements of the Noise Control Regulations (NCR) activities relating to the Project should not change the existing ambient sound levels with more than 7 dBA, nor exceed the WHO and IFC noise limits. Recommended upper noise limits therefore would be:

- 55 dBA (as recommended by the IFC, which is less than 7 dBA from the average ambient sound levels measured in the area) for daytime residential use; and
- 48 dBA (as recommended by the IFC) for night-time residential use (3 dBA is added as the existing sound levels already exceed 45 dBA).

The mine should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period and 60 dBA at night for a 70 dBA day-night noise limit).

8.12.7 Evaluation of Alternatives

8.12.7.1 Alternative 1: No-go option

The ambient sound levels will remain as is and the area would keep the existing noise character.

8.12.7.2 Alternative 2: Proposed approval of the mining project

The proposed development will raise the noise levels at the closest potential NSR, with the highest impact relating to NSR staying within 500 m from the project activities. Noises created by the project could be audible up to 2,000 m from the project area. Members of the local community may consider the increased noise levels to be annoying and even disturbing at night (with the beeping from reverse alarms frequently reported by receptors to be highly annoying). The residential community are however also directly linked to the operation, which would also foster a more positive attitude towards to future noise levels.

The project however will greatly assist in the economic growth and development challenges South Africa is facing by optimising the extraction of the mineral resource. This will assist in providing additional employment and business opportunities for the local communities. Considering only noise, people in the area not directly

affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project.

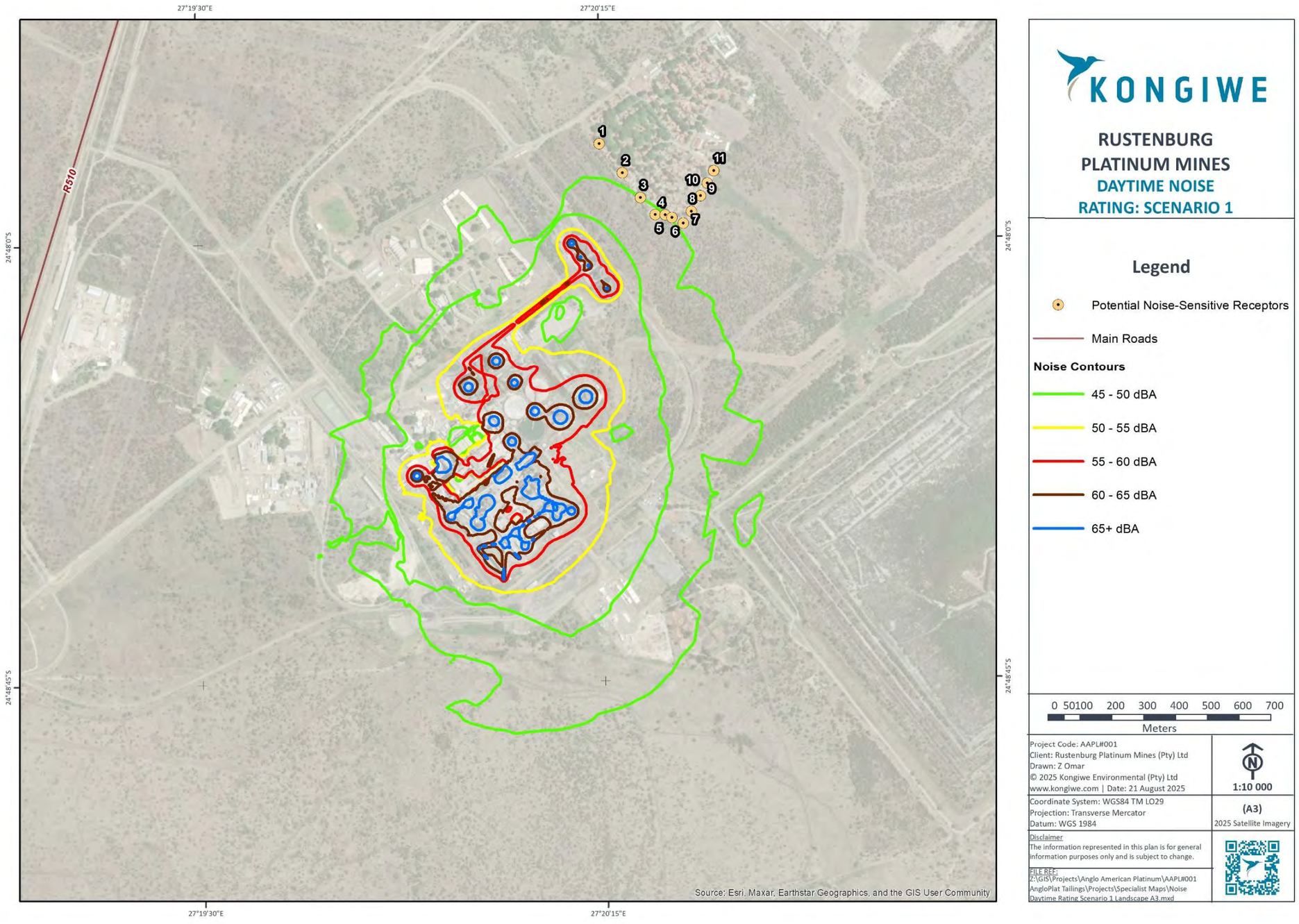

Figure 8-48:Projected daytime noise rating levels relating to the existing operational activities (scenario 1)

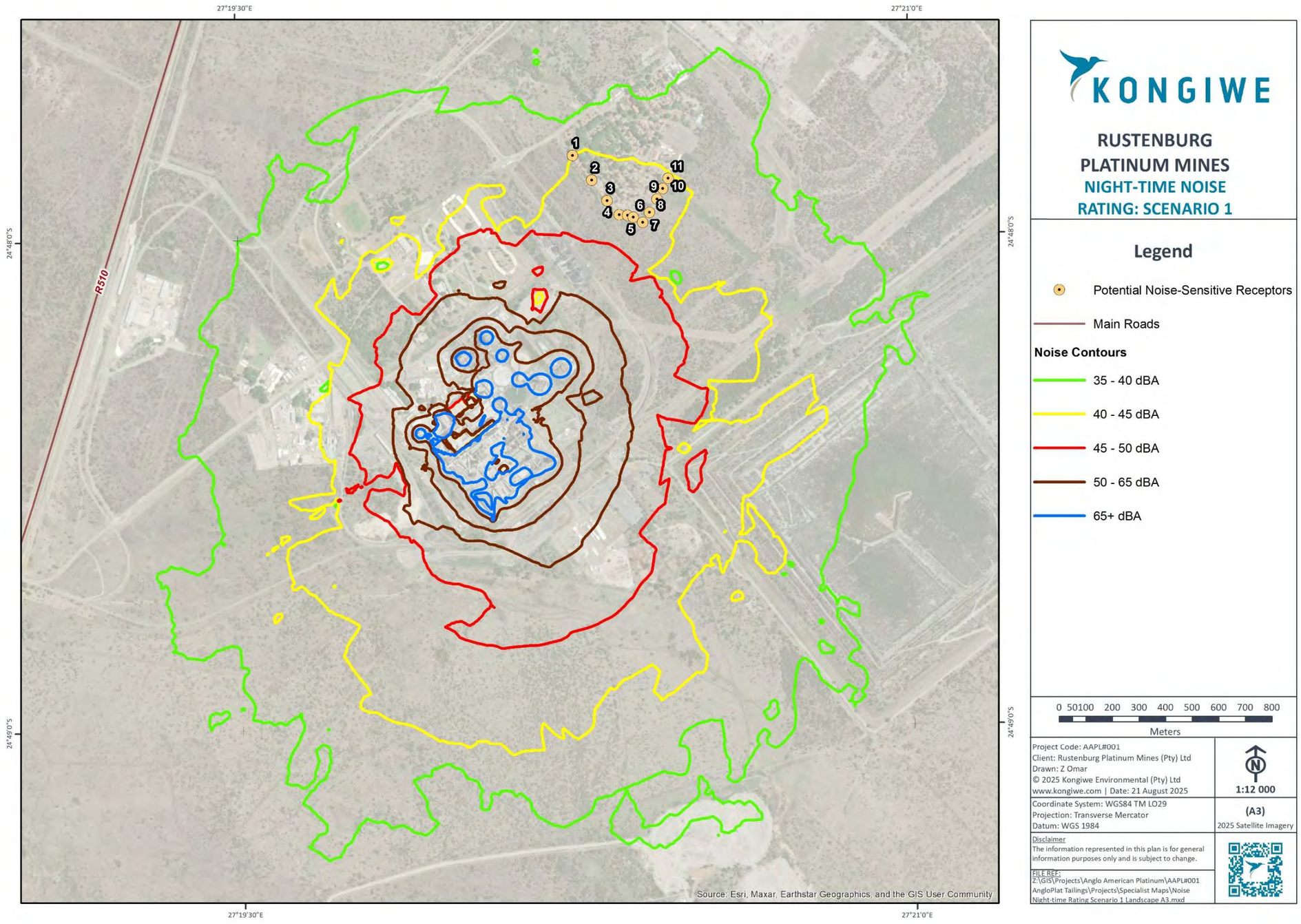

Figure 8-49:Projectednight-time noise rating levels relating to the existing operational activities (scenario 1)

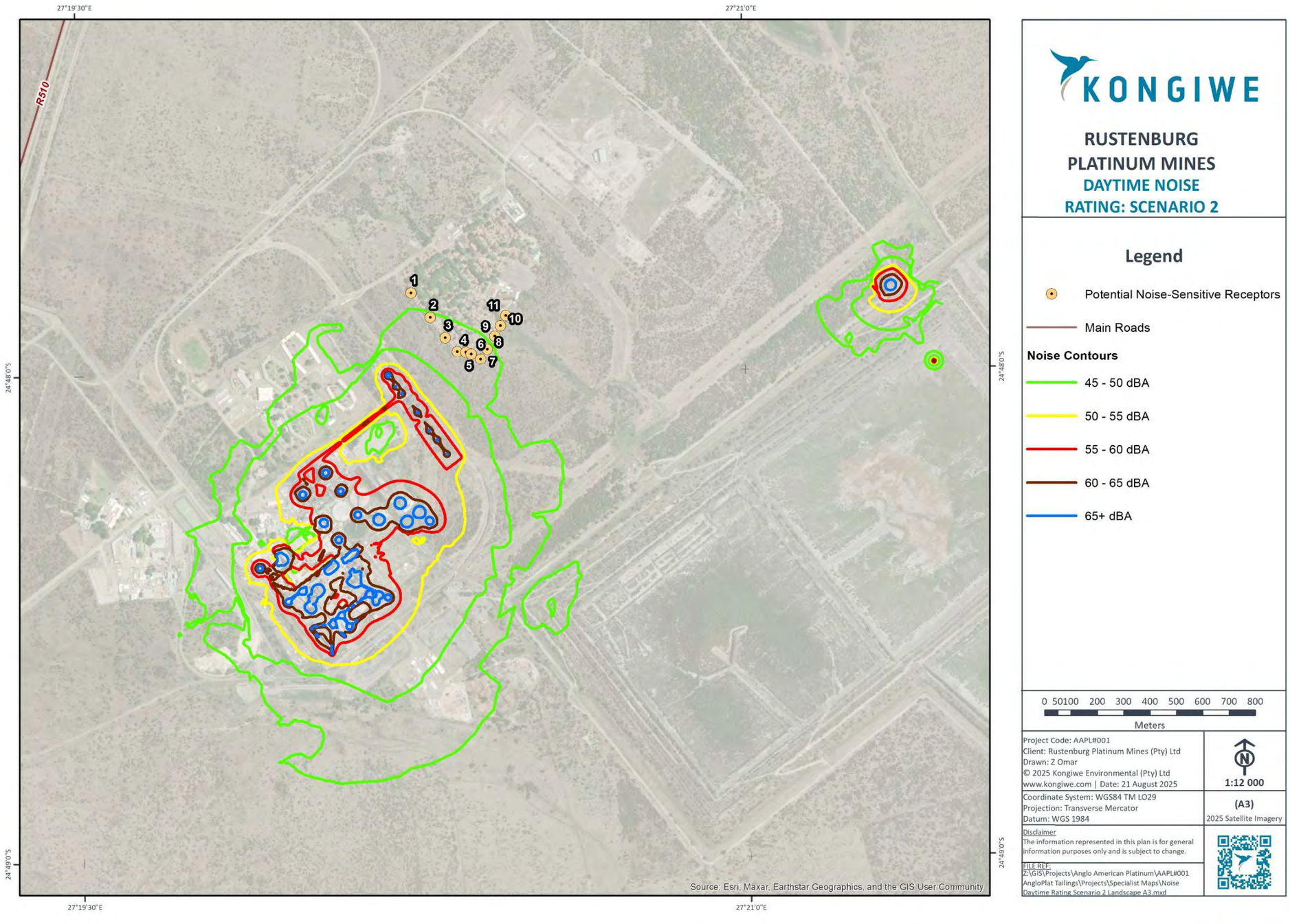

Figure 8-50:Projected cumulative daytime noise rating levels – conceptual operational activities (scenario 2)

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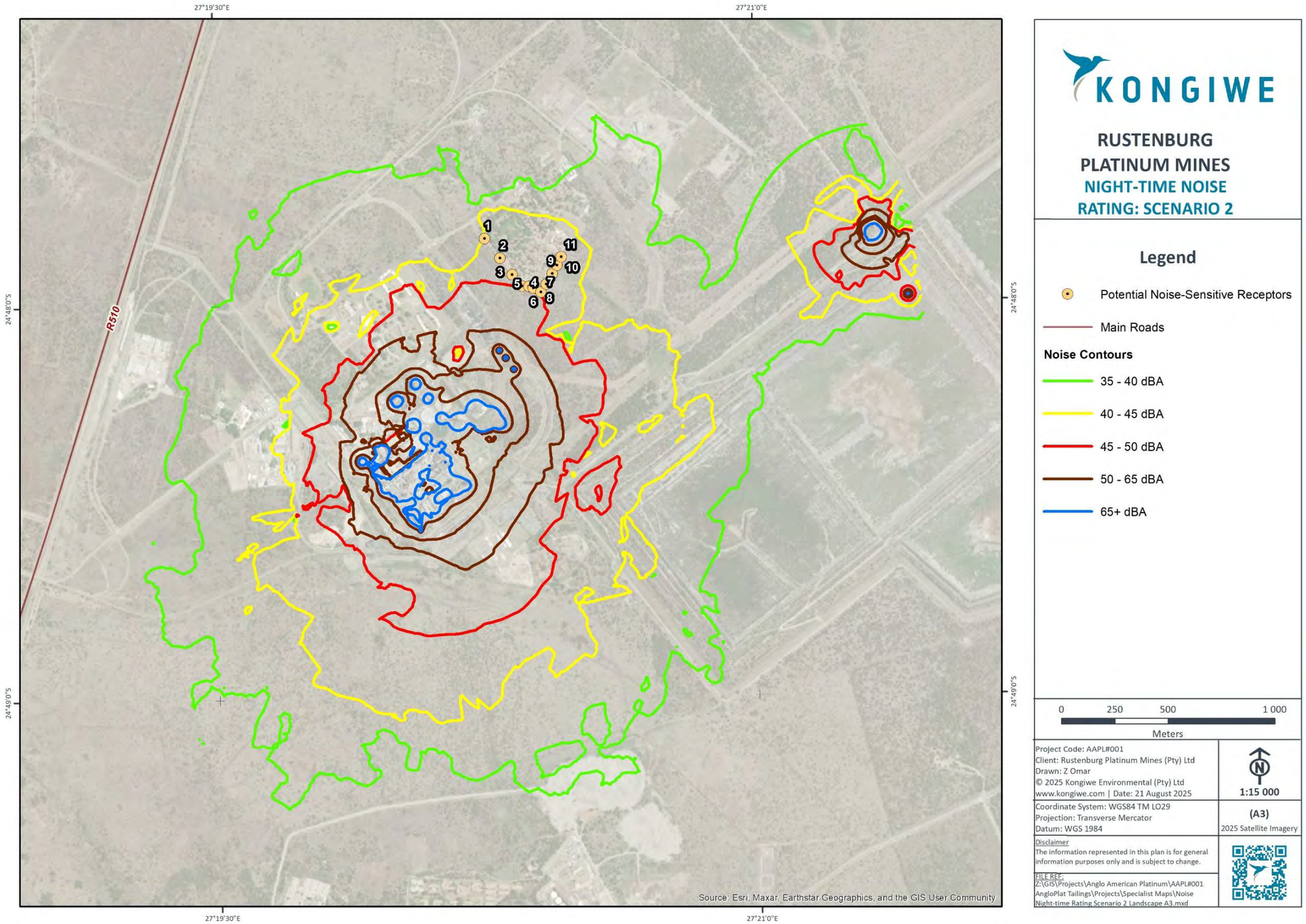

Figure 8-51:Projected cumulative night-time noise rating levels – conceptual operational activities (scenario 2)

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9 IMPACT ASSESSMENT

9.1 Methodology for assessing the significance of Environmental Impacts

The impact significance rating process serves two purposes: firstly, it helps to highlight the critical impacts requiring consideration in the management and approval process; secondly, it shows the primary impact characteristics, as defined above, used to evaluate impact significance. As read within the DWS's Best Practice Guideline: G4 – Impact Prediction, there are three basic components that define an impact (or a risk). Figure 9-1 represents the relationship between these three components and their influence on the significance of a certain impact of a project.

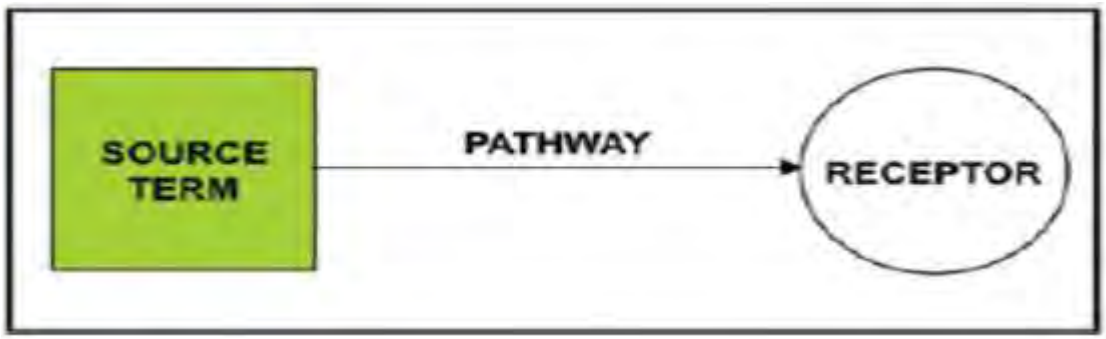

Figure 9-1:Impact prediction model.

The impact significance rating system is presented in Table 9-1, Table 9-2 and Table 9-3, and involves three parts:

- **Part A:** Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/ population and duration;
- **Part B:** Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A; and
- **Part C:** Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from Part B) and the probability of occurrence.

9.1.1 Part A: Defining Consequence in Terms of Magnitude, Duration and Spatial Scale

Use these definitions to define the consequence in Part B.

Table 9-1:Consequence rating definitions.

IMPACT CHARACTERISTICS	DEFINITION	CRITERIA
Magnitude	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of

IMPACT CHARACTERISTICS	DEFINITION	CRITERIA
		impact are of conservation importance; or identified threshold often exceeded
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
Spatial scale or population	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g. cadastral, catchment, topographic
	National/ International	Nationally or beyond
Duration	Short term	Up to 18 months.
	Medium term	18 months to 5 years
	Long term	Longer than 5 years

9.1.2 Part B: Determining Consequence Rating

Rate consequence based on definition of magnitude, spatial extent and duration.

Table 9-2:Consequence rating methodology.

MAGNITUDE	DURATION	SPATIAL SCALE/ POPULATION		
		Site or Local	Regional	National/ International
Minor	Long term	Medium	Medium	High
	Medium term	Low	Low	Medium
	Short term	Low	Low	Medium
Moderate	Long term	Medium	High	High
	Medium term	Medium	Medium	High
	Short term	Low	Medium	Medium
Major	Long term	High	High	High

MAGNITUDE	DURATION	SPATIAL SCALE/ POPULATION		
		Site or Local	Regional	National/ International
	Medium term	Medium	Medium	High
	Short term	Medium	Medium	High

9.1.3 Part C: Determining Significance Rating

Rate significance based on consequence and probability.

Table 9-3: Significance rating methodology.

PROBABILITY (OF EXPOSURE TO IMPACTS)	CONSEQUENCE NEGATIVE			CONSEQUENCE POSITIVE		
	Low	Medium	High	Low	Medium	High
Definite	Medium	Medium	High	Medium	Medium	High
Possible	Low	Medium	High	Low	Medium	High
Unlikely	Low	Low	Medium	Low	Low	Medium

9.2 Impacts and Cumulative Impacts Identified

This Subchapter serves to provide insight on the major positive, negative and cumulative impacts associated with the Project. The potential impacts are discussed per environmental feature/ aspect. For more detail please refer to the specialist study contained in the appendices.

9.2.1 CONSTRUCTION PHASE

AMB will commence with the pre-construction and construction phase for its project related infrastructure in line with its approved EAs. During the construction phase the following activities will take place on site:

Table 9-4: Summary table of the Activities associated with the construction phase of the project

Activity	Description
Pre-Construction	
1	Removal of vegetation and site clearance
2	Preparation of access roads should this be required
3	Start implementing monitoring plans, Authorisation, Licensing and EMPr condition.
4	Employment of workers should this be required (minimal)
Construction phase	
6	Operation of construction machinery and vehicles
7	Construction and installation of infrastructure
8	Construction of pipelines and electricity reticulation and power line
9	Instatement of waste management and dust control measures on site
10	Instatement of traffic signage, access, parking bays

9.2.1.1 Biodiversity

9.2.1.1.1 Impact Management and Mitigation Plan

The following potential impacts were considered on biodiversity (fauna and flora) during the construction phase:

- Environmental and Groundwater Pollution
- Introduction of alien and invasive species, especially plants
- Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)

The aim of the management outcomes is to present mitigation actions in such a way that they can be incorporated into the Environmental Management Programme (EMPr), and possible biodiversity management programme, for the project, which should in turn allow for a more successful implementation and auditing of the mitigations and monitoring guidelines. Table 9-5 presents the project specific, non-negotiable mitigation measures relative to the terrestrial assessment. Table 9-6 presents general mitigation measures.

The focus of mitigation measures is to reduce the significance of the likely impacts associated with the development, and thereby:

- Prevent the further loss and fragmentation of indigenous vegetation communities within the ecosystem within and around the PAOI;
- Reduce the negative fragmentation effects of the development and facilitate the safe movement of fauna species;
- Prevent the direct and indirect loss and disturbance of flora and fauna species and communities; and
- Adequately follow the guidelines for interpreting the SEI ratings assigned to the PAOI.

Table 9-5:Biodiversity specific impact and mitigation measures for the project.

Anticipated Impact	**Environmental and Groundwater Pollution**
Activity/risk source	Chemical (organic/inorganic) spills, Erosion
Mitigation Objective	Avoid and reduce Pollution
Mitigation: Action/control	
❖ Keep the surface & sub-surface water and storm water away that may run off from the dumps from the low laying areas, such as wetlands, as well as the surrounding areas, from leaving the project area in an uncontrolled manner. ❖ Ensure that a stormwater management plan is in place and implemented for the duration of the project. ❖ Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. ❖ Storm Water run off & Discharge Water Quality monitoring needs to be implemented. Continue with the current water monitoring plan for the TS and ensure that it is adequate to assess the impacts of the project. Update the plan as necessary to address any identified gaps. ❖ Incorporate green /soft engineering stormwater measures. Avoid unnecessary vegetation clearing and preferential surface flow paths.	

- Monitoring of adjacent watercourses must be undertaken to assess the impact of runoff to these systems.
- Cut-off trenches or other suitable stormwater management measures must be incorporated into the project design to reduce contamination of watercourses via runoff. These measures must form part of the stormwater management plan to be implemented for the project. Cut-off trenches or other suitable stormwater management measures must be incorporated into the design to decrease contamination of watercourses via runoff.
- No cleaning of vehicles, machines and equipment in water resources.
- No servicing of machines, vehicles and equipment outside of designated laydown areas.
- Storage of potential contaminants in bunded areas.
- All contractors must have spill kits available and be trained in the correct use thereof.
- All released water must be within DWAF (1996) water quality standards for aquatic ecosystems, and discharge must be managed to avoid scouring and erosion of the receiving systems.
- Contain wastewater in a PCD. Contaminated water must not be discharged into the watercourses.
- Clean and dirty water must be separated where applicable. Where feasible, dirty water should be treated and reintroduced to mitigate losses to the catchment's hydrodynamics. All such measures must be incorporated into and aligned with the stormwater management plan. Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics

Anticipated Impact	**Introduction of alien and invasive species, especially plants and waste**
Activity/risk source	Land clearing, fire and dust.
Mitigation Objective	Avoidance / minimisation of the disturbance and degradation of vegetation and ecosystems

Mitigation: Action/control

- Compile and implement an alien vegetation management plan at the start of construction. If an existing plan is available, it must be updated as necessary and implemented. The plan must identify areas requiring action (if any), prescribe appropriate removal methods and frequencies, and include a monitoring programme that is updated as new data becomes available
- Implement a stormwater management plan for all developable areas.
- Implementation of a waste management plan.
- Temporary storage of domestic waste shall be in covered waste skips.
- Removal of domestic waste on a regular basis, no overspill is permitted.

Anticipated Impact	**Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)**
Activity/risk source	**Land clearing, Fire and human presence as well as roads.**
Mitigation Objective	**Avoidance / minimisation of the disturbance and mortality of fauna**

Mitigation: Action/control

- Clearly mark construction zones to prevent impact on surrounding areas, using physical barriers like safety tape and signs instead of painted lines.
- Prior to vegetation clearing activities, the area to be cleared should be walked on foot by 1-2 individuals to create a disturbance in order for fauna to move off. Disturbance must occur as soon before vegetation clearing as possible and no unnecessary disturbance to the area is permitted.
    - Any fauna threatened by the construction activities should be removed safely by an appropriately qualified environmental officer or removal specialist.
- Limit construction vehicle speeds to 40 km/h to prevent accidents, and install appropriate speed control measures and signage.

- Driving on access roads at night should be restricted to maximum 20 km/h to reduce or prevent wildlife road mortalities which occur more frequently during this period.

- Minimise the time between clearing an area and starting development to prevent wildlife from returning to disturbed sites.
- Conduct excavations progressively and cover any open holes overnight to prevent wildlife from falling in. Inspect these areas before backfilling.
- Implement noise and light mitigation measures for any night-time construction activities to minimise disturbances to nocturnal species expected in the area.
- Provide all personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. Discussions The training must include.
  - All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this.
- Design and limit outdoor lighting to reduce its impact on wildlife. Use fixtures with baffles, hoods, or louvres, directing light downward and away from sensitive areas like wetlands. Avoid fluorescent and mercury vapor lights, opting for sodium vapor (yellow) lights whenever possible.
- Utilise motion detection lighting where feasible to minimise unnecessary illumination.
- Keep noise levels low from dusk to dawn to avoid disturbing amphibians and nocturnal mammals.

Table 9-6:General mitigation measures for the project.

Mitigation: Action/control
❖ Demarcate work areas during the construction phase to avoid affecting outside areas. Use physical barriers e.g., safety tape, not painted lines, and use signage. ❖ All activities must make use of existing roads and tracks as far as practically and feasibly possible. No new roads or servitudes should be constructed where existing infrastructure can be used. ❖ Do not clear areas of indigenous vegetation outside of the direct project footprint. ❖ Minimise vegetation clearing to the minimum required. ❖ Compile and implement a rehabilitation plan from the onset of the project. ❖ Rehabilitate areas as soon as they are no longer impacted by construction. ❖ The rehabilitated areas must be revegetated with indigenous vegetation. ❖ Progressive rehabilitation will enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. Surplus rehabilitation material can be applied to other others in need of stabilisation and vegetation cover. ❖ Environmental Officer (EO) to provide supervision and oversight of vegetation clearing activities. ❖ Consult a fire expert and compile and implement a fire management plan to minimise the risk of veld fires around the project site. ❖ Dust-reducing mitigation measures must be put in place and must be strictly adhered to, for all roads and bare (unvegetated) areas. o Reduce the dust generated by operational vehicles and earth moving machinery, through wetting the soil surface and putting up signs to enforce speed limits to enforce reduced speeds. o No non-environmentally friendly suppressants may be used as this could result in pollution of water sources. ❖ Implement a waste management plan that prescribes a monitoring programme and is updated as new data becomes available. If an existing waste management plan is available, it must be implemented from the start of the project. ❖ A pest control plan must be put in place and implemented; it is imperative that poisons not be used.

- Prohibit staff from bringing any plant species into or out of the PAOI. This includes both indigenous and exotic plants to prevent the spread of invasive species and illegal plant collection.
- Develop and strictly adhere to a Rehabilitation Plan for the development area.
- Infrastructure must be consolidated where possible in order to minimise the amount of ground and air space used.
- Cement must be mixed in a designated area on a liner away from water sources and buffers and that successful rehabilitation of the construction areas can take place.
- Leaking equipment and vehicles must be repaired immediately or be removed from project area to facilitate repair.
- A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site.
    - Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use.
    - No servicing of equipment on site unless necessary.
    - All contaminated soil / yard stone shall be treated in-situ or removed and be placed in containers.
    - Appropriately contain any generator diesel storage tanks, machinery spills (e.g., accidental spills of hydrocarbons oils, diesel etc.) in such a way as to prevent them from leaking and entering the environment.
    - Construction activities and vehicles could cause spillages of lubricants, fuels and waste material negatively affecting the functioning of the ecosystem.
    - All vehicles and equipment must be maintained, and all refuelling and servicing of equipment is to take place in demarcated areas outside of the PAOI.

9.2.1.2 Wetlands

No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible.

These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from construction activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.

9.2.1.3 Surface water

9.2.1.3.1 Impact Assessment and Mitigation

During the construction phase, vegetation will be cleared, and the proposed infrastructure will be erected. The construction phase will be approximately 2 years. The activities and impacts that are likely to occur during the construction phase are summarised in Table 9-7.

Table 9-7:Summary of activities and impacts for the construction phase

Activity	Impact Description
Removal of vegetation for infrastructure and the alteration to the topography.	Erosion and wash off of exposed soils leading to siltation in downgradient watercourses.

The ratings and proposed mitigation measures for the construction phase are provided in Table 9-8.

Table 9-8:Significance rating for the construction phase

NATURE OF IMPACT: The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Medium term	Medium term
Magnitude *(Major, Moderate, Minor)*	Moderate	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts ❖ None foreseen		
Mitigation measures ❖ Clearance of vegetation must be limited as far as possible; ❖ Temporary erosion measures such as sediment nets should be employed around exposed working areas; and ❖ The SWMP must be implemented as a first step during the construction phase.		

9.2.1.4 Groundwater

Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly. The long term groundwater quality data was used during this impact assessment.

Grab samples were taken using a single valve, decontaminated bailer, during the Hydrocensus. Samples were stored in a cooler box during the site assessment. The water samples were analysed for basic inorganic parameters, and the results were compared against the SANS 241:2015 Drinking Water Standards. The DWS's Drinking Water Standard was also considered. The water samples were submitted to Aquatico Laboratories for analysis. Aquatico is a SANAS accredited laboratory (South African National Accreditation System).

No additional impact is expected on the groundwater quantity and quality during the construction phase. Construction will be conducted in a relatively short period compared to the operational and post-closure phases. Additional impacts on the groundwater environment are therefore rated as Low.

In the long term, the reclamation of the TSF will have a positive impact on the groundwater environment as the current negative pollution source will be removed and with time the contaminant concentrations will reduce.

Table 9-9: Construction Phase Groundwater quality impact

IMPACT ACTIVITY: Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Short Term < 18 months	Short Term < 18 months
Magnitude (Major, Moderate, Minor)	Minor -	Minor +
Probability (Definite, Possible, Unlikely)	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	Low	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖ Quantity impacts are not expected during Construction.		

IMPACT ACTIVITY: Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.
❖ - Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. ❖ Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. ❖ Additional quality impacts are suspected to be low during Construction
Mitigation measures ❖ Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time. ❖ Continue with the groundwater monitoring program at AMB before reclamation starts. ❖ Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to containment dams on site. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. ❖ Ensure that PCDs are designed and monitored to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.

9.2.1.4.1 Overarching Groundwater Management Measures

Several broad overarching groundwater management measures should be implemented by Amandelbult to minimise impacts on groundwater for the TSF complex. It would be difficult to isolate impacts associated with TSF 2. Most of these form part of good house-keeping measures, as detailed in Table 9-10.

Table 9-10:General groundwater management measures

Construction Phase
The dedicated groundwater monitoring network must be maintained in the monitoring boreholes located around the TSF. Where boreholes are inaccessible, measures must be identified to gain access and continue monitoring. Of specific importance are boreholes EMPR05, EMPR08, EMPR15 and MBH16-04. The monitoring program is discussed below.
Make budget provision for sufficient groundwater level and quality monitoring to implement the groundwater monitoring program, before the reclamation starts.
Implement the stormwater runoff management measures developed for the project to ensure that all dirty runoff is contained and reused in the reclamation water balance. Avoid ponding of water over exposed areas.
Ensure that dirty water containment measures are designed to contain all dirty water generated during the project to prevent overflows and spillages.
Implement sound house-keeping measures to prevent and clean spills, address leaks and undertake regular inspections. Ensure that the record keeping procedure is in place and that instructions given are carried out.
Measure rainfall on site.

9.2.1.4.2 Measures to reduce impacts on groundwater availability

The project is not expected to have any impacts on groundwater availability. The following specific measures are however recommended to minimise and/or eliminate the impacts on groundwater levels and availability:

- None of the private boreholes are located within the zones of impact delineated as part of this assessment. It is however recommended that monitoring is continued in all private boreholes, especially those along the floodplain of the Crocodile River.
- Ensure that an effective surface water collection and retention system is in place to ensure that all flow and collected water is directed towards the cut-off trenches with sumps and not allowed to freely drain away from the various silt holding areas during reclamation.

9.2.1.4.3 Mitigation measures to address impacts on groundwater quality during construction phase.

The following specific measures are recommended to minimise and/or eliminate the impacts on groundwater quality and the volume of leachate available for infiltration to the aquifers. With the removal of the tailings material, an opportunity is presented to consider measures aimed at reducing long term impacts on groundwater quality during the design of tailings re-deposition on the TSF 2 footprint area:

- To minimise negative long term impacts associated with the project, it is important that tailings reclamation must be completed to soil level over the TSF 2 footprint.
- The base of the TSF 2 footprint must be shaped prior to tailings re-deposition to ensure that no ponding takes place and that the footprint is sufficiently drained to minimise long term infiltration of leachate. In this regard, internal drainage systems like gravel, perforated pipes, equivalent seepage collection systems and toe drains can be considered. It is assumed that the footprint of TSF 2 will not be lined prior to re-deposition, as the surrounding TSFs are not lined.
- Ensure that clean and dirty water is separated at the reclamation and drying areas, and that dirty water is contained. Contain dirty water in adequately sized and lined sumps or dams.
- Prevent the uncontrolled runoff of dirty water from the TSF 2 footprint.
- All dirty water being pumped from the reclamation areas should be reused in the water balance or pumped off site to prevent unnecessary discharge into the natural environment.
- It is recommended that a geochemical assessment is undertaken on the tailings material to be deposited on the TSF 2 footprint, when reuse is considered, focusing on the risk of acidification as well as operational and long term leachate qualities. This information must be used to update the risk assessment presented in this report, if it is materially different from the dataset used in this report.
- Valterra must maintain the existing water quality monitoring program during reclamation and re-deposition. The monitoring program must focus specifically on groundwater, TSF seepage and dirty water dam quality. The data must be analysed according to the monitoring program presented below and suitable actions must be implemented should trends indicate adverse impacts.
- The impact and risk assessment presented in this report must be updated if any component of the project changes to what was used in this study, or if additional information becomes available that deviates from that used.

9.2.1.5 Air Quality

Due to the short construction period, the operational and construction period are jointly assessed. The following impacts are expected:

- Haul trucks on unpaved roads,
- materials handling operations,
- stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air,
- Thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.

9.2.1.5.1 Air quality impact assessment results

Dispersion simulations were undertaken to determine ambient concentrations of PM2.5 and PM10 resulting from the reclamation of the Amandelbult TSF Dam 2. Three scenarios were simulated – a status quo scenario showing the current emissions from all of the Amandelbult TSF Dams before the start of the reclamation process; a worst-case scenario; and a mitigated scenario. The dispersion of particulate matter was modelled up to a distance of 5 km from a central point.

The impact on the environment surrounding the proposed reclamation project area is summarised in the impact assessment table below Table 9-11.

Table 9-11: Air Quality Impact Assessment Matrix for the reclamation of Amandelbult TSF Dam 2 (See Impact Assessment Methodology in Appendix A).

Impact Assessment Matrix	
Impact Description	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.
Acceptable rating level	PM10 a) 24-hour Average Concentrations: National Ambient Air Quality Standard of 75µg/m^3 b) Annual Average Concentrations: National Ambient Air Quality Standard of 40µg/m^3 PM2.5 c) 24-hour Average Concentrations: National Ambient Air Quality Standard of 40µg/m3 d) Annual Average Concentrations: National Ambient Air Quality Standard of 20µg/m3
Magnitude	Moderate negative: Although the reclamation of the TSF is expected to increase the ambient concentrations of particulate matter over the surrounding areas, exceedances of the NAAQS are not expected at sensitive receptors.
Duration	Long term: The reclamation will take longer than 5 years.
Spatial Scale	Local: Worst-case conditions lead to the dispersion of particulate matter beyond the property fence line, but not regionally.
Consequence	Medium negative

Impact Assessment Matrix	
Probability	Definite: Although mitigation measures can largely reduce the impacts of the reclamation project, digging up and handling of material with a comparatively small particle size distribution, and hauling of material over unpaved roads will lead to the emission of particulate matter.
Significance of Air Quality Impact	Medium negative
Mitigation	Spray-on surface treatments on the haul roads. Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. Restriction of the stripped band to a width of 30 meters. Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. Keeping the area of mechanical reclamation to a minimum.
Cumulative Impact	Emissions from the reclamation and processing of the Amandelbult TSF Dam 2 are expected to produce an increase in ambient concentrations of PM10 and PM2.5. As the project lies in the WBPA, all possible forms of mitigation should be rigorously and meticulously applied.

9.2.1.6 Heritage

9.2.1.6.1 Impact Assessment

The impact assessment rating is based on the rating scale as contained in Table 9-12.

The following section provides an analysis of the impact of the Project area on heritage resources within the reclamation and processing of the tailings material at the Amandelbult TSF: Dam No.2 project.

This section describes alternative means of carrying out the operation and the consequences of not proceeding with the Proposed Project.

The "no-go" alternative refers to the option of not going ahead with the Proposed Project. This will entail maintaining the current status quo with no impact from the project.

As no heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as MEDIUM NEGATIVE before and LOW NEGATIVE after mitigation if a chance finds procedure is followed.

Table 9-12:Impact Assessment Table for Heritage Resources

NATURE OF THE IMPACT: *Destruction of cultural heritage resources*		
	Impact Rating Without Mitigation	**Impact Rating With Mitigation**
Extent *(Local, Regional, International)*	Local	Local
Duration *(Short term, Medium term, Long term)*	Long Term > 5 years	Long Term > 5 years

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NATURE OF THE IMPACT: ***Destruction of cultural heritage resources***		
Magnitude *(Major, Moderate, Minor)*	Minor-	Minor-
Probability *(Definite, Possible, Unlikely)*	possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	No	
Residual impacts: Undiscovered cultural heritage resources		
Cumulative Impacts: As no heritage features of cultural significance are located within the development plan the foreseen cumulative impact can be seen as negligible.		
Mitigation measures ❖ Implement an approved AMB Chance Finds Procedures (CFP) in case where possible heritage finds are uncovered. ❖ No heritage resources are currently threatened in the direct development footprint, however, not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. It should be noted most of the study area was accessible for the fieldwork survey, but the vegetation is thick and visibility of sites such as Stone Age or Iron Age are difficult to locate. ❖ During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken. It is recommended that the following chance find procedure should be implemented. ○ A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. ○ An appropriately qualified heritage practitioner / archaeologist must be identified to be called upon in the event that any possible heritage resources or artefacts are identified. ○ Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted. ○ The qualified heritage practitioner / archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource.		

Table 9-13: Impact Assessment Table for Heritage Resources

NATURE OF THE IMPACT: ***Impact on cultural landscape***		
	Impact Rating Without Mitigation	**Impact Rating With Mitigation**
Extent *(Local, Regional, International)*	Local	Regional

NATURE OF THE IMPACT: *Impact on cultural landscape*		
Duration *(Short term, Medium term, Long term)*	Long Term > 5 years	Long Term > 5 years
Magnitude *(Major, Moderate, Minor)*	Minor	Minor+
Probability *(Definite, Possible, Unlikely)*	Definite	Possible
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Medium**
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	No	
Residual impacts: Undiscovered cultural heritage resources		
Cumulative Impacts: As no heritage features of cultural significance are located within the development plan the foreseen cumulative impact can be seen as negligible.		
Mitigation measures ❖ Ensure integration of AMD CHMP and community initiatives to capture social history around the AMD complex.		

9.2.1.6.2 Construction phases

The project will encompass a range of activities during the construction phase, including ground clearance, establishment of construction camp areas and small-scale infrastructure development associated with the project.

It is possible that cultural material will be exposed during construction and may be recoverable, keeping in mind delays can be costly during construction, and as such must be minimised. Development surrounding infrastructure and construction of facilities results in significant disturbance, however foundation holes do offer a window into the past and it thus may be possible to rescue some of the data and materials. It is also possible that substantial alterations will be implemented during this phase of the project, and these must be catered for. Temporary infrastructure developments, such as construction camps and laydown areas, are often changed or added to the project as required. In general, these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.

During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken. It is recommended that the approved AMB CFP (AMB-ALL-SER-PRO-0010) should be utilised and implemented, this is appended as Appendix D8 on the EIA report.

9.2.1.6.3 Chance finds procedure must include/reference the following:

- A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the **Environmental Control Officer (ECO)** as well as team leaders in the

identification of heritage resources and artefacts during the implementation of the **Environmental Management Programme (EMPr).**

- An appropriately qualified heritage practitioner / archaeologist must be identified to be called upon in the event that any possible heritage resources or artefacts are identified.
- Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted.
- The qualified heritage practitioner / archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource.
- The contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the materials and data are recovered.

9.2.1.7 Social-Economic

Due to the short construction period, the construction period is jointly assessed. The following impacts are expected:

- Impact on employment and income;
- Positive contribution to social funds;
- Impact on community health and safety;
- Potential influx of people to the project area; and
- Increase in nuisance factors.

Table 9-14:Rating of Impact on Local Employment and Income

Impact Name	Employment and Income	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	Positive
Magnitude	Moderate +	Moderate +
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Definite
Environmental Risk Significance (Pre-mitigation)		Low +
Management Measures:		
❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase; ❖ If further additional employment needs to be recruited, unskilled workers in the local communities of WNO ❖ Consider formal training of unskilled workers mobilised during the construction phase; ❖ Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and SMMEs. Preference should be given to capable subcontractors who based within the local municipal area; ❖ Communicate the local employment strategy clearly to the local communities via the existing stakeholder engagement channels.		

Impact Name	Employment and Income
Environmental Risk Significance (Post-mitigation)	**Medium +**
Cumulative Impacts	**No**

Table 9-15:Rating of Impact on Informal Influx

Impact Name	Informal Influx Impact	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate -	Moderate-
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Low -
Management Measures:		
❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; ❖ Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements; ❖ Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints.		
Environmental Risk Significance (Post-mitigation)		Low -
Cumulative Impacts		Yes, other mining activities in the area

Table 9-16: Rating of Impact on Increase in nuisance factors (noise, dust and traffic)

Impact Name	Impact of Nuisance Factors	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Low -
Management Measures:		
❖ Strict adherence to the mitigation measures of the traffic and air quality impact reports. ❖ A grievance management mechanism should be in place to receive incident related queries.		
Environmental Risk Significance (Post-mitigation)		Low -

Impact Name	Impact of Nuisance Factors	
Cumulative Impacts		Yes, other mining activities in the area

9.2.1.8 Noise

This assessment considered the findings of the site visit (sound pressure level measurements and observations) to develop a noise model to illustrate potential existing noise levels (scenario 1), activities that can be identified using Google Earth images as well as the results of the short-term sound level measurements. Noise associated with the reclamation project mainly originates from construction activities of required infrastructure. Potential noise of Scenario 1 levels will be associated with existing operational noises

Noises associated with the construction phase are generally limited to approximately 100m from the project activities and noises will be insignificant further than 200m from such activities.

The closest Noise Sensitive Receptors (NSR) is further than 500 m from the project area, or locations where noise-generating activities may take place. Noise levels from the project will be low at the closest NSR and of no acoustic concern. There is a very low potential for a noise impact occurring and the significance will be low.

Table 9-17: Impact Assessment: Future Daytime Activities

Nature:	**Numerous simultaneous construction activities during the day**	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 47.3 dBA, with the various 10-minute measurements ranging between 32.7 to 70.7 dBA. The recommended daytime noise limit will be based on the IFC guideline level of 55 dBA for residential use.	
	Without Mitigation	With Mitigation
Magnitude	Minor (2)	Minor (2)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Local (2)	Local (2)
Probability	Improbable (1)	Improbable (1)
Significance of Impact	Low (9) – All NSR	Low (9) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous construction activities, including the existing activities.	

Nature:	Numerous simultaneous construction activities during the day
Degree of Confidence	Medium-High
Mitigation:	❖ AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls); ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. ❖ AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas. The advantages of white noise alarms above tonal alarms are; ○ It is as safe as a tonal alarm. ○ Highly audible close to the alarm (or reversing truck) . ○ It generates a more uniform sound field behind a reversing vehicle . ○ Greater directional information, workers can locate the source faster. ○ Significantly less environmental noise and it creates significantly less annoyance far away. ○ When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.

Table 9-18: Impact Assessment: Future Night-time Activities

Nature:	Numerous simultaneous construction activities at night	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 45.1 dBA, with the various 10-minute measurements ranging between 37.1 to 56.4 dBA. The recommended night-time noise limit will be based on the IFC guideline level of 45 dBA for residential use, however, as per IFC recommendations, it is increased to 48 dBA due to the recommendation that an introduced project should not increase existing noise levels with more than 3 dBA (if existing sound levels already exceed this level).	
	Without Mitigation	With Mitigation
Magnitude	Low (4)	Low (4)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Regional (3)	Regional (3)
Probability	Possible (2)	Possible (2)
Significance of Impact	Low (9) – All NSR	Low (9) – All NSR

Nature:	Numerous simultaneous construction activities at night	
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous construction activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	❖ AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls); ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. ❖ AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas. The advantages of white noise alarms above tonal alarms are; ○ It is as safe as a tonal alarm. ○ Highly audible close to the alarm (or reversing truck) . ○ It generates a more uniform sound field behind a reversing vehicle . ○ Greater directional information, workers can locate the source faster. ○ Significantly less environmental noise and it creates significantly less annoyance far away. ○ When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

9.2.1.9 Soil and Agricultural

9.2.1.9.1 Anticipated Impact Framework

An impact framework was considered for the impact assessment. The following list provides a framework for the identified major impacts associated with the project (Table 9-19).

Table 9-19:Anticipated impacts for the proposed Support infrastructure on agricultural resources

Main Impact	Project activities that can cause loss/impacts to Soils (especially regarding the proposed infrastructure areas)	Secondary impacts anticipated
Loss of land capability	❖ Construction, operation and decommissioning of roads; ❖ Construction, operation and decommissioning of construction of pipelines, process water and other infrastructure;	❖ Erosion; ❖ Soil degradation; ❖ Compaction; ❖ Increase in salinity; ❖ Land contamination; and ❖ Loss of soil via aeolian processes.

Main Impact	Project activities that can cause loss/impacts to Soils (especially regarding the proposed infrastructure areas)	Secondary impacts anticipated
	❖ Potential slurry pipelines leaks or spillage (i.e. hydrocarbons or untreated waste); ❖ Mixing of soil for road upgrades; ❖ Soil dust precipitation in surface or gravel access roads; ❖ Dust precipitation; and ❖ Removal of vegetation for the proposed support infrastructure	

An impact assessed for the EIA phase was considered for the impact assessment. The following list provides a framework for the identified major impacts associated with the project (Table 9-19). The following potential impacts were considered on Soil and Agriculture during the construction phase (Table 9-20):

- ❖ Loss of Land Capability;
- ❖ Soil Degradation;
- ❖ Soil Erosion; and
- ❖ Loss of soil Fertility.

Table 9-20:Soil and Agriculture Impact during construction phase

NATURE OF THE IMPACT: Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility		
	Impact Rating Without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Local	Local
Duration *(Short term, Medium term, Long term)*	Short Term < 18 months	Medium Term > 18 months < 5 years
Magnitude *(Major, Moderate, Minor)*	Moderate-	Minor-
Probability *(Definite, Possible, Unlikely)*	Definite	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation measures: ❖ Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas. ❖ Restrict the disturbance footprint and clearing of vegetation for the authorized area only. ❖ Make use of existing access routes as much as possible before new routes are considered. Any selected “new” route must be authorized, minimizing disturbances to the wetland areas. ❖ Promptly remove all alien and invasive plant species that may emerge during construction (i.e. weedy annuals and other alien forbs) must be removed. ❖ Limit soil disturbance.		

NATURE OF THE IMPACT: Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility		
	Impact Rating Without Mitigation	**Impact Rating with Mitigation**
❖ Create terraces and contours to reduce water runoff and erosion on steep slope areas during the construction phase. Install silt fences and sediment basins to prevent sediments accumulating into water bodies or around water bodies. ❖ Keep excavation and soil heaps clear of potential contaminates or waste. ❖ Lightly till any disturbed soil around the development footprint to avoid compaction. ❖ Ensure soil stockpiles are sufficiently safeguarded against rain wash. ❖ The use of herbicides is not recommended (opt for mechanical removal). ❖ Make sure all excess consumables are removed from site and deposited at an appropriate waste facility ❖ Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) or construction materials on site (e.g. concrete) in such a way as to prevent them leaking and entering wetland buffer areas or the surrounding environment. ❖ Provide appropriate sanitation facilities for workers during construction and service them regularly. ❖ The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected must be disposed of at a licensed disposal facility. ❖ The Contractor must be in possession of an emergency spill kit that must be complete and available at all times on site. ❖ Any possible contamination of topsoil by hydrocarbons must be avoided. Any contaminated soil must be treated in situ or be placed in containers and removed from the site for disposal in a licensed facility. ❖ A stormwater management plan must be development and implement for the purpose of this project to control runoff from the development site.		
Environmental Risk Significance (Post-mitigation)		Low
Cumulative Impacts		Yes

9.2.2 OPERATIONAL PHASE

This section comprises of the description of potential impacts associated with the proposed operation of the reclamation project on the biophysical, socio-economic and heritage and cultural environment. These descriptions are followed by the impact tables which contain the assessment of the significance of each identified impact without, and then with mitigation measures.

The following activities are planned by the Applicant for the operation phase of the project.

Table 9-21: Summary table of the Activities associated with the operational phase of the project

Activity	Description
Operational Phase	
11	Reclamation Activities (including concurrent rehabilitation)
12	Operation of pipes
13	Operation of Slurry transfer station and the associated infrastructure

9.2.2.1 Biodiversity

The following potential impacts were considered on biodiversity (fauna and flora) during operational phase:

- An impact to local Vegetation and Habitats;
- An impact to Local Fauna;
- The spread of Alien Species;
- The impact of Erosion;
- The impact from Pipeline Leak or Spills; and
- The generation of dust, and waste.

Table 9-22:Biodiversity specific operational impact and mitigation measures for the project.

Anticipated Impact	**Environmental and Groundwater Pollution**
Activity/risk source	Chemical (organic/inorganic) spills, Erosion
Mitigation Objective	Avoid and reduce Pollution
Mitigation: Action/control	
❖ Keep the surface & subsurface water and storm water away that may run off from the TSF from the low laying areas, such as wetlands, as well as the surrounding areas, from leaving the project area in an uncontrolled manner. ❖ Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. ❖ Storm Water runoff & Discharge Water Quality monitoring needs to be implemented. ❖ Incorporate green /soft engineering stormwater measures. Avoid unnecessary vegetation clearing and preferential surface flow paths. ❖ No servicing of machines, vehicles and equipment outside of designated laydown areas. ❖ Storage of potential contaminants in bunded areas. ❖ Spill kits must be available, and employees trained in the correct use thereof. ❖ All released water must be within DWAF (1996) water quality standards for aquatic ecosystems, and discharge must be managed to avoid scouring and erosion of the receiving systems. ❖ Contain dirty water in a PCD. Contaminated water must not be discharged into the watercourses. ❖ Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.	
Anticipated Impact	**Introduction of alien and invasive species, especially plants**
Activity/risk source	fire and dust.
Mitigation Objective	Avoidance / minimisation of the disturbance and degradation of vegetation and ecosystems
Mitigation: Action/control	
❖ Implement an alien vegetation management plan. The plan must identify areas for action (if any) and prescribe the necessary removal methods and frequencies to be applied. This plan must also include a monitoring plan and be updated as/when new data is collated. ❖ Implementation of a waste management plan. ❖ Temporary storage of domestic waste shall be in covered waste skips. ❖ Removal of domestic waste on a regular basis, no overspill is permitted.	
Anticipated Impact	**Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)**

Activity/risk source	Fire and Human presence as well as roads.
Mitigation Objective	Avoidance / minimisation of the disturbance and mortality of fauna
Mitigation: Action/control	

- Implement noise and light mitigation measures for any night-time activities to minimise disturbances to nocturnal species expected in the area.
- Provide all personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. Discussions The training must include.
  - All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this.
- Design and limit outdoor lighting to reduce its impact on wildlife. Use fixtures with baffles, hoods, or louvres, directing light downward and away from sensitive areas like wetlands. Avoid fluorescent and mercury vapor lights, opting for sodium vapor (yellow) lights whenever possible.
- Utilise motion detection lighting where feasible to minimise unnecessary illumination.
- Prohibit vehicle traffic and the use of vehicle lights at night.
- Keep noise levels low from dusk to dawn to avoid disturbing amphibians and nocturnal mammals.

Table 9-23:General mitigation measures for the project.

Mitigation: Action/control

- All activities must make use of existing roads and tracks as far as practically and feasibly possible.
- Compile and implement a rehabilitation plan from the onset of the project.
- Rehabilitate areas as soon as they are no longer impacted by construction.
- The rehabilitated areas must be revegetated with indigenous vegetation.
- Progressive rehabilitation will enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. Surplus rehabilitation material can be applied to other others in need of stabilisation and vegetation cover.
- Consult a fire expert and compile and implement a fire management plan to minimise the risk of veld fires around the project site.
- Dust-reducing mitigation measures must be put in place and must be strictly adhered to, for all roads and bare (unvegetated) areas.
  - Reduce the dust generated by operational vehicles and earth moving machinery, through wetting the soil surface and putting up signs to enforce speed limits to enforce reduced speeds.
  - No non-environmentally friendly suppressants may be used as this could result in pollution of water sources.
- Implementation of a waste management plan, this plan must also prescribe a monitoring plan and be updated as/when new data is collated. Waste management must be a priority and all waste must be collected, stored and disposed of adequately. It is recommended that all waste be removed from site on a weekly basis (as a minimum) to prevent rodents and pests entering the site.
  - Refuse bins will be emptied and secured.
  - Temporary storage of domestic waste shall be in covered waste skips.
  - Maximum domestic waste storage period will be 7 days.
- A pest control plan must be put in place and implemented; it is imperative that poisons not be used.
- Prohibit staff from bringing any plant species into or out of the PAOI. This includes both indigenous and exotic plants to prevent the spread of invasive species and illegal plant collection.
- Develop and strictly adhere to a Rehabilitation Plan for the development area.

Mitigation: Action/control
❖ Leaking equipment and vehicles must be repaired immediately or be removed from project area to facilitate repair. ❖ A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site. o Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use. o No servicing of equipment on site unless necessary. o All contaminated soil / yard stone shall be treated in-situ or removed and be placed in containers. o Appropriately contain any generator diesel storage tanks, machinery spills (e.g., accidental spills of hydrocarbons oils, diesel etc.) in such a way as to prevent them from leaking and entering the environment. o All vehicles and equipment must be maintained, and all refuelling and servicing of equipment is to take place in demarcated areas outside of the PAOI.

9.2.2.2 Wetlands

No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible.

These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from operational activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

9.2.2.3 Surface Water

During the operational phase, hydraulic and mechanical reclamation of the TSF 2 will take place. The operational phase will be approximately 18 years.

The mixing of water with the tailings material during hydraulic mining, will add additional water and oxygen to the material, which could potentially result in acidic water, with leaching of metals and salts. It is of outmost importance that runoff from the reclamation site is contained as recommended in the proposed SWMP.

The proposed processing plants and product stockpile areas are likely to produce contaminated runoff. It is therefore important that these areas are contained as per the recommended SWMP.

Poor maintenance of stormwater infrastructure such as the silting up of paddocks, as well as the erosion of berms, can result in spills from the reclamation site. It is therefore important that stormwater infrastructure is regularly monitored and maintained. The proposed pipelines will convey process water to TSF 2 for hydraulic

reclamation, as well as slurry from TSF 2 to the processing plant. It is important that these pipelines are regularly inspected and maintained to prevent leaks.

The activities and impacts that could potentially occur during the operational phase are summarised in the table below:

Table 9-24:Summary of activities and impacts for the operational phase

Activity	Impact Description
Uncontained dirty water runoff from the reclamation, processing and stockpiling areas.	Impact 1: Runoff into the downslope watercourses impacting on water quality.
Poor maintenance of stormwater infrastructure.	Impact 2: Silted paddocks and channels as well as eroded berms which lead to spills into the downslope watercourses impacting on water quality.
Leaks from the proposed pipelines.	Impact 3: Leaks from the pipeline running off into down gradient watercourses impacting on water quality.
Flooding of infrastructure.	Impact 4: Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.

The ratings and proposed mitigation measures for the operational phase are indicated in Table 9-25 to Table 9-28.

Table 9-25:Significance rating of operational impact 1

NATURE OF IMPACT 1: Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Regional	Local
Duration (Short term, Medium term, Long term)	Long term	Long term
Magnitude (Major, Moderate, Minor)	Major	Minor
Probability (Definite, Possible, Unlikely)	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	High	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	

NATURE OF IMPACT 1: Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality
Residual impacts ❖ None foreseen.
Mitigation measures ❖ Implementation of the proposed SWMP to contain dirty water runoff.

Table 9-26: Significance rating of operational impact 2

NATURE OF IMPACT 2: Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Regional	Local
Duration (Short term, Medium term, Long term)	Long term	Long term
Magnitude (Major, Moderate, Minor)	Major	Minor
Probability (Definite, Possible, Unlikely)	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	High	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts ❖ None foreseen.		
Mitigation measures ❖ Implementation of the stormwater monitoring plan detailed in section 8 of this report.		

Table 9-27:Significance rating of operational impact 3

NATURE OF IMPACT 3: Leaks from the proposed pipelines running off into down gradient watercourses impacting on water quality		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Long term	Long term

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NATURE OF IMPACT 3: Leaks from the proposed pipelines running off into down gradient watercourses impacting on water quality		
Magnitude (Major, Moderate, Minor)	Moderate	Minor
Probability (Definite, Possible, Unlikely)	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	Medium	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts ❖ None foreseen.		
Mitigation measures ❖ Regular inspections and maintenance of the pipelines; and ❖ Immediate containment of leaks, repair of the pipeline and clean ups.		

Table 9-28: Significance rating of operational impact 4

NATURE OF IMPACT 4: Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Regional	Local
Duration (Short term, Medium term, Long term)	Long term	Long term
Magnitude (Major, Moderate, Minor)	Major	Minor
Probability (Definite, Possible, Unlikely)	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	High	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts ❖ None foreseen.		

Mitigation measures ❖ Implementation of the proposed SWMP to contain dirty water runoff up to a recurrence interval of 1:50 years, as required by GN R704 regulations.

9.2.2.4 Groundwater

The following impacts have been identified on groundwater during the Operational phase:

- ❖ The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process.
- ❖ There is a possibility that water will seep into the underlaying formations, but the additional recharge should be negligible.

Table 9-29: Operational phase Groundwater quality impact 1

IMPACT ACTIVITY: TSF 2 Reclamation: The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying formations, but the additional recharge should be negligible		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Medium Term > 18 months < 5 years	Medium Term > 18 months < 5 years
Magnitude (Major, Moderate, Minor)	Minor -	Minor+
Probability (Definite, Possible, Unlikely)	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	Low	Low
Impact Status: (positive or negative)	Negative	Positive
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖ None.		
Mitigation measures: ❖ Continue with the groundwater monitoring network, monthly and according to the Licence conditions. ❖ More important - the monitoring data is required to assess possible impacts on the local surface water and groundwater environments, plus to monitor the impacts on the local groundwater users identified. ❖ Also refer to Sections 17 to 19 in the groundwater impact assessment report.		

Table 9-30:Operational Phase water quality impact 2

IMPACT ACTIVITY: TSF 2 Reclamation: Quality - Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Long Term > 5 years	Long Term > 5 years
Magnitude (Major, Moderate, Minor)	Minor -	Moderate -
Probability (Definite, Possible, Unlikely)	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	High	Medium
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖		
Mitigation measures: ❖ Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCDs. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. ❖ Commit to remove all tailings material and to monitor the quality of soils in the footprint areas. If soil monitoring suggests unacceptably high salt and metal concentrations, soil amelioration must be considered. ❖ Monitor groundwater quality in all boreholes identified. The groundwater monitoring network efficiency must be assessed and new monitoring boreholes drilled, if required. Additional mitigation measures need to be implemented if pollution is found migrating off site. ❖ Ensure that PCDs can contain all dirty water generated during the reclamation process to prevent overflows and spillages.		

9.2.2.4.1 Overarching Groundwater Management Measures

Table 9-31: General groundwater management measures

Operational Phase
Complete regular inspections of dirty water containment structures, specifically noting incidences of overflow and leakage. If the latter is identified, measures must be taken to rectify these immediately.
Maintain sound house-keeping measures to prevent spills and leaks.
Maintain the groundwater monitoring program, specifically in EMPR05, EMPR08, EMPR15 and MBH16-04.
Measure rainfall on site.
Record all groundwater-related complaints related to the reclamation project and deal with each complaint within the agreed timeframe.

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9.2.2.5 Air Quality

See Section 9.2.1.5.1 and Table 9-11 under the construction phase above for applicable impacts identified.

9.2.2.6 Heritage

See Section 9.2.1.6 and Table 9-12 to Table 9-13 under the construction phase above for applicable impacts identified.

9.2.2.7 Social Impact

Social impacts identified during the operational phase of the project.

Table 9-32: Rating of Impact on Local Employment and Income

Impact Name	Employment and Income	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	Positive
Magnitude	Minor +	Moderate +
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Low	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium +
Management Measures:		
❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase; ❖ If further additional employment needs to be recruited, unskilled workers that were formerly employed by the mine and/or in the local communities close to the mine should be considered for preference; ❖ Consider formal training of unskilled workers mobilised during the operational phase; ❖ Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and SMMEs. Preference should be given to capable subcontractors who based within the local municipal area; ❖ Communicate the local employment strategy clearly to the local communities via the existing stakeholder engagement channels.		
Environmental Risk Significance (Post-mitigation)		Medium +
Cumulative Impacts		No

Table 9-33:Rating of Impact on Informal Influx

Impact Name	Informal Influx Impact	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Magnitude	Moderate -	Moderate-
Duration	Long term (5 years plus)	Long term (5 years plus)

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Impact Name	Informal Influx Impact	
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; ❖ Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements. ❖ Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

Table 9-34:Rating of Impact on Nuisance factors (noise, dust and traffic)

Impact Name	Impact of Nuisance Factors	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
❖ Strict adherence to the mitigation measures of the noise and air quality impact reports. ❖ A grievance management mechanism should be in place to receive incident related grievances.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

Table 9-35: Rating of Impact on Community Health and Safety

Impact Name	Community health and safety	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium

Impact Name	Community health and safety	
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
❖ Strict security measures to apply at the Project. ❖ The company to cooperate with the local SAPS and community safety forums. ❖ Establish a communication strategy and network with the local community in AMB and in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders on a regular (quarterly) basis. ❖ Strict adherence to the mitigation measures of the air quality impact report.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

Table 9-36: Rating of Impact on the Adjacent Farming Community

Impact Name	Impacts on Adjacent Farming Community	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Unlikely
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
❖ Strict adherence to the mitigation measures of the ground and surface water impact reports relevant to the project; ❖ Establish a communication strategy and network with the local farming community in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders.		
Environmental Risk Significance (Post-mitigation)		Low-
Cumulative Impacts		Yes, other agriculture and mining activities in the area

9.2.2.8 Noise

Noises associated with the operational phases are generally limited to approximately 100m from the project activities and noises will be insignificant further than 200m from such activities. Noises associated with certain reclamation equipment (such as water pumps and the vibrating screens) may have an impact up to 200m, though such activities will be inaudible further than 500m from such equipment.

The closest Noise Sensitive Receptors (NSR) is further than 500 m from the project area, or locations where noise-generating activities may take place. Noise levels from the project will be low at the closest NSR and of no acoustic concern. There is a very low potential for a noise impact occurring and the significance will be low.

The potential significance of the noise impact is defined per NSR for concept scenario 2 in:

- For future noise-generating activities associated with daytime activities associated with concept scenario 2, with the potential significance of the daytime noise impact summarised in Table 9-37; and
- For future noise-generating activities associated with night-time activities associated with concept scenario 2, with the potential significance of the night-time construction noise impact summarised in Table 9-38.

Table 9-37:Impact Assessment: Future Daytime Activities – Scenario 2

Nature:	**Numerous simultaneous operational activities during the day**	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 47.3 dBA, with the various 10-minute measurements ranging between 32.7 to 70.7 dBA. The recommended daytime noise limit will be based on the IFC guideline level of 55 dBA for residential use. The potential noise rating levels, as well as the significance are defined per NSR	
	Without Mitigation	With Mitigation
Magnitude	Minor (2)	Minor (2)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Local (2)	Local (2)
Probability	Improbable (1)	Improbable (1)
Significance of Impact	Low (9) – All NSR	Low (9) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	❖ AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls); ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. ❖ AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas. The advantages of white noise alarms above tonal alarms are; ○ It is as safe as a tonal alarm . ○ Highly audible close to the alarm (or reversing truck) . ○ It generates a more uniform sound field behind a reversing vehicle .	

Nature:	Numerous simultaneous operational activities during the day
	○ Greater directional information, workers can locate the source faster. ○ Significantly less environmental noise and it creates significantly less annoyance far away. ○ When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.

Table 9-38:Impact Assessment: Future Night-time Activities – Scenario 2

Nature:	Numerous simultaneous operational activities at night	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 45.1 dBA, with the various 10-minute measurements ranging between 37.1 to 56.4 dBA. The recommended night-time noise limit will be based on the IFC guideline level of 45 dBA for residential use, however, as per IFC recommendations, it is increased to 48 dBA due to the recommendation that an introduced project should not increase existing noise levels with more than 3 dBA (if existing sound levels already exceed this level).	
	Without Mitigation	With Mitigation
Magnitude	Low (4)	Low (4)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Regional (3)	Regional (3)
Probability	Possible (2)	Possible (2)
Significance of Impact	Low (24) – All NSR	Low (24) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	❖ AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls); ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. ❖ AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas. The advantages of white noise alarms above tonal alarms are; ○ It is as safe as a tonal alarm . ○ Highly audible close to the alarm (or reversing truck) . ○ It generates a more uniform sound field behind a reversing vehicle . ○ Greater directional information, workers can locate the source faster.	

	○ Significantly less environmental noise and it creates significantly less annoyance far away. ○ When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.

Table 9-39:Impact Assessment: Worst-case daytime operational activities

Nature:	**Numerous simultaneous operational activities during the day**	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 47.3 dBA, with the various 10-minute measurements ranging between 32.7 to 70.7 dBA. The recommended daytime noise limit will be based on the IFC guideline level of 55 dBA for residential use.	
	Without Mitigation	**With Mitigation**
Magnitude	Moderate (6)	Moderate (6)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Local (2)	Local (2)
Probability	Improbable (1)	Improbable (1)
Significance of Impact	Low (13) – All NSR	Low (13) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	The potential significance from future operational noises would be low for scenario 3 daytime processing activities and additional mitigation measures are not required or recommended. This General mitigation measures are however included to ensure that annoyance with the project is minimised (section 9.2.2.8.1).	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

Table 9-40:Impact Assessment: Worst-case night-time operational activities

Nature:	**Numerous simultaneous operational activities at night**	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 45.1 dBA, with the various 10-minute measurements ranging between 37.1 to 56.4 dBA. The recommended night-time noise limit will be based on the IFC guideline level of 45 dBA for residential use, however, as per IFC recommendations, it is increased to 48 dBA due to the recommendation that an introduced project should not increase existing noise levels with more than 3 dBA (if existing sound levels already exceed this level).	
	Without Mitigation	**With Mitigation**
Magnitude	Moderate (6)	Moderate (6)
Duration	Permanent (5)	Permanent (5)
Extent (ΔLAeq,D>7dBA)	Regional (3)	Regional (3)

Nature:	Numerous simultaneous operational activities at night	
Probability	Likely (3)	Possible (2)
Significance of Impact	**Medium (42)**	**Low (28)**
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	**Medium-High**	
❖ **Mitigation:**	❖ AMB may consider the construction of noise barrier walls near residential dwellings; ❖ General mitigation measures are also discussed in section 9.2.2.8.1.	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

9.2.2.8.1 Operational phase mitigation measures

The study considers the potential noise impact on the surrounding environment due to future operational activities at AMB. The potential noise impact would be of a medium significance during the night-time periods.

- ❖ AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls);
- ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area;
- ❖ AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas. The advantages of white noise alarms above tonal alarms are:
  - It is as safe as a tonal alarm.
  - Highly audible close to the alarm (or reversing truck).
  - It generates a more uniform sound field behind a reversing vehicle.
  - Greater directional information, workers can locate the source faster.
  - Significantly less environmental noise and it creates significantly less annoyance far away.
  - When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.

9.2.2.9 Soil and Agricultural

The following potential impacts were considered on Soil and Agriculture during the Operational phase (Table 9-41):

Table 9-41:Soil and Agriculture Impact on operational phase

NATURE OF THE IMPACT: Loss of Land Capability		
	Impact Rating Without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Local	Local
Duration *(Short term, Medium term, Long term)*	Long Term > 5 years	Medium Term > 18 months < 5 years
Magnitude *(Major, Moderate, Minor)*	Minor-	Minor-
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation measures ❖ Ensure that the recommended erosion control methods like installation of terraces and contours are adhered to. ❖ Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilised to avoid impacts on adjacent areas. ❖ Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) or construction materials on site (e.g. concrete) in such a way as to prevent them leaking and entering wetland buffer areas or the surrounding environment.		
Environmental Risk Significance (Post-mitigation)		Low
Cumulative Impacts		Yes

9.2.3 DECOMMISSIONING PHASE

This section comprises of the description of potential impacts associated with the closure, decommissioning and rehabilitation activities on the biophysical, socio-economic and heritage and cultural environment. These descriptions are followed by the impact tables which contain the assessment of the significance of each identified impact without, then with mitigation measures.

The following activities are planned by the Applicant for the decommissioning phase of the project.

Table 9-42:Summary table of the Activities associated with this decommissioning phase of the project

Activity	Description
Decommissioning	
14	Decommissioning and rehabilitation activities: Demolition of temporary infrastructure such as screens, the pump station and pipelines, and Rehabilitation of the project area.

9.2.3.1 Surface Water

As reclamation progresses to ground level, the TSF footprint will continue to be sectioned off into paddocks. This will be a short term measure to prevent contaminated runoff from flowing offsite. Contaminated soil will be removed and backfilled with uncontaminated soil.

9.2.3.2 Groundwater

The following potential impacts were considered on Groundwater during the Decommissioning phase (Table 9-43):

Table 9-43:Decommissioning phase Groundwater quality impact 1

IMPACT ACTIVITY: Break down and remove all infrastructure: Quantity - Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Medium Term > 18 months < 5 years	Medium Term > 18 months < 5 years
Magnitude (Major, Moderate, Minor)	Minor +	Minor+
Probability (Definite, Possible, Unlikely)	Definite	Possible
Calculated Significance Rating (Low, Medium, High)	Medium	Medium
Impact Status: (positive or negative)	Positive	Positive
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖ None		
Mitigation measures: ❖ Monitor the water table.		

Table 9-44:Decommissioning phase Groundwater Impact 2

IMPACT ACTIVITY: Break down and remove all infrastructure: Quality - The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Long Term > 5 years	Long Term > 5 years
Magnitude (Major, Moderate, Minor)	Minor +	Minor +
Probability (Definite, Possible, Unlikely)	Possible	Possible

IMPACT ACTIVITY: Break down and remove all infrastructure: Quality - The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.		
Calculated Significance Rating (Low, Medium, High)	Medium	Medium
Impact Status: (positive or negative)	Positive	Positive
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖ None		
Mitigation measures: ❖ Monitor groundwater quality in all boreholes. ❖ Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs.		

9.2.3.2.1 Overarching Groundwater Management Measures

Several broad over-arching groundwater management measures should be implemented by Amandelbult to minimise impacts on groundwater for the TSF complex during decommissioning phase.

Table 9-45:General groundwater management measures

Decommissioning and Closure Phase
Complete all rehabilitation to a satisfactory level, focusing specifically on stormwater management. Clean runoff must be diverted and dirty water captured. Measures must be put in place during TSF rehabilitation to prevent erosion.
Continue with the groundwater monitoring period for a minimum of two years after completion of the rehabilitation. The continued need for groundwater monitoring will depend on the outcome of the final closure assessment.

9.2.3.3 Air Quality

See section 9.2.1.5.1 and Table 9-11 under the construction phase above for applicable impacts identified.

9.2.3.4 Noise

See section 9.2.1.89.2.1.8 and Table 9-17 and Table 9-18 per construction phase impact and mitigation measures.

9.2.3.5 Soil and Agricultural

The following potential impacts were considered on Soil and Agriculture during the Decommissioning phase (

Table 9-46):

Table 9-46: Decommissioning phase of Soil and Agriculture

NATURE OF THE IMPACT: Loss of Land Capability		
	Impact Rating Without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Local	Local
Duration *(Short term, Medium term, Long term)*	Long Term > 5 years	Medium Term > 18 months < 5 years
Magnitude *(Major, Moderate, Minor)*	Minor-	Minor-
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Low**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation measures ❖ Rehabilitation of the Project area will be undertaken, including the ripping of the compacted soil surfaces and establishment of vegetation. ❖ Ensure successful rehabilitation of areas disturbed during construction to decommissioning and these areas are stabilized to avoid impacts to adjacent areas. ❖ Ensure rehabilitation of contaminated soil by removal of pollutants by implementing methods such as bioremediation and phytoremediation.		
Environmental Risk Significance (Post-mitigation)		Low
Cumulative Impacts		Yes

9.2.4 POST-DECOMMISSIONING PHASE

The following activities are expected to occur during the post-closure phase of the project.

Table 9-47:Summary table of the Activities associated with this post-closure phase of the project

Activity	**Description**
Post-Closure	
15	Post- Closure Monitoring.

9.2.4.1 Surface Water

Should rehabilitation be successfully implemented, then it is unlikely that any negative impacts will occur during the post-closure phase. The removal of the TSF will result in a long term positive impact on the surrounding watercourses, provided that rehabilitation is successfully implemented.

9.2.4.2 Groundwater

The following potential impacts were considered on Groundwater during the Post-Closure phase (Table 9-48):

Table 9-48:Post-Closure phase Groundwater Impact 1

IMPACT ACTIVITY: No activities		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Short Term < 18 months	Short Term < 18 months
Magnitude (Major, Moderate, Minor)	Minor +	Minor +
Probability (Definite, Possible, Unlikely)	Definite	Define
Calculated Significance Rating (Low, Medium, High)	Medium	Medium
Impact Status: (positive or negative)	Positive	Positive
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Cumulative impact: (Yes or No)	Yes	
Residual impacts: ❖ No impact foreseen		
Mitigation measures: ❖ Monitor the groundwater table.		

Table 9-49: Post-Closure phase Groundwater Impact 2

IMPACT ACTIVITY: The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed.		
	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term)	Long Term > 5 years	Long Term > 5 years
Magnitude (Major, Moderate, Minor)	Minor +	Minor +
Probability (Definite, Possible, Unlikely)	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	Medium	Medium
Impact Status: (positive or negative)	Positive	Positive
Reversibility: (Reversible or Irreversible)	Irreversible	

IMPACT ACTIVITY: The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed.	
Irreplaceable loss of resources: (Yes or No)	No
Can impacts be enhanced: (Yes or No)	Yes
Cumulative impact: (Yes or No)	Yes
Residual impacts: ❖ None	
Mitigation measures: ❖ Monitor groundwater quality in all boreholes. ❖ Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs.	

9.2.4.3 Social Economic

The reclamation will potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex. The overall TSF footprint will form part of AMB's overall Rehabilitation strategy and Closure Plan.

9.2.4.3.1 Unlocking of land for future use

As indicated above, the reclamation project will open additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

Table 9-50:Rating of Land Restoration

Impact Name	Land Restoration	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	Positive
Magnitude	Minor +	Minor +
Duration	Long Term > 5 years	Long Term > 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Definite	Definite
Environmental Risk Significance (Pre-mitigation)		Medium +
Management Measures:		
Develop a future land use plan as part of AMB's overall Rehabilitation strategy and Closure Plan		
Environmental Risk Significance (Post-mitigation)		Medium +
Cumulative Impacts		No

9.2.4.3.2 Decrease/cessation of employment

The termination of the Project will end the employment contracts with the workforce at the Project.

Table 9-51:Rating of Cessation of Employment and Income

Impact Name	Cessation of employment and income	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Magnitude	Moderate -	Minor -
Duration	Long Term > 5 years	Long Term > 5 years
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
❖ Consider implementing a portable skills programme for the existing workforce. ❖ Consider placement of workers in other Rustenburg Mines operations.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		No

9.2.5 CUMULATIVE IMPACTS

9.2.5.1 Heritage

As no heritage features of cultural significance are located within the development plan, the foreseen cumulative impact can be seen as negligible.

9.2.5.2 Surface Water

Cumulative impacts are impacts that result from the incremental impact of the proposed activities on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.

The project is located in a catchment that has been impacted by mining. The implementation of a sound SWMP is crucial to contain dirty water runoff from the reclamation, processing and stockpiling areas. The monitoring and maintenance of the implemented SWMP is of utmost importance, to ensure that spillages into the downslope watercourses do not occur. Should the above not be done, then in the long term, the Project has the potential to cumulatively add to the mining impacts in the catchment.

The cumulative impact of the Project on the surface water of the catchment is rated in Table 9-52.

Table 9-52:Cumulative impact rating for surface water

NATURE OF IMPACT: Should dirty water runoff not be contained, then the Projecthas the potential to add cumulatively to the mining impacts in the catchment		
-	Impact Rating without Mitigation	Impact Rating with Mitigation
Extent (Local, Regional, International)	Regional	Local
Duration (Short term, Medium term, Long term)	Long term	Long term
Magnitude (Major, Moderate, Minor)	Major	Minor
Probability (Definite, Possible, Unlikely)	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	High	Low
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts ❖ None foreseen.		
Mitigation measures ❖ Implementation of the proposed SWMP to contain dirty water runoff.		

9.2.5.3 Groundwater

Cumulative impacts result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities (e.g., discharges of high salt or metal loads to a river that combine to cause a reduction in the use of the resource that is greater than the additive impacts of each pollutant). Cumulative impacts can occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.

The Amandelbult TSF Reclamation and Processing Project is surrounded by historical and active tailings deposition sites, mining activities, a Processing Plant and agricultural activities. Cumulatively all these activities contribute to the surface and groundwater quality impacts identified during the Amandelbult Mine Complex TSF 2 reclamation study and could also impact the groundwater resources, especially in terms of quality.

There is a risk that regional activities are likely to affect groundwater quality at Amandelbult TSF Reclamation and Processing Project during the operational phase as well as post-closure in the long term. It may not be possible in future to distinguish between impacts associated with the reclamation of TSF 2 and those associated with regional activities. The main objective of a detailed groundwater monitoring program is to

prepare a dataset with which to isolate impacts relating to the TSF complex activities, compared to those of regional activities not associated with the Amandelbult TSF complex. Monitoring requirements are discussed in the EMPr.

9.2.5.4 Biodiversity

The quantitative impact of the proposed project in isolation on terrestrial biodiversity is anticipated to be "low" due to the expected adherence to mitigation. The cumulative impact of the proposed project on habitats, plants and animals is anticipated to be "low". The project area has undergone historic and current disturbance, like the disturbances that the local area has undergone.

After implementation of the mitigation measures as stipulated above the integrity and functionality of the natural habitat is not expected to deteriorate further as a result of the proposed development and no irreplaceable loss of terrestrial biodiversity is anticipated.

9.2.5.5 Soil and Agricultural

The quantitative impact of the Project in isolation on agriculture is anticipated to be "Low" due to the presences of low agricultural potential soils. The cumulative impact of the Project is anticipated to be "Medium". The Project area has undergone historic and current modification, like the developmental disturbances associated to the mining activities. Furthermore, the combined effect of the existing multiple mining activities, together with the proposed activities are expected to have a significant impact on the soil resources and the land capability of the area over time and space.

After implementation of the mitigation measures such as implementation of erosion control methods, preventing soil contamination and rehabilitating disturbed and bare surfaces as stipulated above the agricultural productivity of the area is not expected to deteriorate further because of the proposed development and no irreplaceable loss of resources is anticipated.

Table 9-53:Cumulative Impacts associated with the Proposed Project

Status	Cumulative Effect	Priority Factor	Post-mitigation ER	Can impact be mitigated?	Is the impact acceptable?
Impact in isolation	1	1.0	Low	Yes	Yes
Cumulative impact	2	1.7	Medium		

9.3 Specialist Studies Conclusions and Recommendations

The preceding sections of Chapter 8 of this report together with the specialist studies contained within Appendices D of this EIA provide a detailed assessment of the potential impacts that may result from the reclamation and reprocessing of the project.

This section aims to conclude the environmental assessment providing a summary of the results and conclusions of the assessment of the project as found in the Specialist Studies. In so doing, it draws on the information gathered as part of the EIA process, the knowledge gained by the environmental specialists and the EAP and presents a combined and informed opinion of the environmental impacts associated with the project.

No environmental fatal flaws were identified in the detailed specialist studies conducted, provided that the recommended mitigation measures are implemented. These measures include, amongst others, the avoidance of highly sensitive features within the project site by the development footprint and the undertaking of monitoring, as specified by the specialists.

The potential environmental impacts associated with Project identified and assessed through the EIA process include:

9.3.1 Biodiversity

The PAOI exists in a predominantly secondary or modified state, having been subjected to various anthropogenic impacts from ongoing mining activities and the associated edge effects. This habitat is unlikely to fully recover without human intervention and will continue to degrade without further active rehabilitation.

The completion of this terrestrial biodiversity assessment led to a validation of the 'Low' Terrestrial Biodiversity Theme Sensitivity as set out in the National Environmental Screening Tool.

The Animal Species Theme sensitivity is 'High' for the PAOI as allocated by the National Environmental Screening Tool, which was disputed as 'Low'. Plant Species Theme sensitivity is 'Low' for the PAOI as allocated by the National Environmental Screening Tool, which was validated as 'Low'.

9.3.1.1 Impact Statement

The location, state and size of the ecosystem suggests that it is unlikely that any functional habitat will be lost because of the impacts arising from the proposed activities. However, these assumptions pertain to the terrestrial habitat only and the recommendations and mitigations presented in the accompanying wetland assessment must be strictly adhered to.

9.3.1.2 Specialist Opinion

It is the opinion of the specialist that the proposed development is favourable only if all mitigation measures provided in this and other specialist reports are implemented, as well as the following:

- An alien and invasive species management plan must be compiled and implemented from the onset of the project.
- A rehabilitation plan must be compiled and implemented post construction.
- A soil erosion plan must be compiled and implemented from the onset of the project.

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9.3.2 Wetlands

9.3.2.1 Conclusion and Recommendations

This section outlines the general mitigation measures to be implemented as a precautionary measure to minimize potential environmental impacts, ensure compliance with relevant regulations, and promote best practices throughout the project lifecycle.

- Erosion and Sediment Control:
  - Install silt fences, sediment traps, and erosion control blankets to prevent soil and sediment from entering the drainage during excavation and backfilling.
- Minimize Disturbance:
  - Restrict construction activities to the smallest area necessary and avoid unnecessary clearing of vegetation.
- Timing of Works:
  - Schedule construction during dry periods to reduce the risk of runoff and sedimentation.
- Stormwater Management:
  - Implement temporary stormwater diversion and containment measures to prevent construction runoff from reaching the drainage.
- Spill Prevention and Response:
  - Store fuels, lubricants, and chemicals in secure, bunded areas away from the drainage. Keep spill kits on site and train workers in spill response procedures.
- Rehabilitation and Revegetation:
  - Restore disturbed areas promptly after construction by replanting native vegetation or applying ground cover to stabilize soils and prevent erosion.
- Buffer Zones:
  - Avoid the 15 m drainage buffer, unless for activities that have been authorised as part of the project.
- Waste Management:
  - Collect and properly dispose of all construction waste, including excess soil, packaging, and materials, to prevent pollution of the drainage.

Within the 500 m PAOI, two drainage features were identified and are effectively avoided by the proposed development. These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from construction or operational activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

9.3.2.2 Risk and Impact Statement

No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for

a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible.

It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.

9.3.2.3 Specialist Opinion

No fatal flaws were identified for the project. It is the opinion of the specialists that the project may be favourably considered for approval, and the Competent Authority must consider the prescribed mitigation measures for the authorisation.

9.3.3 Surface Water

In conclusion, the most important aspect to prevent negative impacts from a surface water perspective, is to ensure that a sound SWMP is implemented prior to the commencement of reclamation activities, in accordance with the conditions stipulated in GN R704. Monitoring and maintenance of stormwater measures is of utmost importance and should be conducted as outlined in this report.

The following is recommended:

- The proposed SWMP under section 4 of the surface water specialist study report on Appendix D is implemented;
- The impact mitigation measures under section 6 of the surface water specialist study report on Appendix D are implemented; and
- The monitoring plans under section 7 of the surface water specialist study report on Appendix D implemented.

Should the above be implemented then from a surface water perspective the Project can commence.

9.3.4 Groundwater

9.3.4.1 Reasoned Opinion

It is the opinion of the project hydrogeologist that the reclamation of the Amandelbult TSF 2 can proceed, if the outcome of the groundwater impact assessment as well as the groundwater management and monitoring measures proposed in this report are considered and implemented. Since TSF 2 forms part of a larger complex of TSFs, its reclamation in isolation is not expected to significantly affect long term groundwater quality trends. The project does however provide an opportunity to incorporate measures to reduce long term impacts on groundwater quality associated with future tailings re-deposition on the cleared footprint, which otherwise would not have been possible. Should the results of the proposed monitoring program indicate adverse impacts on groundwater quality over and above those already evident from historical impacts, immediate measures must be taken to rectify non-compliances.

9.3.4.2 Conclusions and Recommendations

AMB aims to reclaim and reprocess TSF 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs, using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of TSF 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams. The reclamation of TSF 2 will also open additional space for tailings deposition in the future, without extensions onto greenfield areas.

The Amandelbult TSF consists of four compartments, i.e. TSF 1, TSF 2, TSF 3A and TSF 3B. TSF 3A and TSF 3B are considered as "wet dams" with tailings being deposited mainly on TSF 3B. Tailings on TSF 2 originated from the Merensky Concentrator Plant and deposition commenced during the early 2000s and ceased in 2022 (Kongiwe, 2025).

The RWD was constructed during the operational period of TSF 1. TSF 3A was constructed in 2004 and TSF 3B, with the Holding Dam by 2008. Deposition of tailings to TSF 1 took place up to 2021 on an ad hoc basis. It is planned that the TSFs will be operational until 2080 (Anglo American Platinum, 2024). At present, tailings are only deposited on TSF 3B.

The AMB Concentrator consists of two operational plants, namely UG2-1 and UG2-2 that treat mainly UG2 Reef; and one non-operational plant, Merensky Concentrator Plant. In addition to the two operational plants, AMB Concentrator operates a CRP which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2-1 and UG2-2 Plants.

The proposed area for the existing plants has already been disturbed, existing project laydown area located near the existing Amandelbult Concentrator Plant. The Project will also include the existing Pollution Control Dam for the existing PGM and Chrome Processing Plant and associated stockpile areas.

Residual tailings waste material from these plants will be sent to the TSF Thickener Plant and then to an existing holding tank located at the main Amandelbult Plant before it is transported via existing pipelines to TSF 3B for deposition.

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year LOO where hydraulic and mechanical reclamation would take place.

Environmental Setting: Amandelbult TSF 2 is in the A24C quaternary catchment, associated with the Crocodile River, and forming part of the Limpopo Water Management Area. This catchment drains in a north-easterly direction towards the Crocodile River. The sub-catchment of TSF 2 is drained by a non-perennial tributary of the Crocodile River that is associated with the Holding Dam. A very small portion of the northwestern corner of the TSF is in the A24F quaternary catchment, associated with the Bierspruit.

Regionally, the geological setting comprises rock formations of the RLS of the western limb of the Bushveld Igneous Complex. These formations include norite, pyroxenite, anorthosite and gabbro. The platinum and chrome reefs are hosted in the RLS and sub-outcrop northwest of the Amandelbult TSFs.

Quaternary sand and alluvium and surficial deposits are associated with the floodplains of the rivers and streams.

Site Assessments: A Hydrocensus was completed by Groundwater Abstract during June 2025. Sixteen boreholes were identified, all on AMB properties. All Hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the Hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m.

Groundwater level measurements were possible from 15 of the 16 boreholes. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line). The boreholes adjacent to the RWS and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.

If the groundwater levels are viewed as elevation above sea level, then the highest water elevations (968 m amsl) can be found at boreholes close to the TSF complex footprint (e.g. EMPR05, EMPR07 and EMPR15). The lowest water table elevation is 945 mamsl, at borehole WM08, followed by EMPR04 and MB16-5. Locally, surface drainage and possibly groundwater flow will be towards the local drainages, but the regional groundwater flow direction will be in a north to north-easterly direction.

Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly. The long term groundwater quality data was used during this impact assessment.

Fieldwork undertaken by Groundwater Abstract for the project was completed June 2025, which represents dry season conditions.

Prevailing Groundwater Conditions: Groundwater flow contours indicate the following:

- Groundwater flow is controlled by the position of the quaternary catchment divide. Flow from TSF 2 is in a north-easterly direction towards the Crocodile River. The groundwater flow gradient in this area is lower compared to other areas due to the impact of the water divide.
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- Groundwater flow underneath the TSF 3A and TSF 3B is also in a north-easterly direction towards the Crocodile River at a similar gradient.
- The flow from TSF 1 is likely to be predominantly in a north-westerly direction towards the Bierspruit. Flow patterns in this area seem radial, which normally suggests active recharge, but this is not the case

at TSF 1 as the radial flow is attributed to the position of the water divide along the quaternary catchment boundary.

- A strong radial flow has developed around the RWD due to infiltration of water from the dam to the shallow weathered aquifer. As discussed above, groundwater levels around the dam are on average 0.58 m below surface and at least 5 m above regional trends.

The water quality data obtained from the 2025 Hydrocensus was used to identify the indicator elements for the TSF 2 reclamation process. The dataset indicates that chloride and sulphate are the dominant major ions and iron and manganese the dominant metals. The following is concluded from the dataset evaluated:

- Sulphate will be considered as one of the indicator elements. The sample taken from Toe 27 indicates that the water draining from the TSF has higher sulphate concentrations compared to chloride. The sulphate originates from the oxidation of sulphide minerals exposed during mining. Sulphate is also present in concentrations above the WUL condition of 500 mg/L in the RWD and Holding Dam. In addition, elevated sulphate concentrations are recorded in some of the boreholes around the TSFs, especially EMPR05 located down gradient of TSF 1 and MBH16-04 located down gradient of TSF 3B.
- Boreholes around the TSFs have elevated sulphate concentrations compared to those in the plant area and down gradient of the RWD and Holding Dam. Of specific interest is that sulphate concentrations down gradient of the dormant TSFs are higher compared to the active TSF. This suggests and element of oxidation in the older tailings material. Sulphate concentrations down gradient of the RWD and Holding Dam are within the WUL condition based on the latest dataset.
- The second indicator element that will be considered is iron. Iron is also associated with the oxidation of sulphide minerals, for example pyrite. Although elevated manganese concentrations are also reported in groundwater, it is more likely that manganese is naturally occurring in the rock formations of the Upper Zone and therefore not necessarily an indicator element of the tailings material. Significantly elevated iron concentrations are reported in EMPR15, situated down gradient of TSF 2 and TSF 3A. The Holding Dam is also a source of iron, but to a lesser extent. Average iron concentrations in the RWD are below the WUL condition. The comparatively low iron concentrations in the dirty water dams are attributed to neutral pH conditions.
- It is noted that elevated iron concentrations are also present in the Holding Dam and in groundwater downgradient of TSF 1. Generally, groundwater downgradient of TSF 2 does not seem to have elevated iron concentrations based on the available dataset.
- Elevated cadmium and chromium concentrations were also recorded in the RWD and Holding Dam. Due to potential health impacts associated with these elements, they were included in the assessment. The results indicate that the TSF 2 toe drain and groundwater around the TSFs fortunately do not have elevated Cd and Total Cr concentrations. For this reason, these elements will not be used as indicator elements in this assessment. The presence of elevated Cd and Total Cr in the dirty water dams is however flagged and should be carefully monitored to establish trends and avoid health risks.

Numerical Modelling – TSF 2 Reclamation: The conceptual model discussed above was used to construct the numerical model for the project area. The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.

The WUL conditions for sulphate (<500 mg/L) and iron (<0.3 mg/L) were considered. The plumes used to delineate the zones of impact on groundwater quality are defined in terms of exceedances of the WUL conditions as well as in terms of significant risk to health. For sulphate, these concentrations correspond to 500 mg/L (zone of impact in terms of WUL condition) and 1000 mg/L (zone of significant impact). For iron, the concentrations are 0,3 mg/L (zone of impact in terms of WUL condition) and 2 mg/L (zone of significant impact).

Since all the sources of contamination assessed in this report are on surface, the impact on the weathered aquifer will be more significant compared to the underlying fractured aquifer. The extent of the iron plume is generally larger compared to sulphate, mainly since much lower iron concentrations are considered.

The extent of the delineated unchannelled valley-bottom wetlands for the project area is indicated on all maps that delineate the zones of impact on groundwater quality.

Anticipated impacts at the end of the operational phase of tailings reclamation: The objective of this scenario is to evaluate the impact of reclamation of tailings material deposited on TSF 2, as described by Kongiwe (2025). During this phase, the source of contamination will be gradually removed, but the rate of infiltration of potential leachate is expected to be higher because the tailings will be partially reclaimed using hydraulic methods.

During the reclamation of TSF 2, deposition on the other active TSFs will continue. Infiltration of leachate from TSF 1 as well as the RWD and Holding Dam will also continue to impact on groundwater quality.

The results indicate that the zones of significant impact on groundwater quality are only likely to manifest in the weathered aquifer and mostly only over the footprint area of the source areas. These are TSF 1 for sulphate and TSF 3A for iron.

The zone of impact in terms of the WUL conditions extend further from the sources and could in places exceed the Amandelbult Surface Rights and Mineral Rights Areas, especially in terms of iron. It is noted that the Amandelbult TSFs are on the border of these rights.

The zone of impact on the underlying fractured rock aquifer is expected to be much smaller compared to the weathered aquifer. In terms of sulphate, only a small portion underneath TSF 1 could be significantly affected. For iron, the zone of impact is expected to be limited to the footprint of TSF 3A.

The estimated zones of impact do not reach the Middelaagte graben, or the alluvial aquifer associated with the Crocodile River. No private boreholes are located within the delineated zones of impact.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions, but not with the zones of significant impact.

It is likely that the plumes may reach the unchannelled valley-bottom wetland down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 500 mg/L and iron concentrations above 0.3 mg/L in groundwater at this position. This impact is not considered significant.

Estimated impacts at the end of re-deposition of tailings: A high-level assessment was completed to evaluate the potential impacts on groundwater quality at the end of life of the TSFs and after re-deposition of tailings on the TSF 2 footprint area. To achieve this, it was assumed that tailings would be deposited on an unlined footprint area, as the surrounding TSFs are unlined. Based on the outcome of model calibration, it is estimated that the volume of leachate that infiltrates during operational tailings deposition would be less than 250 m3/d, over the 105-ha footprint of TSF 2. This is an estimated volume and for this reason, the level of confidence in this scenario is not considered high. It is therefore presented as an indicative scenario.

The zone of significant impact on the weathered aquifer for sulphate is expected to migrate in a westerly direction towards the Bierspruit, from the footprint of TSF 1. The zone of significant impact in terms of iron concentrations is expected to migrate in a southerly and westerly direction. The zone of significant impact is not expected to migrate vertically to the underlying fractured aquifer.

The zone of impact in terms of the WUL conditions expand in an easterly direction towards the Crocodile River, and northwards towards the RWD and the non-perennial stream draining from the dam as well as westwards towards the Bierspruit and to some extent southwards.

The sulphate plume does not reach the Middelaagte graben, but there is a small risk that the iron plume may reach this feature. The plumes do not reach the alluvium associated with the Crocodile River nor any of the private boreholes identified.

The extent to which the plume migrates outside the Amandelbult Surface and Mineral Rights areas expands slightly, especially in terms of iron concentrations. There is a small risk that the plume may reach the Zondereinde TSF complex to the south, but not significantly so.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions. The stream origins do not fall with the zones of significant impact except for the sulphate plume draining from the TSF 1. Where this occurs, sulphate concentrations exceeding 1000 mg/L may be present in the groundwater baseflow component to the stream. The impact is unlikely to result in significant impacts, mainly due to the very limited area over which it may manifest.

Over the life of the operations, the plumes are likely to extend past the unchannelled valley-bottom wetland delineated down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 700 mg/L and iron concentrations above 0.8 mg/L over the affected area. Although concentrations in groundwater are likely to increase, the impact on this wetland is not considered significant from a groundwater impact perspective.

Long term impacts: To assess potential long term impacts on groundwater quality, the model was run for a period of 100 years after the end of life of the Amandelbult TSF complex. During simulations, the Amandelbult rehabilitation plan for the TSFs were considered. Three long term scenarios were assessed, as discussed below:

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Scenario 1: no project option: The outcome is like that described for Scenario 2 below. This is mainly because the impact of other sources of contamination like TSF 1, TSF 3A and TSF 3B continue play a role in the long term. In addition, the re-deposition of tailings on the TSF 2 footprint is expected to increase impacts on groundwater quality over the life of the project as operational tailings deposition will allow for higher infiltration of leachate compared to dormancy.

Scenario 2: reclamation and re-deposition of tailings: It was assumed that active deposition on TSF 3B would continue until the end of life of the TSF complex and that TSF 1 and TSF 2 would remain dormant until then.

The results indicate that the plumes in the weathered zone are expected to recede towards the TSF complex in the long term as they start to dry out. The sulphate plume is expected to migrate in a westerly direction towards the Bierspruit but is not expected to reach the river in the long term.

The extent of the zone of significant impact in the weathered aquifer is however likely to remain in the weathered aquifer post-closure and will be mainly associated with the footprint of TSF 1 for sulphate and TSF 3A for iron concentrations. The zone of significant impact in terms of sulphate is expected to migrate in a westerly direction, approximately 850 m from TSF 1 in the long term. The zone of significant impact in terms of iron concentrations is expected to migrate in a north-easterly direction towards the Crocodile River but will not reach the river in the evaluation period.

The zone of impact in terms of WUL conditions will recede for sulphate concentrations in the weathered aquifer, to mainly within the Amandelbult Surface and Mineral Rights areas. The iron plume may however exceed the Surface and Mineral Rights Area along the easterly boundary over a distance of 960 m. There is a small risk that the iron plume may still reach the Middelaagte graben in the long term, but it will not reach the alluvium in the Crocodile River floodplain.

The potential impact on the underlying fractured aquifer is however expected to increase with time. Even though the vertical movement of contamination is expected to be slower compared to horizontal flow, with time, the plumes are expected to migrate down to the fractured aquifer. Simulations suggests that sulphate and iron concentrations are not expected to increase to above significant impact concentrations.

No private boreholes are in the zone of significant impact, in terms of sulphate or iron. The origins of the non-perennial streams are also outside the zone of significant impact, with the possible exception of the stream draining near TSF 1.

The sulphate and iron plumes are expected to migrate past the unchannelled valley-bottom wetlands delineated down gradient of the Holding Dam. Sulphate and iron concentrations are expected to reduce slightly in the long term compared to the end of the operational phase because of the rehabilitation measures implemented at closure. Despite the reduction, sulphate concentrations may exceed 550 mg/L and iron concentrations 0.6 mg/L in groundwater reaching this wetland. This is unlikely to result in significant impacts on the wetland from a groundwater perspective.

Scenario 3: reclamation and re-deposition of tailings with scavenger boreholes: A scenario was included to test the possible effect of using scavenger boreholes for plume reduction during the operational phase, as described by Water Hunters (2023). To achieve this, abstraction of groundwater at the rates reported in the 10 scavenger boreholes identified was implemented over the remainder of the life of the operations. It was assumed that pumping would cease at mine closure.

The results indicate that in the long term groundwater abstraction from EMPR15, located south of TSF 3A is not expected to significantly affect the delineates zone of impact on groundwater quality. It is specifically noted that this abstraction is unlikely to affect groundwater qualities in the long term around TSF 2 as the capture zone of EMPR15 is limited to the southern border of TSF 3A.

Groundwater abstraction is expected to reduce sulphate and iron concentrations, especially over the operational phase. This is discussed in more detail below.

Simulated sulphate and iron concentration time series evaluation: A comparison between simulated iron and sulphate concentrations indicates that there is very little difference between the three scenarios tested at borehole EMPR8, located closest to TSF 2. The results suggest that none of the scenarios tested are expected to reduce iron and sulphate concentrations immediately north of TSF 2, to below WUL conditions. In this area, sulphate concentrations are expected to remain between 700 and 800 mg/L in the long term. Iron concentrations are expected to increase to between 1.3 mg/L and 1.4 mg/L, as discussed earlier, but not to exceed 2 mg/L.

The results indicate that the reclamation of TSF 2 and the re-deposition of tailings over the remainder of the operational phase is likely to have a similar long term outcome compared to if the project does not go ahead. If scavenger boreholes are to be used to reduce long term impacts, additional abstraction boreholes should be considered around the Amandelbult TSF complex, especially along the eastern boundary where the plumes are expected to migrate outside the Amandelbult Surface and Mineral Rights areas.

9.3.5 Heritage

During the fieldwork no tangible heritage features or resources were identified.

Mitigation considerations and buffers to consider from the EIA phase are:

- No heritage resources are currently threatened in the direct development footprint, however, not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. It should be noted most of the study area was accessible for the fieldwork survey, but the vegetation is thick and visibility of sites such as Stone Age or Iron Age are difficult to locate.
- During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken, as indicated in the AMB CFP.

- During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken. It is recommended that the following chance find procedure should be implemented.
- A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr.
- An appropriately qualified heritage practitioner / archaeologist must be identified to be called upon in the event that any possible heritage resources or artefacts are identified.
- Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted.
- The qualified heritage practitioner / archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource.
- The contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the materials and data are recovered.

It is the combined considered opinion of the heritage specialists that the Project will have no direct impact on any heritage resources, or palaeontological resources, according to the SAHRIS palaeontological screening map which indicates insignificant/zero sensitivity for the project location.

With the implementation of recommended mitigation measures (CFP) the overall impact on heritage resources will be reduced to acceptable levels during the activities of the project.

PGS has determined that there are no heritage or palaeontological resource concerns that would preclude the proposed project from proceeding.

9.3.6 Air Quality

An air quality impact assessment was undertaken for the reclamation of the Amandelbult TSF Dam 2. PM2.5 and PM10 represent the main criteria pollutants of concern. The following conclusions can be made from the modelling results:

- Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM10 and PM2.5 in downwind areas on windy days. The highest expected concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below the PM10 and PM2.5 NAAQS.
- The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF Dam 2.
- The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of discrete receptor 1 by approximately 30%.

The Amandelbult TSF Dam 2 is situated within the WBPA where particulate matter is one of the pollutants of concern. Therefore:

- Spray-on mitigation measures on the haul roads must be regularly and efficiently applied.
- A strict speed limit of 40 km/hr must be enforced on all haul roads.
- Mechanical materials handling must be kept to a minimum.
- Drop height at materials transfer points must be kept to a minimum.
- The use of temporary storage piles must be kept to a minimum.
- The width of the stripped band for hydraulic reclamation must be restricted to a maximum of 30 m.
- All tailings material must be removed down to 'red earth' as the area of work progresses and all remnants of tailings material which could be exposed to wind erosion should be removed.

Furthermore, the proposed Amandelbult TSF Dam 2 reclamation project is to include a combination of hydraulic and mechanical reclamation methods. The proportion of the two methods was not known at the time of preparing this assessment. Emissions from hydraulic reclamation are far lower than those from mechanical reclamation, with emissions from haul trucks and materials handling representing the biggest sources. The further into Dam 2 that reclamation takes place, the longer the haul roads and hence the greater the emissions. This report has assessed the worst-case scenario, in line with the mandate for regulatory modelling, of the highest proportion of mechanical reclamation together with the lowest possible proportion of hydraulic reclamation. This means that any increase in the proportion of hydraulic reclamation can be considered a mitigation measure, with complete hydraulic reclamation representing the best-case scenario for air quality impacts.

If all possible mitigation measures are put in place and adhered to meticulously, this project, in terms of air quality, in our opinion, can be authorised.

The evaluation of the air quality impacts from mine tailings is based on a series of assumptions. While care has been taken to assess the potential air pollution impact from the project, further research on tailings emission rates or actual on site continuous monitoring may result in different conclusions.

9.3.7 Social Impact

As indicated in Table 9-54 below, the project will have positive impacts on local employment during the construction and operational phases. Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.

Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years. These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

Table 9-54:Summary of Socio-Economic Impacts

Impact Description	BEFORE MITIGATION SIGNIFICANCE	AFTER MITIGATION SIGNIFICANCE	Cumulative Impact
Construction Phase			
Employment and Income	Low+	Medium +	No
Informal influx of job-seekers	Low-	Low -	Yes
Nuisance factors	Low -	Low -	Yes
Operational Phase			
Employment and Income	Medium +	Medium +	No
Informal influx of job-seekers	Medium -	Medium -	Yes
Nuisance factors	Medium -	Medium -	Yes
Community health and safety	Medium-	Medium -	Yes
Impact on adjacent farmers	Low -	Low -	Yes
Post- Closure			
Unlocking of land	Medium +	Medium +	No
Cessation of employment	Medium -	Medium -	No

In conclusion, the Project is in line with development priorities to support continued job creation in the local area as well as local priorities to provide continued support to the local platinum sector as articulated in the TLM SDF. There are no fatal flaws associated with the social risks of the project and most negative impacts can be effectively managed. Based on the findings of the SEIA for the project it is therefore recommended that the Project be approved.

9.3.8 Noise

This Environmental Noise Impact Assessment (ENIA) covers the proposed development of the AMB Tailings Reclamation and Processing Project, just west of Amandelbult, Limpopo. This assessment mainly focusses on the noise impact from the proposed processing plants, as the tailings reclamation activities, whether hydraulic or mechanical would take place further than 50m from NSR (and noise levels will be relatively insignificant).

The potential worst-case noise rating levels were calculated using a sound propagation model using conceptual scenarios for two potential operational phases, which determined that the potential noise impacts at the project could be:

- Of a low significance for daytime operational activities associated with the AMB project;
- Of a low significance for night-time operational activities associated with the AMB project;
- Of a low significance for daytime operational activities associated with the AMB project;
- Of a medium significance for night-time activities associated with the AMB project. This medium significance might relate to the strict EIA criteria used, and the assumption that the higher noise levels may be considered disturbing or annoying by the closest NSR. Mitigation may be difficult, though warning NSR about the potential increased noises levels prior to the development could reduce the probability of NSR considering the noise to be disturbing.

The noise-generation scenario's considers noise-generating activities close to the verified NSR, using conceptual scenarios to assess the potential noise impact at these NSR. The scenarios do consider potential

cumulative effects. Existing processing activities are generally audible at the closest NSR, and the proposed additional processing and material handling activities would raise the noise levels at the closest NSR. The increase however is not considered a fatal flaw, and it is recommended that the AMB Reclamation and Processing Project be authorised (from a noise impact perspective).

From an acoustic standpoint, the south-east alternative to the existing stock pad is the preferred location over the north-east option. However, neither alternative will be pursued, and the existing stock pad will remain in use.

This noise impact assessment is sufficient, but it is recommended that a noise monitoring programme be designed by an acoustic specialist for implementation.

9.3.9 Soil and Agricultural

The proposed project area is dominated by soils with low agricultural potential such as Arcadia, and Witbank. No high potential soils or active cropping practices were identified within the proposed project area. It should also be noted that the proposed project will be undertaken on an existing and operational mining footprint. Therefore, the overall site verified land capability of the proposed project area is predominately "Low" sensitive.

The land capability dataset (DAFF, 2017) indicates that the proposed project area falls predominately within the "Low-Moderate" sensitivity. The remaining areas have "Moderate" and "Very Low to Low" sensitivities. The baseline soil findings, current land uses and the calculated land potential disputes the agricultural theme tool, in areas demarcated with "Low-Moderate" and "Moderate" land capability sensitivities and further concur to an extent with the agricultural theme tool on areas demarcated with "Very Low to Low" sensitivity. The overall sensitivity of the proposed project area is Low.

It is the specialist's opinion that the proposed Amandelbult TSF project will have an overall low residual impact on the agricultural production ability of the land. The proposed project and associate infrastructure may be favourably considered for development, provided mitigation measures are implemented.

9.3.9.1 Specialist Statement

The proposed development area will have an overall low residual impact on the agricultural production capability of the area. The proposed development can be favourably considered for authorisation. The following serves to substantiate this statement:

- The site verified land capability of the Proposed Project area is low;
- The agricultural potential of the area ranged is low;
- There are no active crop farming areas within the 50 m buffer of the project area; and
- The overall agricultural sensitivity for the project is low.

9.3.9.2 Statement Conditions

The project may be favourably considered for authorisation and is not subject to any conditions.

9.4 Summarised Environmental Risk Matrix

A detailed description of the methodology utilised to determining the environmental impacts and their respective probability, magnitude and severity is provided in Section 8.1 as well as in the specialist reports contained in Appendix D.

During the risk assessment process, it was found that the negative impacts of the Project with mitigation would be mostly medium to low in nature, and the positive impacts low to medium

The EAP and environmental consultants responsible for the compilation of this document, and PPP feel that the project should be approved, on condition that the AMB implements all identified management measures and implements the monitoring and mitigation plans.

Table 9-55: Key Findings

Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
Socio-Economic	**Construction Phase**		
	Employment and Income	Low +	Medium +
	Informal influx of job-seekers	Low -	Low -
	Nuisance factors	Low -	Low -
	Operational Phase		
	Employment and Income	Medium +	Medium +
	Informal influx of job-seekers	Medium -	Medium -
	Nuisance factors	Medium -	Medium -
	Community health and safety	Medium -	Medium -
	Impact on adjacent farmers	Medium -	Low -
	Post- Closure		
	Land Restoration	Medium +	Medium +
	Cessation of employment	Medium -	Medium -
Air Quality	**Construction Phase**		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -	Medium -
	Operational Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -	Medum -
	Post-Closure Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medum -	Medium -
Terrestrial Biodiversity	**Construction Phase**		
	Environmental and Groundwater Pollution	Low -	Low +
	Introduction of alien and invasive species, especially plants	Low -	Low +
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	Low -	Low -
Soil and Agriculture	**Construction Phase**		
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Medium -	Low -
	Operational Phase		
	Loss Land Capability	Medium -	Low -
	Decommissioning Phase		
	Loss Land Capability	Low -	Low -

Specialists Name	Impact Description	Before Mitigation Significance	After Mitigation Significance
Heritage	**Construction Phase**		
	Destruction of cultural heritage resources	Medium -	Low +
	Impact on cultural landscape	Medium -	Medium +
Noise	**Construction Phase**		
	Future Daytime construction activities – Scenario 2	Low -	Low -
	Future Night-time construction activities – Scenario 2	Low -	Low -
	Operational Phase		
	Future Daytime Operational Activities – Scenario 2	Low -	Low -
	Future Night-time Operational Activities – Scenario 2	Low -	Low -
	Worst-case daytime operational activities	Low -	Low -
	Worst-case night-time operational activities	Medium -	Low -
Groundwater	**Construction Phase**		
	Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.	Low -	Low -
	Operational Phase		
	The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying formations, but the additional recharge should be neglectable.	Low -	Low+
	Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.	High -	Medium -
	Decommissioning Phase		
	Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected	Medium +	Medium +
	The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.	Medium +	Medium +
	Post- Closure Phase		
	The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed.	Medium +	Medium +
Surface water	**Construction Phase**		
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Medium -	Low -
	Operational Phase		
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	High -	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	High -	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Medium -	Low -

Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	High -	Low -
Wetlands	**No Impact**		
	No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible. It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.		

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10 INFORMATION FOR CONSIDERATION

10.1 Assumptions, Uncertainties and Gaps in Knowledge

The following assumptions and limitations are applicable to this EIA report:

10.1.1 Biodiversity

The following assumptions and limitations are applicable for the Terrestrial Biodiversity Compliance Statement:

- It is assumed that all information received from the client and landowner is accurate;
- All datasets accessed and utilised for this assessment are considered to be representative of the most recent and suitable data for the intended purposes;
- Insects and invertebrates do not form part of the SoW for this assessment;
- Avifauna data for this assessment have been derived from both previous site visits and the current assessment of the PAOI;
- The assessment area (PAOI) was based on the footprint areas as provided for by the client, and any alterations to the area and/or missing GIS information pertaining to the assessment area would have affected the area surveyed and hence the results of this assessment;
    - The proposed layout was updated in October 2025, resulting in extrapolation in field data for the alterations in layout.
- The project description was based on information provided by the client, and any alterations to the area and/or missing data pertaining to the development would have affected the area surveyed and hence the results of this assessment;
- A single site survey was conducted on 29 April 2025. Therefore, this assessment does not consider temporal/seasonal trends. However, it is the opinion of the specialist stipulated herein that the data collected is sufficient to derive a meaningful baseline;
- While every effort was made to cover as much of the PAOI as possible, representative sampling was completed. Consequently, it is possible that some fauna and flora species present within the PAOI may have not been recorded during the field survey; and
- The GPS used in the assessment has an accuracy of 5 m and consequently any spatial features may be offset by up to 5 m.

10.1.2 Wetlands

The following aspects were considered as limitations:

- It has been assumed that the spatial files provided to the specialist are accurate;
- Areas characterised by external wetland attributes were the focus for this assessment, where wetlands were thereafter confirmed by soil form indicators;
- Areas within the 500 m PAOI were delineated and assessed via desktop where inaccessible.

- Ecological assessments were not conducted as only drainage features were identified within the PAOI that are typically modified, lacking habitat complexity, biodiversity, and attributes required for the detailed ecological assessments that wetland features undergo;
- Only Section 21(c) and 21(i) water uses are applicable to the use of the DWS RAM (2023) which has been excluded from the assessment given that the infrastructure does not fall within the regulated area of the drainage features, underscoring that the risks will be low and insignificant from the proposed development; and
- The GPS used for water resource delineations is accurate to within five meters. Therefore, the wetland delineation plotted digitally may be offset by a maximum of five meters to either side.

10.1.3 Surface Water

The following are assumptions and limitations for the conceptual SWMP:

- The SWMP is conceptual. A detailed SWMP should be designed based on the concept design prior to construction taking place.

10.1.4 Groundwater

The numerical modelling is based on the following assumptions:

- Aquifer parameters were inferred from the existing dataset as discussed on the groundwater impact assessment. Aquifer transmissivity and hydraulic conductivity information is based on field data. Aquifer storage coefficients are partially based on field data. Assumed values will be used to characterise the specific yield of the shallow weathered aquifer as well as the rate of recharge.
- Although faults and geological structures were intersected in the underground workings north of TSF 2, there is no information available that suggests that any of these extend to surface or to underneath the Amandelbult TSFs. It is therefore assumed that no faults or intrusions are present underneath the TSFs, that could act as preferential flow paths to groundwater. Only the faults associated with the Middelaagte graben are considered in this study. These are located northeast of TSF 2 and do not transect the TSF footprint area.
- It is assumed that current underground and opencast mining activities will not affect groundwater levels during the reclamation of TSF 2. The current dataset suggests that the zone of impact on groundwater levels, because of mining, does not extend to the Amandelbult TSFs. It is further assumed that future mining activities that will move towards the TSFs will also not affect groundwater levels since the depth of mining will exceed 1300 m below surface. This is due to the vertical separation between the shallow aquifers underneath the TSFs and the underground workings.
- The source characterisation used for the project was inferred from the existing dataset. As leach test data was not made available for the tailings material, the source term was inferred from the groundwater and dirty water monitoring dataset.
- Only advective transport of contaminants was simulated. Assumptions made regarding advection, are discussed on the Groundwater impact Assessment study. While it is acknowledged that attenuation

will take place in the soils, there is currently insufficient information available to quantify the extent to which this takes place. As such, simulations are based on the Precautionary Principle and take the worst-case scenario into consideration.

- The plan-view extent of the numerical model is based on natural groundwater barriers including water divides, as well as rivers and streams. It is assumed that the vertical extent of potential impacts associated with the TSF will not extend deeper than 100 m below surface.

10.1.5 Air Quality

- It was assumed that since the starting point of hydraulic reclamation is unknown, it is possible that trucks may still be hauling material while the first stripped band is being cleared.
- It was assumed that the face being removed by the jets of high-pressure water will be wet on a regular basis, therefore emissions will not be increased from this area, even though the tailings material is 'disturbed'.
- For the materials handling emissions, it was assumed that the tailings material would be dug out from the workface and dropped directly into the haul trucks. Furthermore, it was assumed that the material would then be dropped onto stockpiles at the scrubber plant and then be picked up again and dropped onto a conveyor or other means of transporting the material into the repulping plant. This accounts for three sets of materials handling. If the material is loaded and unloaded more times, emissions will be proportionally higher, and similarly, if the material is unloaded once at the scrubber/repulping plant (as assumed in the mitigated modelled scenario), emissions will be lower.
- For the mitigated scenario, it was assumed that dust suppression on the haul roads would be applied regularly to ensure its effectiveness.

10.1.6 Social-Economic

- Where up to date site specific / ward level socio-economic data is missing, municipal and provincial trends were used as proxy for trends in the local area.
- It is assumed that the local community development priorities are expressed through public processes and public documents such as municipal integrated development plans.

With regards to the S&EIA to be undertaken, the following should be noted:

- The SEIA includes consultations with key stakeholders and potentially affected parties as part of the impact assessment phase. This does not form part of the PPP required for the overall EIA process, except where it was specifically specified as such during the consultation session.
- Socio-economic baseline information was mainly based on official statistics from Stats SA, as well as municipal documentation. Sub-municipal data was only available for 2011. Recent trends, as well as information on a sub-municipal level, were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report.

10.1.7 Noise

10.1.7.1 Measurements of Ambient Sound Levels

Ambient sound levels are the cumulative effects of innumerable sounds generated at various instances both far and near. A high measurement may not necessarily mean that the area is always noisy. Similarly, a low sound level measurement will not necessarily mean that the area is always quiet, as sound levels will vary over seasons, time of day, dependant on faunal characteristics (mating season, dawn chorus) early hours of the morning, temperature etc.), vegetation in the area and meteorological conditions (especially wind).

Selecting an ideal measurement location could be difficult, with various criteria assessed to identify the viability of a certain location as a point to define ambient sound levels. When selecting a measurement location, the most important criteria would be:

- Security of the instrument (minimise risk to the technician; prevent theft or sabotage of the equipment);
- Safety of the equipment (ensure that it does not prevent, interfere or limit typical agricultural or household activities; ensure that the instrument are not in a location where an animal could damage the instrument); and lastly;
- The suitability of the measurement location to define ambient sound levels (the presence of certain trees or equipment, wetland or other water resources will influence ambient sound level significantly).

As such, after ensuring that the instrument is safe and secure, there are various environmental factors that could influence ambient sound levels measured. These constraints and limitations are discussed below and could include:

- Seasonal changes in the surrounding environment can influence typical ambient sound levels, as many faunal species are more active during warmer periods than the colder periods. As an example, cicada is usually only active during warmer periods. Certain cicada species can generate noise levels up to 120 dB for mating or distress purposes, sometimes singing in synchronisation magnifying noise levels they produce from their tymbals;
- In an area with various noise sources (roads, industry, urban development), defining ambient sound levels using the result of one 10-minute measurement may be very inaccurate (very low confidence level in the results) and measurements over a longer-term period is recommended;
- Some equipment that could influence measurements may be missed when deploying instruments, or, the equipment may not the audible. This could include equipment such as hidden water pumps and associated pipelines and outflows, ESKOM stepdown transformers, hidden compressors, inverters, condensers or other electrical equipment, etc. While not audible during deployment, such equipment may significantly influence ambient sound levels during quiet periods;
- Type, the number and sizes of trees in the vicinity of the instrument, as well as the distances between the microphone and these trees. Certain trees, especially fruiting trees could attract birds and other animals that will significantly impact on ambient sound levels;

- Type and number of animals in the vicinity of the microphone. Dogs, chickens, geese, etc. generate different noises randomly both night and day, and other livestock (sheep, goats, cattle, horses, etc.) kept in enclosures will also raise noise levels, especially if these animals are penned in large numbers;
- Measurements over wind speeds of 3 m/s could provide data influenced by wind-induced noises. However, when determining the ambient sound levels associated with increased wind speeds, it is desired to measure ambient sound levels at higher wind speeds;
- Ambient sound levels recorded near rivers, streams, wetlands, trees and bushy areas can be high due to faunal activity which can dominate the sound levels around the measurement point (specifically during summertime, rainfall event or during dawn chorus of bird songs). This generally is still considered naturally quiet and accepted as features of the natural environment, and in various cases sought after and pleasing. Ambient sound level data measured in such area however should not be used to develop an opinion in the potential prevailing ambient sound levels in the larger area;
- Exact location of a sound level meter in an area in relation to structures, infrastructure, vegetation, wetlands and external noise sources will influence measurements. It may determine whether you are measuring anthropogenic sounds from a receptors dwelling, or environmental ambient baseline contributors of significance (faunal, roads traffic, railway traffic movement etc.); and
- As a residential area develops the presence of people will result in increased dwelling related sounds. These are generally a combination of traffic noise, voices, animals and equipment (incl. TV's and Radios). The result is that ambient sound levels will increase as an area matures.

10.1.7.2 Calculating Noise Emissions – Adequacy of Predictive Methods

The noise emissions into the environment from the various sources as defined were calculated for the operational phase in detail, using the sound propagation model described in ISO 9613-2.

The following was considered:

- The octave band sound pressure emission levels of processes and equipment;
- The time the activities and equipment are operational and generating the noise rating levels as assumed. For this project a worst-case was assessed, assuming that most equipment (excluding the bulldozer used for clearing of vegetation) would be operating at a 100% load (generating the maximum noise rating levels), 100% of the time. In practice this is inaccurate as no activity or equipment are 100% operational of the time and the assumption will result in an over-estimated noise rating levels;
- The distance of the receiver from the noise sources;
- The impact of atmospheric absorption;
- The operational details of the Proposed Project, such as projected areas where activities will be taking place;
- Topographical layout; and
- Acoustical characteristics of the ground. Fifty per cent (50%) soft ground conditions were modelled, as the area where the mining activity would be taking place is well vegetated and sufficiently uneven to allow the consideration of relatively soft ground conditions. This is because the use of hard ground conditions could represent a too precautionary situation.

The noise emission into the environment due to potential project traffic was calculated using the sound propagation model described in RLS-90 used in Germany. Corrections such as the following were considered:

- Distance of receptor from the road;
- Road construction material;
- Average speeds of travel;
- Types of vehicles used; and
- Ground acoustical conditions.

10.1.7.3 Adequacy of Underlying Assumptions

Noise experienced at a certain location is the cumulative result of innumerable sounds emitted and generated both far and close, each in a different time domain, each having a different spectral character at a different sound level. Each of these sounds is also impacted differently by surrounding vegetation, structures and meteorological conditions that result in a total cumulative noise level represented by a few numbers on a sound level meter.

As previously mentioned, it is not the purpose of noise modelling to accurately determine a likely noise level at a certain receptor but to calculate a noise rating level that is used to identify potential issues of concern.

10.1.7.4 Uncertainties Associated with Mitigation Measures

Any noise impact can be mitigated to have a low significance; however, the cost of mitigating this impact may be prohibitive, or the measure may not be socially acceptable (such as the relocation of an NSR). These mitigation measures may be engineered, technological or due to management commitment.

For the purpose of the determination of the significance of the noise impact mitigation measures were selected that is feasible, mainly focusing on management of noise impacts using rules, policy and require a management commitment. This, however, does not mean that noise levels cannot be reduced further, only that to reduce the noise levels further may require significant additional costs (whether engineered, technological or management).

It was assumed that any mitigation measures proposed for the construction phase (if any), will be implemented and continued during the operational phase (if required).

10.1.7.5 Uncertainties of Information Provided

While it is difficult to define the character of a measured noise in terms of numbers (third octave sound power levels), it is difficult to accurately model noise rating levels at a receptor from any operation. The projected noise rating levels are the output of a numerical model with the accuracy depending on the assumptions made during the setup of the model. The assumptions include the following:

- That octave sound power levels selected for processes and equipment accurately represent the sound character and power levels of these processes and equipment. The determination of octave sound power levels in itself is subject to errors, limitations and assumptions with any potential errors carried over to any model making use of these results;
- Sound power emission levels from processes and equipment changes depending on the load the process and equipment are subject to. While the octave sound power level is the average (equivalent) result of a number of measurements, this measurement relates to a period that the process or equipment was subject to a certain load (work required from the engine or motor to perform action). Normally these measurements are collected when the process or equipment is under high load. The result is that measurements generally represent a worst-case scenario;
- As it is unknown which processes and equipment will be operational (when and for how long), modelling considers a scenario where processes and equipment are under full load for a set time period. Modelling assumptions comply with the precautionary principle and operational time periods are frequently over-estimated. The result is that projected noise rating levels would likely be over-estimated;
- Modelling cannot capture the potential impulsive character of a noise that can increase the potential nuisance factor;
- The XYZ topographical information is derived from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Global DEM data, a product of Japan's Ministry of Economy, Trade, and Industry (METI) and the National Aeronautical and Space Administration (NASA). There are known inaccuracies and artefacts in the data set, yet this is still one of the most accurate data sets to obtain 3D-topographical information;
- The impact of atmospheric absorption is simplified and very uniform meteorological conditions are considered. This is an over-simplification and the effect of this in terms of sound propagation modelling is difficult to quantify; and
- Acoustical characteristics of the ground are over-simplified with ground conditions accepted as uniform. Fifty per cent (50%) soft ground conditions will be modelled as the area where the activities are proposed is well vegetated and sufficiently uneven to allow the consideration of medium ground conditions.

10.1.7.6 Uncertainty on How Noise Could Affect People

- Cooper and Chan (2020) that discuss and present a number of dose-effect relationships as well as summarise a number of international guidelines and standards that can be used to assess noise effects from wind farms;
- Crichton et al (2014) that studied how expectations can influence symptom and mood reports in both positive and negative directions;
- Directive 2002/49/EC (2002), directing members of the European Union with a guideline on the assessment and management of environmental noise. This directive recommends the use of dose-effect relationships to assess the effect of noise on populations;
- Miedema and Vos (2013), that integrated the findings from a number of studies on the relationship between noise sensitivities and exposure to noise; and

- SANS 10103 (2008) that can be used to assess how environmental noise can be measured and used to assess annoyance in communities.

It is important to understand that guidelines and dose-effect relationship studies focus on how communities respond to noise and it is difficult to predict or foresee how an individual may respond to noise.

10.1.8 Soil and Agricultural

- The following aspects were considered as limitations;
- Only the slopes affected by the proposed development have been assessed;
- It has been assumed that the extent of the development area provided by the responsible party is accurate;
- The GPS used for ground truthing is accurate to within five meters. Therefore, the soil and the observation site's delineation plotted digitally may be offset by up to five meters to either side; and
- No heavy metals have been assessed, nor fertility been analysed for the relevant classified soils.

10.1.9 Heritage

The following assumptions and limitations are applicable for the Heritage:

Not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. Although most of the study area was accessible for the fieldwork survey there was very little ground visibility throughout most of the study area due to vegetation cover. Fieldwork was also focused on areas not previously disturbed, or where mining activities have taken place, thus focusing on areas with the highest potential to yield heritage resources.

Therefore, should any heritage features and/or objects be located or observed outside the identified heritage sensitive areas during the construction activities, a heritage specialist must be contacted immediately. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This applies to burial grounds and graves (BGG) as well. If any graves or burial places are located during the development, the procedures and requirements pertaining to graves and burials will apply as set out in the Chance Finds Procedure (CFP).

Changes in footprint and infrastructure layout after fieldwork resulted in a small section of already disturbed areas not surveyed during the fieldwork. These areas will be covered and cleared by an archaeologist according to the VP Cultural Heritage Management Plan (CHMP), AMB and Chance Finds Procedure (CFP) documents.

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10.1. Aspects for Inclusions as Considerations of the Environmental Authorisation

Should the DMPR grant EA for this project, it should be subject to the following conditions:

- The project may not commence prior to the EA being issued;
- The project should remain in full compliance with the requirements of the EMPr and with all regulatory requirements;
- The EMPr should be implemented by qualified environmental personnel who have the competence and credibility to interpret the requirements of the EMPr. Such persons must be issued with a written mandate by AMB management to provide guidance and instructions to employees and contractors;
- AMB must undertake external auditing of the environmental performance as per the conditions of the EA and provide the DMPR with a copy of the auditing report;
- The Applicant must report to the Department, with reason, if requirements of the EA have not been met;
- AMB must continue using its existing mechanisms and procedures for stakeholder engagement, including forums and a grievance process, which have been in place and effective for a long time. There is no need to introduce new engagement structures, as the current system sufficiently meets stakeholder needs.
- All laydown, storage areas etc should be restricted to transformed areas close to the preferred option and existing roads should be used as far as possible;
- Implement the stormwater management plan;
- Stormwater drainage shall be such that no surface water ponds other than in natural watercourses save for that associated with the attenuation of stormwater;
- Prevent rainwater and the process water that has fallen on site from leaving the site in an uncontrolled and unregulated fashion;
- Prevent dust pollution during dry, windy conditions;
- All necessary authorisation must be in place prior to commencement of the project activities;
- All employees and contractors should receive induction that includes an environmental awareness component (noise). This is to allow employees and contractors to become aware of the potential noise risks that activities (especially night-time activities) pose to the surrounding environment;
- AMB must adhere to the Rehabilitation Plan contained in the EMPr and attached as an Appendix to this report;
- The Applicant must maintain all financial responsibility throughout all phases of the project lifespan, including monitoring;
- Should the economics of Chrome and Platinum Group Metal price diminishes and not be seen as favourable to continue reclamation activities, AMB must continue to implement monitoring and rehabilitation requirements as set out in this EMP;
- The Applicant must ensure that there are sufficient funds set aside to complete the project fully;
- Management and Monitoring plans contained in the EMPr must be strictly adhered to;
- The approved AMB CFP is in place and included on the EIA under section 0 and must be implemented immediately.

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10.2. Proposed Management Objectives and Outcomes for Inclusion in the EMPr

The EMPr is compiled with the aim of achieving a required end state that, as far as possible, ensures that environmental quality is maintained. The impact management objectives and outcomes for the Project are as follows:

- To minimise the negative environmental impacts as far as feasible;
- To maximise the positive and minimise the negative socio-economic impacts;
- To capture, contain, treat and recycle all contaminated water arising from the mining operations on site and to prevent the discharge of contaminated water to the environment; and
- To maintain cordial relationships with local residents, authorities and other stakeholders via sustained open communication.

The EMPr describes how activities that have, or could have an adverse impact on the environment will be mitigated, controlled and monitored. Moreover, the EMPr will address the environmental impacts during the construction, operational, decommissioning (where applicable post-closure) phases of the Project. Due regard must be given to environmental protection during the entire Project, and a number of environmental recommendations are made in this regard. These recommendations are aimed at ensuring that AMB and the contractor maintains adequate control over the Project to:

- Minimise the extent of an impact during the life of the Project;
- Maintain a state of Environmental Quality following completion of the Project;
- Ensure appropriate restoration of areas affected by the Project; and
- Prevent long term environmental degradation.

10.3. Rehabilitation Requirements

Rehabilitation has been dealt with throughout this EIA. Mitigation / Management and Monitoring measures are proposed in the EMPr. Please refer to Section 3.5.7 for more detail on the proposed rehabilitation plans.

10.4. A Reasoned Opinion: Should the Amandelbult TSF Reclamation and Processing Project be Approved?

Key findings from the EIA have been incorporated into a high-level summary presented in the risk matrix found in Chapter 9.4.

10.1.10 Conclusions of the Report

Chapter 6 outlines the need for the project in a local and regional sense, as well as the overall desirability for the project in a local and regional sense.

An impact assessment has been undertaken using qualified specialists, which has incorporated extensive consultation with and participation of interested and affected parties. Applying the hierarchical approach to impact management, alternatives were firstly considered to avoid negative impacts, but where avoidance was not possible, to better mitigate and manage negative impacts. Where impacts were found to be potentially significant, various mitigation measures to manage and monitor the impacts of the project have been proposed. As a final option, offset strategies should be investigated, if feasible.

The findings of the impact assessment have shown that the Project would conclusively result in certain negative impacts during the operational phase to the environment, however, none of the specialist studies objected to the project. It must also be noted that all impacts identified can be mitigated and minimised by making use of the suggested mitigation measures.

Moreover, the scientific specialist mitigations measures have been included into this EIA and EMP report to reduce the significance of all the identified negative impacts. Based on the information contained in this report, it is the opinion of the EAP that the negative environmental impacts resulting from the Project can be mitigated to within acceptable limits and that the project should be authorised. This opinion holds provided all the recommendations proposed in the specialist studies and the EIA and EMP report as well as legislative requirements are implemented and adhered to.

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11 FINANCIAL PROVISIONS

A full Closure Cost and Rehabilitation assessment Report has been undertaken for this report and has been included in the **Appendix D7**. The information below has been retrieved from this report.

Cost & Risk Management Professionals (CRMP) was appointed to undertake the Rustenburg Platinum Mine Limited (AMB Mine) Closure Cost Assessment for 2025. The closure costing for the Amandelbult Tailings Reclamation and Processing Project is based on the costing methodology used by CRMP.

The closure cost assessment was developed in line with the requirements of the NEMA as amended. These Regulations provide that the holder of a mining right must make financial provision for rehabilitation of negative environmental impacts.

The financial provision must guarantee the availability of sufficient funds to undertake the following:

- Rehabilitation of the adverse environmental impacts of the listed or specified activities;
- Decommissioning and closure of the operations;
- Remediation of latent or residual environmental impacts which become known in the future;
- Removal of building structures and other objects; and/or
- Remediation of any other negative environmental impacts.

The Financial Provisioning Regulations, 2015 (GN R1147) for the determination of financial provision for mine rehabilitation and closure were promulgated on 20 November 2015 under the NEMA, as amended. On 1 February 2024, the Minister of Forestry, Fisheries and the Environment (Minister) again amended the transitional period contained in regulation 17B of the Financial Provision Regulations, 2015. The transitional arrangements in regulation 17B of the Financial Provision Regulations allows the holder of a right or permit granted or issued, as the case may be, in accordance with the Mineral and Petroleum Resources Development Act, 2002 (MPRDA), who applied for such right or permit before 20 November 2015, to continue making financial provision in accordance with regulations 53 and 54 of the regulations published under the MPRDA.

Stated differently, a person who applied for a right or permit prior to 20 November 2015, is not yet required to comply with the Financial Provision Regulations. In the previous amendments to the regulation 17B of the Financial Provision Regulations, the Minister always specified a date by when the transitional period would expire and when all holders would be required to comply with the Financial Provision Regulations. However, this time the Minister has amended regulation 17B to provide that the transitional period will continue to apply until the Minister published a date by when all holders are required to comply with the Financial Provision Regulations.

It should also be noted that on 11 July 2022, the Minister of Forestry, Fisheries and the Environment published the latest draft version of the Proposed Regulations Pertaining to Financial Provisioning for the Mitigation and Rehabilitation of Environmental Damage Caused by Reconnaissance, Prospecting, Exploration, Mining or Production Operations NEMA Financial Provision Regulation. The draft regulations are intended to repeal and replace the current Financial Provisioning Regulations, 2015.

The closure model calculates the cost of demolishing, removing and rehabilitating each infrastructure components. The closure cost for undertaking this project has been included in Table 11-1 below.

11.1 Annual Rehabilitation Costs

Annual rehabilitation costs will be included into the operating budget of the mine. The operation has not been initiated and a Zero (R 0.00) rand annual rehabilitation cost is reported for the Amandelbult site.

11.2 Summary of Closure Costs

A summary of the closure cost estimate (excl. VAT) is presented in Table 11-1. These costs have been aligned to the preferred alternative scenario for this project.

This estimate has been compiled to a Schedule 5 (Class 5) level, reflecting conceptual planning detail and incorporating conservative assumptions. The figures cover the decommissioning of surface infrastructure (civils, structural steel, piping, cabling, and roads) as well as rehabilitation measures such as topsoil replacement and revegetation of disturbed areas.

It is important to note that:

- The estimate does not include any potential revenue from salvage, resale, or recycling of dismantled assets.
- Mechanical items have been excluded from the estimate.
- Only activities within the defined closure scope are included; latent or unforeseen liabilities are excluded.
- Rehabilitation costs are based on reinstating disturbed areas to a safe, stable, and non-polluting condition, with topsoil and vegetation measures forming the primary means of stabilisation.

The total closure estimate, exclusive of contingency or VAT, amounts to **R 10,444,463.**

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Table 11-1:Closure costs

Area Nr	Geographical Package	Civils	Building	Structural Steel	Piping	Cabling	Dams	Roads	Topsoil	Revegetation	Total
1000	Barge Pump	R -	R -	R 43 587	R 180 000	R 14 510	R -	R -	R -	R -	R 238 097
2000	Slurry Transfer Station	R 357 909	R 49 502	R 131 496	R 26 046	R -	R -	R -	R -	R -	R 564 953
3000	TSF No.2 Laydown Area	R 10 944	R -	R 9 502	R -	R -	R 17 708	R -	R -	R -	R 38 155
4000	Plant Feed Pipelines	R -	R -	R 18 799	R 2 874 000	R -	R -	R -	R -	R -	R 2 892 799
5000	Haul Road	R -	R -	R -	R -	R -	R -	R 825 185	R -	R -	R 825 185
6000	PGM and Chrome Processing Plant	R 137 478	R 14 610	R 95 130	R 26 313	R 8 034	R -	R -	R -	R -	R 281 565
7000	Rehabilitation	R -	R -	R -	R -	R -	R -	R -	R 2 620 369	R 2 983 341	R 5 603 710
	Total	**R 506 332**	**R 64 113**	**R 298 514**	**R 3 106 359**	**R 22 544**	**R 17 708**	**R 825 185**	**R 2 620 369**	**R 2 983 341**	**R 10 444 463**

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12 OATH UNDERTAKING

The EAP hereby confirms:

- The correctness, to the best of his knowledge, of the information provided in the specialist reports and on information provided by FWGR. The information was accepted as being as reliable as information generated during an EIA and a feasibility study, and provided in good faith, can be;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- The acceptability of the project in relation to the finding of the assessment and level of mitigation proposed.

KONGIWE ENVIRONMENTAL (PTY) LTD
Company Name

Ripfumelo Macevele	
Name of the Environmental Assessment Practitioner	**Signature**
2025/10/24	
Date	

13 REFERENCES

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Appendix A:
EIA Project Team CV's

PHATHUTSHEDZO MUNYAI

Junior Environmental Consultant
Kongiwe Environmental

PMUNYAI@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

International Association for Public Participation (IAP2)

Environmental Assessment Practitioners Association of South Africa (EAPASA)

EDUCATION

2023 - Occupational Workplace Health and Safety for the Mining Industry, Alison Collage
2023 - Risk Assessment Awareness, SHEilds Institute
2020 - B.A. Environmental Management, University of South Africa

LANGUAGES

English – Fluent Tshivenda – Fluent

KONGIWE

IMPACT

Phathutshedzo is a registered Environmental Assessment Practitioner with EAPASA and a member of the International Association for Public Participation (IAP2). With over three years of experience, he has provided environmental advisory services across mining, infrastructure, and waste management sectors. His capabilities span the full suite of EIA processes, including the preparation of BARs, EMPrs, Scoping Reports, and EIRs, as well as securing key environmental authorisations such as WULAs, Waste Management Licences, and Atmospheric Emission Licences. Phathutshedzo is particularly skilled in facilitating public participation processes in accordance with NEMA, and has a strong track record in navigating complex regulatory requirements. His earlier role as a Safety Officer in the mining sector enhances his integrated approach to environmental risk, compliance, and stakeholder engagement.

KEY SKILLS

- Environmental Assessment & Compliance
- Permitting & Regulatory Applications
- Stakeholder Engagement & Public Participation
- Project Support & Reporting

SELECTED PROJECT EXPERIENCE

Mining & Infrastructure Projects – Gauteng, Mpumalanga & Limpopo, South Africa (2025–Current)

Environmental Consultant
Conducting EIAs, including BARs, EMPrs, SRs and EIRs. Responsible for PPPs per NEMA Ch.6 and submission of EA applications for mining rights, prospecting, permits, WMLs and TSFs. Coordinated sub-consultant appointments for various proposed developments.

Mining Compliance Audits – Mpumalanga, South Africa (2025–Current)

Environmental Consultant
Conducting WUL and EMPr external audits across mining operations. Duties include site inspections, compliance checks and audit reporting with CAPs.

Mining & Industrial Projects – Mpumalanga, Limpopo & KZN, South Africa (2023–2024)

Environmental Consultant
Compiled BARs, EMPrs, SRs, EIRs, rehab plans and PPP reports. Managed stakeholder engagement and Section 24G applications for unauthorised activities (fuel depots, filling stations). Reviewed specialist inputs and provided mitigation recommendations.

Environmental Assessment Practitioners Association of South Africa

Registration No. 2021/4297

Herewith certifies that

PHATHUTSHEDZO NELSON MUNYAI

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2025

Expires: 31 March 2026

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

RIPFUMELO MACEVELE

Junior Environmental Consultant
Kongiwe Environmental

RMACEVELE@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

South African Council for Natural Science Professionals (SACNASP) – 2021

Environmental Assessment Practitioners Association of South Africa (EAPASA) – 2023

EDUCATION

2024 - B.Sc. Honours Environmental Management, University of South Africa
2018 - B.Sc. Environmental Science, University of Venda

LANGUAGES

English – Fluent
isiZulu – Fluent
Xitsonga – Fluent
Tshivenda – Fluent
Setswane – Fluent

KONGIWE

IMPACT

Ripfumelo is a Junior Environmental Consultant with hands-on experience supporting environmental assessments and compliance processes across the mining and infrastructure sectors. He holds a bachelor's degree in Environmental Sciences and is registered with both SACNASP as a Candidate Natural Scientist and EAPASA as an Environmental Assessment Practitioner. His project contributions include environmental impact assessments, water use licence applications, environmental management programmes, and site-based environmental monitoring. Ripfumelo is committed to regulatory compliance, technical quality, and building his expertise in environmental management through practical project involvement.

KEY SKILLS

- Environmental Compliance Monitoring and Auditing
- Environmental Impact Reporting and Authorisation
- ECO Field Work and Reporting
- Report Writing
- QGIS and Google Earth

SELECTED PROJECT EXPERIENCE

Mining and Industrial Projects – Gauteng, South Africa (2024–Current)

Environmental Consultant
Assisted in the EIA process for multiple mining infrastructure and effluent management projects, including mechanical reclamation of gold-bearing silts and tailings processing facilities. Supported IWULAs through the E-WULAAS portal and conducted authority engagements and stakeholder consultation meetings. Oversaw logistics and ensured compliance across overlapping EIA and WULA processes.

Renewable Energy Projects – Mpumalanga, South Africa (2025–Current)

Environmental Consultant
Contributed to the Basic Assessment process for a large-scale solar PV and BESS project. Responsibilities included environmental screening, regulatory coordination, and stakeholder engagement to support project authorisations.

Environmental Compliance Audits – Mpumalanga & KwaZulu-Natal, South Africa (2024–Current)

Environmental Consultant
Conducted external environmental compliance audits (EMPr, WUL, and WML) across multiple operational mining complexes. Evaluated compliance against authorisations, identified gaps, and proposed practical mitigation and improvement measures to align with legal and corporate environmental standards.

Environmental Assessment Practitioners Association of South Africa

Registration No. 2019/1051

Herewith certifies that

RIPFUMELO MACEVELE

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2025

Expires: 31 March 2026

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Ripfumelo Clarence Macevele

Registration Number: 128491

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Candidate Natural Scientist)

Effective **3 November 2021** Expires **31 March 2026**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

BRADLY THORNTON

Chief Executive Officer | Founder
Kongiwe Environmental

BTHORNTON@KONGIWE.COM
+27 (82) 361 4581
+27 (10) 140 6508
150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

GEOGRAPHICAL EXPERIENCE

AFRICA
South Africa, Namibia, Botswana, Zimbabwe, Mozambique, Malawi, Ghana, Mauritius, Morocco.

EDUCATION

2012 – MDP, Univ. of Stellenbosch Business School
2004 – BSc Hons Env. Management, RAU
2003 – BSc Geography & Geology, RAU

LANGUAGES

English – Fluent
Afrikaans – Average

KONGIWE

LEADERSHIP & IMPACT

Bradly Thornton is the Founder and CEO of Kongiwe, with over 20 years' experience in environmental advisory and geospatial sciences. He leads the company with a clear purpose: to deliver sustainable, technically sound solutions that balance development with environmental and social responsibility. Bradly oversees strategy, client delivery, business development and compliance. His expertise includes ESIAs, due diligence and environmental risk assessments for major multinational mining, energy, and infrastructure projects. Under his leadership, Kongiwe has grown into a trusted advisory partner, known for it's multidisciplinary team and it's ability to navigate complex regulatory environments while creating stakeholder value.

KEY SKILLS

- Environmental and Social Impact Assessment (ESIA)
- Environmental Regulatory Legal Compliance and Audit
- Environmental & Social Due Diligence (ESDD)
- ESG Strategy & Integration
- Sustainability Leadership and Impact Reporting
- GIS & Remote Sensing
- Stakeholder Engagement and Management
- Investor Relations and Business Development
- Cross-Border Project Delivery

SELECTED PROJECT EXPERIENCE

DRDGOLD Ltd (2018–Present)

Project Manager
Environmental Authorisations: City Deep, Rooikraal, Soweto Cluster, etc.

Sibanye-Stillwater (2020–Present)

Project Director
EMP & IWUL Amendments for Kloof and Driefontein operations.

Glencore Coal South Africa (2013–Present)

Project Director & Lead Auditor
Environmental audits and closure assessments across Mpumalanga.

Mkango Resources, Malawi (2014–Present)

Project Manager
ESIA for Songwe Hill Rare Earth Project; ESG reporting.

RAUBEX, Zimbabwe (2019–Present)

Project Director
Due diligence and ESG advisory for Beitbridge border infrastructure upgrade.

GRANT CORNISH-BOWDEN

Chief Operating Officer
Kongiwe Environmental

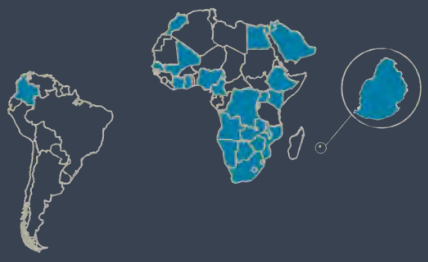
GCORNISH-BOWDEN@KONGIWE.COM

+27 (82) 448 1921

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

GEOGRAPHICAL EXPERIENCE



AFRICA
South Africa, Namibia, Botswana, Zimbabwe, Mozambique, Malawi, Mali, Lesotho Eswatini, Zambia, Democratic Republic of Congo, Angola, Rwanda, Kenya, Ethiopia, Cote d'Ivoire, Nigeria, Ghana, Cameroon, Morocco, Mauritius, Egypt, Senegal, Uganda.

OTHER
Kingdom of Saudi Arabia, Jordan, Columbia.

EDUCATION

2023 – Cert. Bus. Sustainability Leadership, Univ. of Cambridge

2022 – Cert. Private Equity, GIBS

2021 – Cert. Project Mgmt, USB

2005 – Hons Env. & Geo. Studies, UCT

2003 – BSocSci Env. & Geo. Sci, Soc. & Org. Behaviour, UCT

LANGUAGES

English – Fluent

Afrikaans – Average

KONGIWE

LEADERSHIP & IMPACT

As Chief Operating Officer at Kongiwe, Grant Cornish-Bowden brings 20 years of ESG and sustainability experience across 27 countries in Africa and the Middle East. He leads the company's strategy, technical delivery, and operational performance, with deep expertise in applying global ESG frameworks—particularly the IFC Performance Standards and EDFI requirements—across major infrastructure, energy, agriculture, and industrial sectors. Grant has advised DFIs, private equity, and multinational clients on ESG policy development, ESMS design, and due diligence throughout the project lifecycle, from feasibility to closure. His ability to translate regulatory and investor requirements into actionable strategies has positioned Kongiwe as a preferred partner for sustainable investment in emerging markets.

KEY SKILLS

- ESG Strategy & Integration
- IFC Performance Standards & EDFI Requirements
- Environmental & Social Due Diligence (ESDD)
- ESMS Development and ESG Policy
- Sustainability Leadership and Impact Reporting
- Stakeholder Engagement and Landowner Liaison
- Environmental and Social Impact Assessment (ESIA)
- ISO 14001 Environmental Auditing
- Project, Budget, and Team Management
- Investor Relations and Business Development

SELECTED PROJECT EXPERIENCE

Ansaldo Energia
Lead E&S Advisor
Environmental and social strategy, monitoring and reporting for the Avon Peaking Power Project – Africa's largest renewable PPP – aligned with IFC and Equator Principles.

Eskom
ECO & Unit Manager
Compliance monitoring across Eskom's 400 kV and 765 kV build programme. Led a team of 30+ professionals and advised on projects including Medupi, Kusile, Ingula PSS, and Sere Wind Farm.

ENRC
Project Manager
IFC-compliant ESIA and Resettlement Action Plan for the Chitima Coal Mine & 900 MW power station. Oversaw stakeholder negotiations and livelihood restoration for 5,000+ affected individuals.

Metier Private Equity
Project Director
ESG monitoring and compliance reporting for two small-scale hydro projects in Uganda. Supported EDFI-aligned investor with lender reporting and impact compliance (including FMO).

UMESHREE NAICKER

Principal Environmental Consultant

Kongiwe Environmental

UNAICKER@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

South African Council for Natural Science Professionals (SACNASP) – 2019

Environmental Assessment Practitioners Association of South Africa (EAPASA) – 2019

GEOGRAPHICAL EXPERIENCE

AFRICA
South Africa, Mozambique, Botswana, Tanzania, Zimbabwe, Swaziland and Lesotho

EDUCATION

2011 - B.Sc. Honours Environmental Monitoring and Modeling, University of South Africa

2006 - B.Sc. Biological Sciences, University of KwaZulu-Natal

LANGUAGES

English – Fluent

KONGIWE

IMPACT

Umeshree is a Senior Environmental Scientist with 17 years experience across South Africa and the wider African region, specialising in renewable energy, water, transport, and infrastructure projects. She has extensive expertise in environmental consulting, social impact assessments, and project management, having led ESIAs, Basic Assessments, Scoping Reports, Environmental Management Programmes, and stakeholder engagement processes in alignment with South African legislation and IFC Performance Standards. Umeshree has managed multidisciplinary teams, overseen specialist appointments, guided environmental processes through public participation and compliance phases, and represented clients in steering committee meetings, ensuring successful integration of environmental requirements into large-scale developments for both public and private sector clients.

KEY SKILLS

- Environmental and Social Impact Assessments (ESIAs)
- Basic Assessments, Scoping Reports & Environmental Management Programmes
- Project Management & Administration
- IFC Performance Standards Compliance
- Transaction Technical Advisory
- Stakeholder Engagement & Public Participation
- Strategic Report Writing & Client Liaison

SELECTED PROJECT EXPERIENCE

Mokolo and Crocodile River (West) Water Augmentation Project – South Africa (2018–2025)

Senior Environmental Scientist
Served as supportive lead to the environmental team on the development of project-specific environmental processes and report compilation including Environmental Management Programmes, technical evaluations, specialist appointments and management, and project management.

Waterkloof Solar IPP Programme – South Africa (2017–2020)

Senior Environmental Scientist
Conducted the Scoping and Environmental Impact Assessment (EIA) process, public participation process and baseline assessments for 108MW solar plant near Rustenburg.

Redevelopment of Six Border Posts – Lesotho (2016–2019)

Project Manager
Oversaw the environmental, civil, geotechnical, and building services teams as part of the feasibility and procurement processes.

HILTON SPARKS

Professional Engineer
Kongiwe Environmental

HSPARKS@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

Engineering Council of South Africa
Pr Eng 740604

South African Council for the Project and Construction Management Professions
PrCPM D/202/2004

Member of the South African Institute of Civil Engineers

Member of South African Institute of Municipal Engineers

EDUCATION

1977 - Business Management, Damelin

Year - NQF 7 Advanced Diploma Labour Based Construction, University of Natal

1969 - BSc Civil Engineering, University of Natal

KEY SKILLS

- Civil Engineering
- Project Management
- Risk Assesment
- Mentorship

LANGUAGES

English – Fluent Afrikaans – Fluent

KONGIWE

LEADERSHIP & IMPACT

Hilton is a registered Professional Engineer and Construction Project Manager with over 50 years of experience in the built environment. His career includes a decade at a parastatal water utility, where he was responsible for the design and construction of large-scale water treatment works (up to 800 Ml/d) and bulk pipelines (450 mm to 3500 mm diameter). He has extensive experience in the consulting sector, delivering infrastructure across civil engineering disciplines, including rural and urban water and sanitation, housing, and township development. Hilton applies PMBOK-aligned project management methodologies and has led multidisciplinary teams on projects from planning through to implementation. Throughout his career, he has also played a key role in mentoring young professionals, supporting skills development and knowledge transfer within project teams. His focus on technical quality, regulatory compliance, and efficient delivery has contributed to the successful implementation of a wide range of infrastructure programmes.

AWARDS

Year - 1997
Masimanyane Award for innovation and excellence in engineering
Repairs to Damaged Houses Project, Katorus

Year - 2000
Impumelelo Award for innovative dedicated work in the field of poverty reduction and community development
Repairs to Damaged Houses Project, Katorus

SELECTED PROJECT EXPERIENCE

Environmental Engineering & Infrastructure Projects – South Africa (2024–2025)

Senior Project Manager
Undertook investigation, civil design, and project management of environmental infrastructure, including surface water studies for multiple tailings storage facilities and as-built documentation for Gold operations. Implemented project management systems across environmental portfolios.

National Housing & Urban Upgrading Projects – Various Provinces (1994–2010)

Director & Project Manager
Managed diverse engineering projects from township developments and bulk services to high-profile assignments including Soccer City (2010 FIFA World Cup), SAFA House, Alexandra Renewal, and the award-winning Katorus housing repair programme. Delivered thousands of low-income erven and coordinated national housing subsidies.

VANESSA VILJOEN

Principal Stakeholder Engagement Consultant

Kongiwe Environmental

VVILJOEN@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

International Association for Public Participation Practitioners, Southern Africa (IAP2- Southern Africa)

GEOGRAPHICAL EXPERIENCE

AFRICA
South Africa, Democratic Republic of Congo, Nigeria, Botswana, Swaziland and Zambia

EDUCATION

2006 - International Association of Public Participation IAP2 course (all 3 modules) for Public Participation Practitioners

LANGUAGES

English – Fluent Afrikaans – Fluent

KONGIWE

LEADERSHIP & IMPACT

Vanessa Viljoen brings over 25 years of leadership in stakeholder engagement and public participation processes, consistently delivering high-impact support on complex Environmental Impact Assessments and related processes. Her ability to design and execute inclusive, legally compliant engagement strategies has helped build trust and transparency across diverse stakeholder groups, from government departments to local communities in both urban and remote rural contexts. Vanessa has played a pivotal role in strengthening client-community relations, managing sensitive consultations and ensuring projects meet regulatory and social licence-to-operate requirements. Her international experience across South Africa, the DRC, Nigeria, Zimbabwe, Botswana, Zambia and Swaziland reflects her capacity to navigate diverse socio-political environments, adapt engagement strategies across cultures and lead meaningful dialogue that shapes project success.

KEY SKILLS

- Managing Stakeholder Engagement Processes
- Stakeholder Mapping and Database Development
- Project/Logistical Co-Ordination
- Facilitation of Landowner Activities

SELECTED PROJECT EXPERIENCE

Solar PV Facility – Bloemfontein, South Africa (2023)

Stakeholder Engagement Consultant
Facilitated stakeholder consultation for EA and IWULA processes, including online and in-person engagements. Compiled PPP materials, developed stakeholder databases, and coordinated logistics.

Withok Reinstatement – Gauteng, South Africa (2024)

Stakeholder Engagement Consultant
Managed stakeholder consultation for EA and IWULA applications. Prepared PPP materials, maintained stakeholder databases, and coordinated engagement logistics.

Tailings Reclamation & Processing – Limpopo, South Africa (2025)

Stakeholder Engagement Consultant
Led PPPs for EA and IWULA processes, including online and in-person consultations. Prepared PPP materials, expanded stakeholder databases, and oversaw logistics.

Highway Upgrade Project – Zambia (2025)

Stakeholder Engagement Consultant
Enhanced stakeholder engagement for an IFC-compliant road upgrade project. Coordinated consultations with local consultants and ensured alignment with IFC performance standards.

iap2 international association for public participation SOUTHERN AFRICA

This is to certify that

Vanessa Viljoen

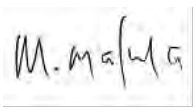
is a member of the

INTERNATIONAL ASSOCIATION FOR PUBLIC PARTICIPATION

for the year

2025

Membership Number IAP2SA162



Mike Makwela
Chairperson

THULI PHAKATHI

Stakeholder Engagement Consultant

Kongiwe Environmental

TPHAKATHI@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

International Association for Public Participation Practitioners, Southern Africa (IAP2- Southern Africa)

EDUCATION

2023 - Certificate Project Management, University of Pretoria

2020 - Postgraduate Diploma Media Practices, Boston Media House

2018 - Creative Writing and Editing for Corporate Publications, Institute for the Advancement of Journalism

LANGUAGES

English – Fluent
isiZulu – Fluent
Sesotho – Fluent
Sepedi – Fluent
Setswane – Fluent
Venda – Fluent

KONGIWE

IMPACT

Thuli is a Stakeholder Engagement Consultant with eight years of experience supporting mining, infrastructure, and environmental projects. She has managed stakeholder engagement processes across all ESIA phases, including overseeing the grievance office of a large-scale mining operation. A former board member of IAP2 Southern Africa (2019–2021), Thuli specialises in stakeholder consultation, regulatory liaison, and coordinating public meetings, including in remote rural areas. She is skilled in managing stakeholder databases and facilitating inclusive, transparent engagement to support project approvals.

KEY SKILLS

- Community Relations, Social Facilitation & Stakeholder Engagement
- Asset-Based Community Development (ABCD) Methodology
- Public Participation & ESIA Consultation Processes
- Facilitation of Landowner Activities & Community Meetings
- Grievance Mechanism Management & Conflict Resolution
- Project Logistics and Stakeholder Database Coordination

SELECTED PROJECT EXPERIENCE

Mine Re-Opening Social Research – South Africa (2022 to 2023)

Social Scientist Consultant

Conducted social research to guide the mine's re-opening process by analysing socio-economic conditions in surrounding communities. Led the grievance mechanism process and trained the Social Performance team.

SLP4 Social Research – South Africa (2022 – 2022)

Social Scientist Consultant

Conducted socio-economic research to inform the fourth Integrated Social and Labour Plan (SLP). Verified and expanded on survey and literature data to ensure that mine-supported initiatives benefit both local communities and employees.

Resettlement Housing Refurbishment – Limpopo, South Africa (2021 – 2022)

Social Scientist Consultant

Assessed household conditions and conducted surveys in Ga-Sekhaolelo and Ga-Puka villages following termite damage to mine-resettled houses.

Nature Reserve PPP – Mpumalanga, South Africa (2021 – 2022)

Social Scientist Consultant

Supported the Mpumalanga Tourism and Parks Agency with public participation under NEMA regulations for the proposed development of a new tourist facility.

ZUBHER OMAR

Senior Geospatial Consultant
Kongiwe Environmental

ZOMAR@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL ACCREDITATIONS

GISSA Member

Esri - Arc GIS Advanced Certification

SOFTWARE SYSTEM SKILLS

- ArcGIS /Pro
- ArcGIS Online
- MS Office Suite

EDUCATION

2011 - B.Soc.Sc Geography and Environmental Management, University of Kwa-Zulu Natal

LANGUAGES

English – Fluent

KONGIWE

LEADERSHIP & IMPACT

Zubher is a Senior Geospatial Consultant with over 10 years of experience applying GIS solutions across the agricultural, town planning, and property sectors. He has led and supported a range of GIS projects involving spatial data analysis, database development, map production, and GIS implementation. His expertise in ESRI software, particularly ArcGIS, supports the delivery of accurate and tailored spatial outputs aligned to client requirements. Zubher is also experienced in client liaison and user training, often serving as the interface between technical teams and stakeholders. He brings strong problem-solving skills and a practical approach to innovation, consistently delivering efficient geospatial solutions that support planning, decision-making, and reporting. He has played a key role in mentoring junior team members and contributes to building internal GIS capacity.

KEY SKILLS

- Geospatial Data Analysis & Management
- GIS Project Management & System Development
- Expertise in ESRI Software (ArcGIS)
- Training & Mentorship

SELECTED PROJECT EXPERIENCE

Mining, Infrastructure & Utility Mapping: (2017-2025)

Senior Geospatial Consultant
Led geospatial services for major mining and infrastructure clients. Developed corporate GIS databases, produced spatial deliverables for EIAs and Water Use Licences, and optimised server environments to enhance spatial data efficiency. He also delivered national-scale utility and pipeline maps that informed engineering and municipal planning.

Agricultural & Environmental GIS Applications: (2017–2024)

GIS Specialist
Delivered precision agricultural maps in the Agriculture I ndustry and conducted spatial analysis for land-use optimi sation. Played a key role in disaster response mapping during the 2021 KZN civil unrest, assessing chemical dispersion and supporting environmental remediation planning.

Urban Planning & Land Development: (2013–2024)

GIS Specialist
Supported town planning projects across South Africa by producing zoning, cadastral, and land-use maps. His spatial inputs guided municipal compliance, property valuation, and infrastructure expansion through accurate data validation and geospatial visualisations.

CHELSEA STROOH

Junior Geospatial Consultant
Kongiwe Environmental

CSTROOH@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

KEY SKILLS

- Geospatial Analysis & Remote Sensing
- Programming & Data Science
- Research & Scientific Communication
- Environmental Science & Applied Ecology

EDUCATION

Current - B.Sc. Computer Science , University of the People

2024 - Google Data Analytics Course, Coursera

2021 - B.Sc. Honours Environmental Science, University of the Witwatersrand

2020 - B.Sc. Life and Environmental Science in Geography and Zoology , University of Johannesburg

LANGUAGES

English – Fluent

KONGIWE

IMPACT

Chelsea is a Junior Geospatial Consultant with a strong foundation in GIS and Remote Sensing, holding a BSc (Hons) in Environmental Science and currently pursuing a second degree in Computer Science. She brings a multidisciplinary skill set that combines environmental science with spatial data technologies and programming.
Her expertise includes geospatial analysis, remote sensing, and data visualisation, with practical experience in agricultural data analysis, burn scar mapping, and spatial modelling. Chelsea is proficient in Python for spatial analysis and automation, with hands-on experience working with APIs and data processing libraries such as pandas and openpyxl.
Chelsea's academic and research background has refined her communication, time management, and scientific writing skills.
With a solid grounding in environmental science and ecology, Chelsea brings a systems-based approach to problem-solving and is committed to applying her diverse technical skills in support of high-quality, data-driven environmental solutions.

SELECTED PROJECT EXPERIENCE

Mining, Infrastructure & Utility Mapping – South Africa (2024–Current)

Junior Geospatial Consultant
Supported the development of spatial products and GIS databases for mining, infrastructure, and municipal planning projects. Assisted in the preparation of spatial deliverables for Environmental Impact Assessments (EIAs) and Water Use Licence Applications (WULAs). Contributed to corporate GIS mapping, including utility and pipeline layouts, and gained experience in spatial data quality control and digital map production.

Tailings Facility Knowledge Base Update – National, South Africa (2024)

Junior Geospatial Consultant
Assisted in the spatial categorisation and integration of environmental and social datasets into a geodatabase for GIS representation, supporting compliance with the Global Industry Standard on Tailings Management (GISTM). Conducted data reviews, supported gap analysis processes, and contributed to the accurate digitisation and alignment of spatial information for enterprise-level GIS systems.

ANELA FIXI

Junior Environmental Consultant

Kongiwe Environmental

AFIXI@KONGIWE.COM

+27 (10) 140 6508

150 BRYANSTON DRIVE
BRYANSTON, SANDTON, 2191
SOUTH AFRICA

PROFESSIONAL REGISTRATIONS

South African Council for Natural Science Professionals (SACNASP) Environmental Science (Candidate Natural Scientist).

EDUCATION

2020 – Master of Science in Geography and Environmental Studies, University of the Witwatersrand

2018 – B.Sc. Honours Geography and Environmental Studies, University of the Witwatersrand

2015 – B.Sc. Environmental Studies, Walter Sisulu University

LANGUAGES

English – Fluent Xhosa – Fluent

KONGIWE

IMPACT

Anela is an Environmental Consultant with over five years of experience in environmental management, biodiversity protection, and nature conservation. Her expertise spans environmental impact assessment processes, environmental health and safety compliance, environmental law enforcement, and environmental education. Anela has a strong understanding of environmental legislation and regulatory frameworks across local, provincial, and national government levels. She brings valuable experience in stakeholder engagement and relationship management, supporting collaborative project outcomes and regulatory compliance.

KEY SKILLS

- Environmental Impact Reporting & Authorisation
- Water Use Licensing
- Stakeholder Engagement
- Environmental Compliance Auditing
- GIS & Spatial Analysis
- Technical Reporting & Environmental Writing

SELECTED PROJECT EXPERIENCE

Mining & Water Use Licensing – Gauteng, South Africa (2024–Current)

Environmental Consultant

Supported the process for the IWULA application of mining infrastructure. Duties included liaising with regulatory authorities and I&APs, coordinated public meetings and online consultations. Also supported the drafting of the IWWMP and related documentation for submission.

Environmental Compliance & Auditing – Mpumalanga (2024-Current)

Environmental Consultant

Conducted independent environmental compliance audits in line with Environmental Authorisations, Water Use Licences, and Environmental Management Programmes. Compiled audit findings, recommended corrective actions, and supported regulatory reporting processes.

International ESIA & ESMP Projects – Gauteng & Limpopo (2024–Current)

Environmental & Stakeholder Engagement Consultant

Supported international ESIA and ESMP processes by conducting stakeholder engagement, contributed to the development of environmental and social documentation, and assisted in due diligence exercises. Ensured alignment with international best practices and donor requirements.

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Anela Fixi

Registration Number: 122288

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Certificated Natural Scientist)

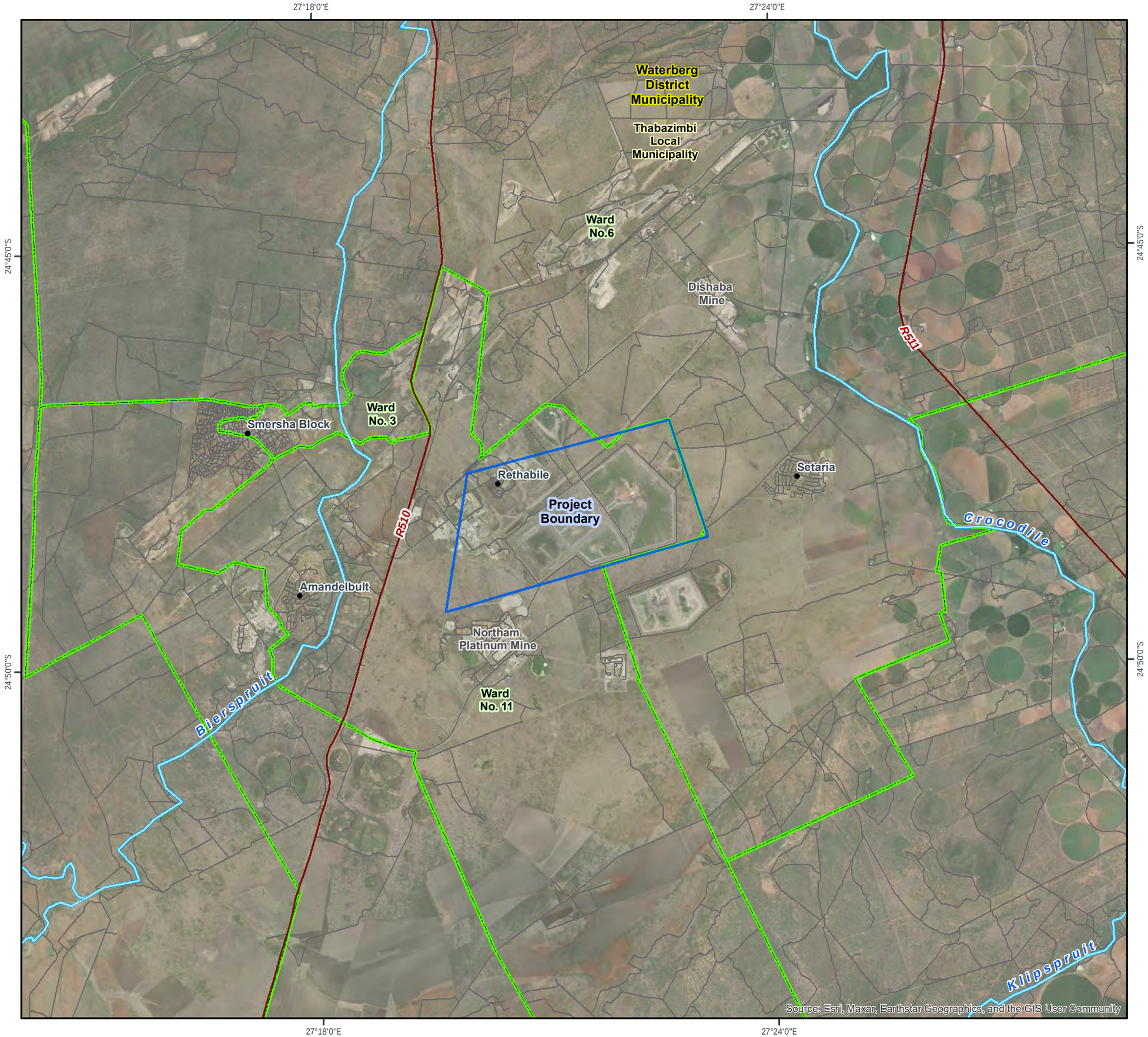
Effective **26 January 2022** Expires **31 March 2025**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

Appendix B1:
A3 Maps



KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 26 August 2025

1:80 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
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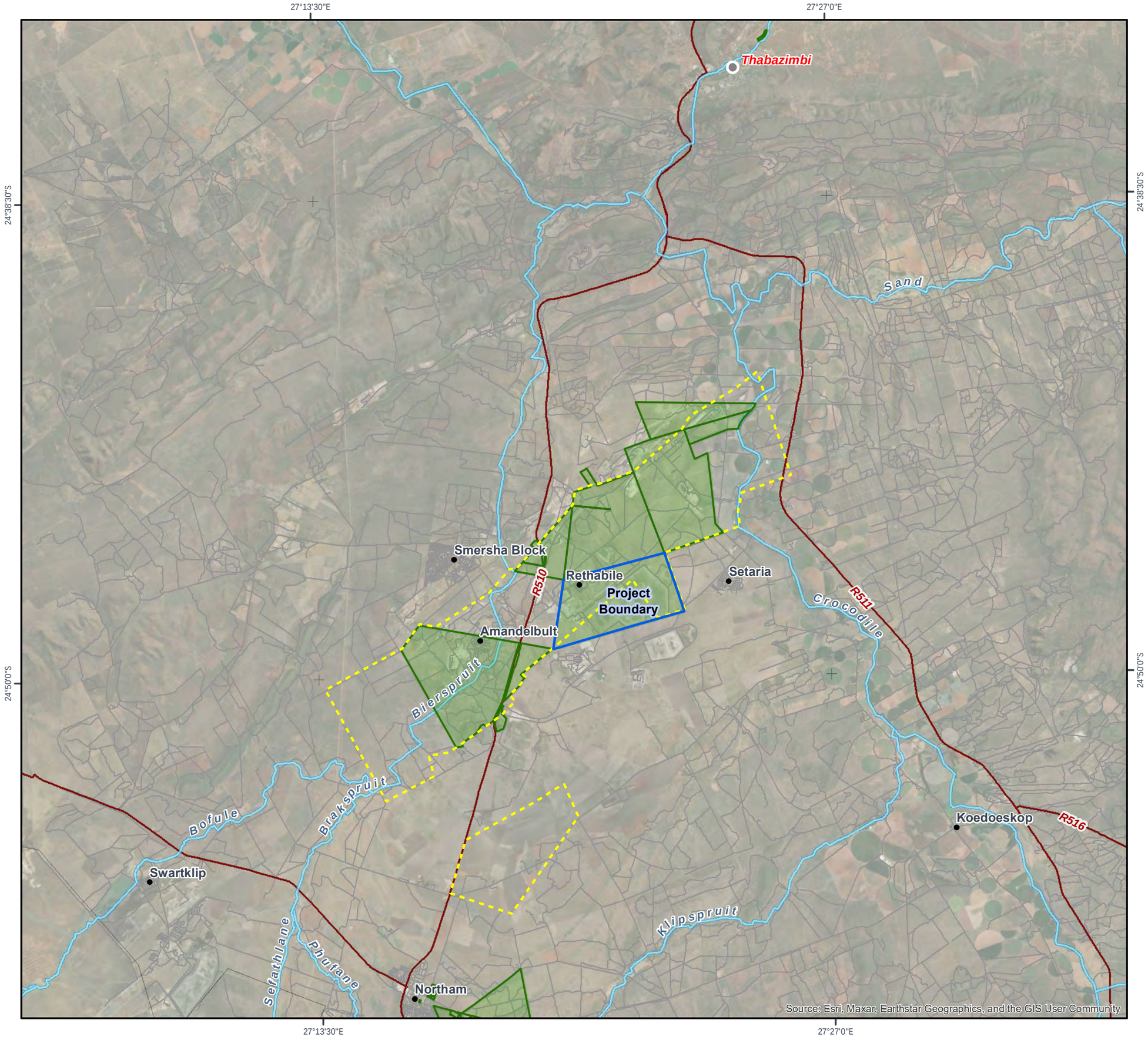

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 26 August 2025

1:160 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
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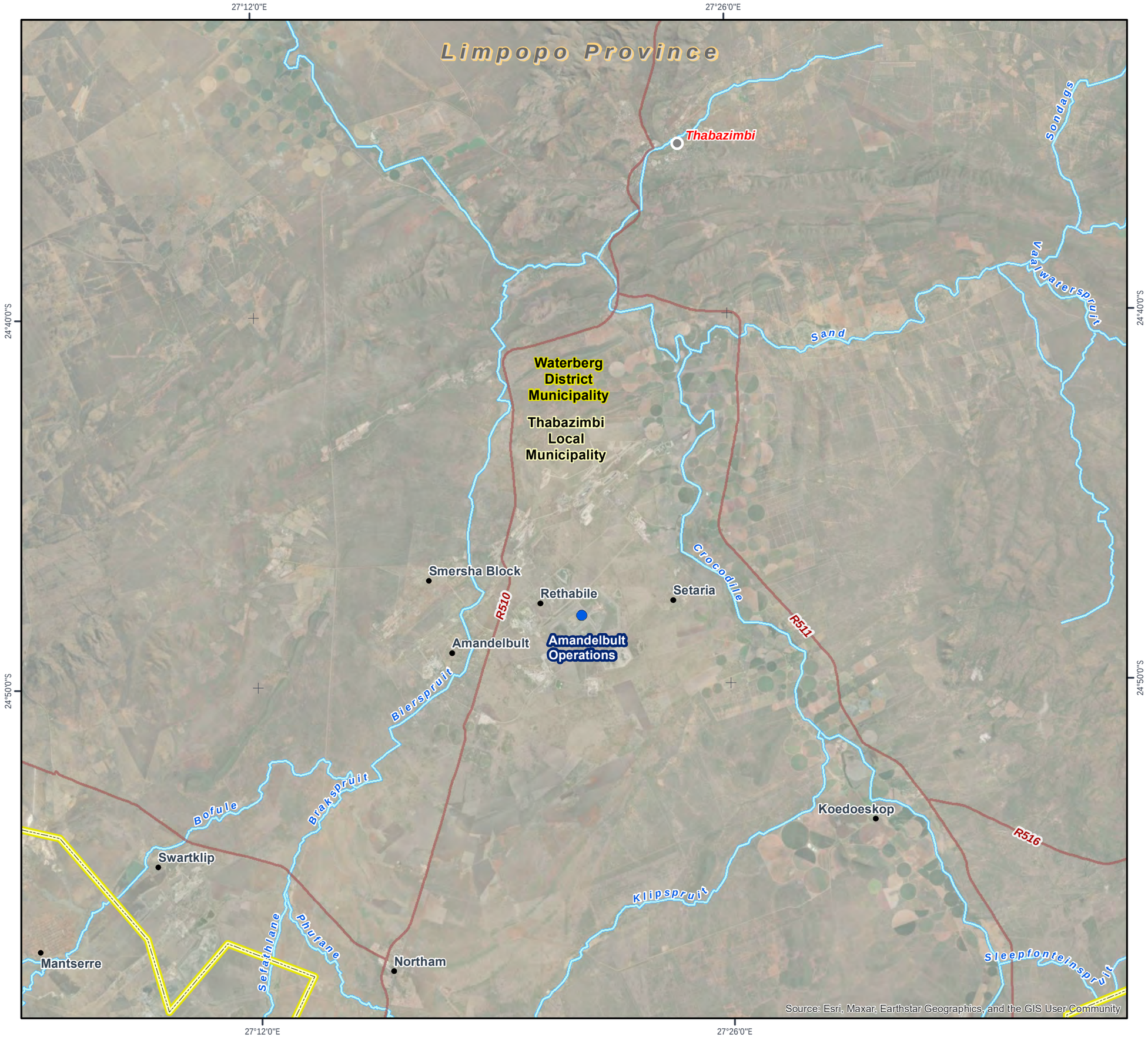

KONGIWE

RUSTENBURG PLATINUM MINES

REGIONAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Amandelbult Operations
- Rivers
- Main Roads
- Local Municipality
- District Municipalities

0 2 4 8 12

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 25 September 2025

1:180 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
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27°18'0"E

27°24'0"E

24°50'0"S

ZWARTKOP
369 KQ

MIDDELLAAGTE
382 KQ

ELANDSKUIL
378 KQ

Project
Boundary

MIDDELDRIFT
379 KQ

Setaria

Rethabile

1/383

RE/383

R510

SCHILDPADNEST
385 KQ

AMANDELBULT
383 KQ

VRUGBAAR
387 KQ

Amandelbult

VRUGBAAR
381 KQ

ZONDEREINDE
384 KQ

ELANDSFONTEIN
386 KQ

Thabazimbi Local
Municipality

KOPJE
ALLEEN
422 KQ

Infrastructure

- 11 KVA Overhead Line
- GSW Water
- Haulage Road
- High Pressure Water
- ISAMILL Feed
- Potable Water
- Process Water Feed Option 2
- Road Option 2
- Slurry Line
- Tailings Line

KONGIWE

RUSTENBURG PLATINUM MINES

SITE ORIENTATION

Legend

- Other Settlement
- Rivers
- Main Roads
- Farm Portions
- TSF Proposed Layouts
- Parent Farm
- Local Municipality
- Project Boundary
- Proposed Infrastructure

0 0.75 1.5 3

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 22 September 2025

1:40 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
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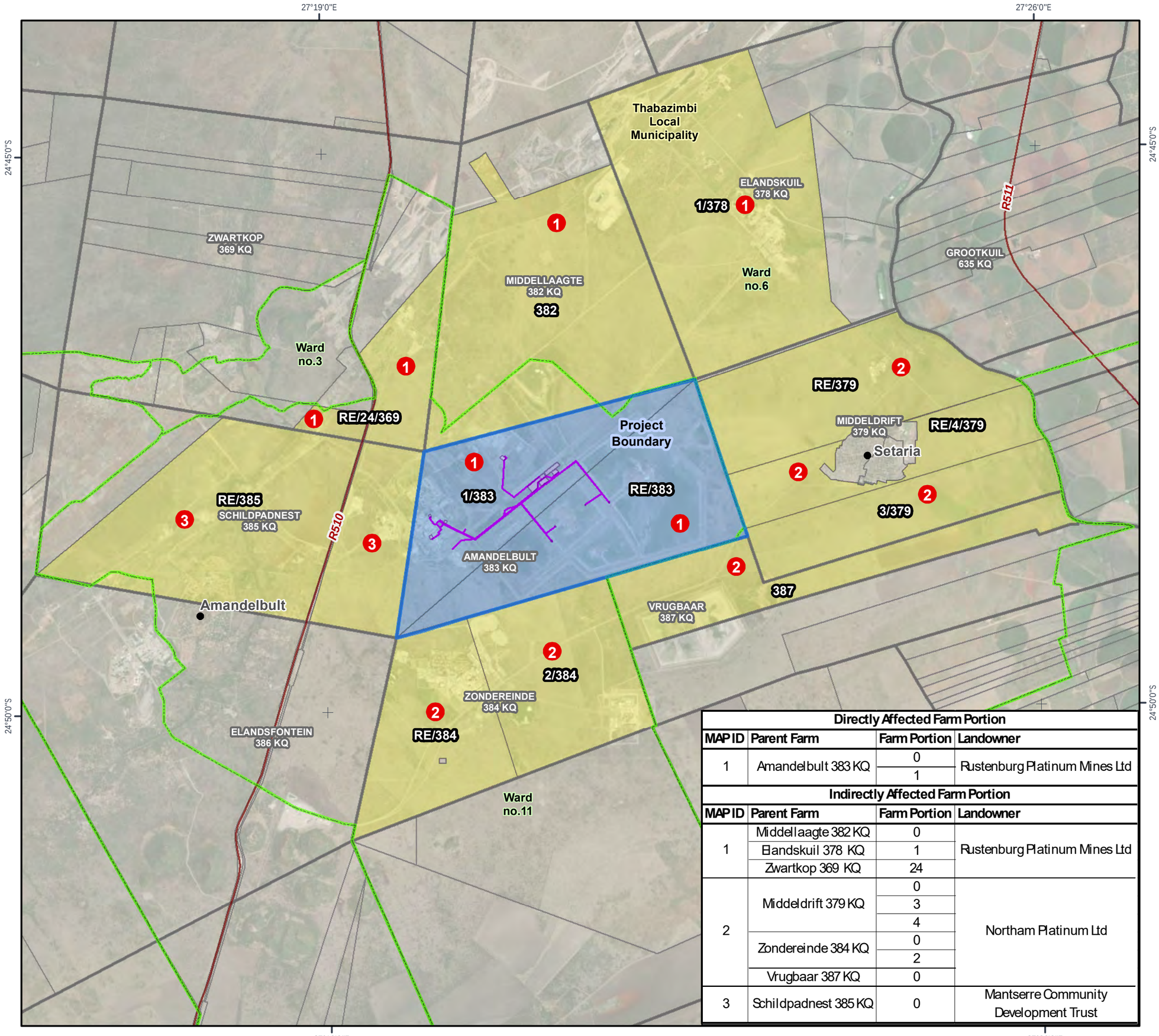

Directly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Amandelbult 383 KQ	0	Rustenburg Platinum Mines Ltd
		1	

Indirectly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Middellaagte 382 KQ	0	Rustenburg Platinum Mines Ltd
	Elandskuil 378 KQ	1	
	Zwartkop 369 KQ	24	
2	Middeldrift 379 KQ	0	Northam Platinum Ltd
		3	
		4	
	Zondereinde 384 KQ	0	
		2	
	Vrugbaar 387 KQ	0	
3	Schildpadnest 385 KQ	0	Mantserre Community Development Trust

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT

Legend

- Suburbs
- Main Roads
- TSF Proposed Layout Lines
- Farm Portions
- Parent Farm
- Ward Boundary
- Local Municipality
- Project Boundary
- Directly Affected
- Indirectly Affected
- Proposed Infrastructure

0 0.5 1 2 3 4

Kilometers

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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1:60 000

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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Land Tenure

27°20'0"E
27°21'15"E
24°48'0"S
24°49'0"S

MIDDELLAAGTE
382 KQ

AMANDELBULT
383 KQ

#4 Shaft
11 KVA Overhead Line
Topsoil Stockpile
TSF 2 Laydown Area
Slurry Line
Vegetation Handling Area
Slurry Transfer Station
High Pressure Water
M3 & M4 Feed Tank
Tailings Line
Haulage Road
Barge Station 2
TK-11 Existing Tailings Handling Tank
GSW Water
Process Water Feed Option 2
Barge Station 1
High Pressure Water Tap Off For Hydrogun
ISAMILL Feed
High Pressure Water Tap Off For Hydrogun
Potable Water
New PGM IsaMill Flotation Plant
Road Option 2

Infrastructure

- 11 KVA Overhead Line
- Potable Water
- GSW Water
- Process Water Feed Option 2
- Haulage Road
- Road Option 2
- High Pressure Water
- Slurry Line
- ISAMILL Feed
- Tailings Line

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT

Legend

- Non-Perennial River
- Farm Portions
- Parent Farm
- Non-Perennial River 100m Buffer
- Existing Infrastructure
- Proposed Infrastructure

0 100 200 400 600 800
Meters

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Proposed Layout Landscape V11 A3.mxd

Appendix B2:
Site Photos

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Access Road to the Amandelbult TSF Complex: 24°48'28.06"S 27°20'25.61"E

View from on top of the TSF Dam 2 facing north towards the Return Water Dam (RWD): 24°48'3.47"S 27°21'14.43"E

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View of existing infrastructure and pipelines located at the RWD: 24°46'54.60"S 27°21'0.90"E

View over the RWD facing Southeast in the TSFs direction 24°46'54.60"S 27°21'0.90"E

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View of proposed plant area with existing Chrome stackers in the background: 24°48'8.66"S 27°20'8.83"E

View of possible PCD Location: 24°48'10.37"S 27°20'8.90"E

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View of the Existing TK-11 tailings feed Tank: 24°48'17.86"S 27°20'10.49"E

Appendix C:
Public Participation Information

VALTERRA PLATINUM

Environmental Authorisations, Waste Management Licence Application and Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province.

DMPR Reference Number:
LP 30/5/1/2/2/48 MR

Appendix C:
Public Participation Report

December 2025

AAPL#001_PPP RPT_V1

Report Preparation By

Kongiwe Environmental (Pty) Ltd	
Registration Number	2016/135562/07
Telephone Number	+27 (10) 140 6508
Email	info@kongiwe.com
Registered Address	150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa
Mailing Address	PostNet Suite No 163, Private Bag X21, Bryanston, 2021, South Africa
Website	www.kongiwe.com

Report Information

Client	**Rustenburg Platinum Mines Limited: Amandelbult Mine (Valterra Platinum)**
Project	Amandelbult Mine Tailings Reclamation and Processing Project
Report Title	Final Public Participation Report
DMPR Reference No:	LP 30/5/1/2/2/48 MR
Project No	AAPL#001
Compilation Date	November 2025
Status of Report	Public Participation Report for the Final EIA/EMPr
Actions	Application for Environmental Authorisation (EA)

Approval

Verification	Name	Capacity	Signature	Date
Compiled by	Vanessa Viljoen	Principal Stakeholder Consultant		20 November 2025
Reviewed by	Umeshree Naicker	Principal Environmental Consultant		25 November 2025
Approved by	Grant Cornish-Bowden	Chief Operating Officer		December 2025

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Reference Documents

References
National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
The Environmental Impact Assessment Regulations, 2014 (as amended) (EIA 2014 Regulations).
National Environmental Management: Waste Act 59 of 2008 (NEMWA): List of Waste Management Activities.
Public Participation guideline in terms of NEMA Act No. 107 of 1998.
Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA).
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA).
IAP2 Core Values for Public Participation

Abbreviations

Abbreviation	Description
AMB	Amandelbult Mine
BID	Background Information Document
CA	Competent Authority
CBO	Community-Based Organisation
CRP	Chrome Recovery Plant
CRR	Comments and Response Report
DALRRD	Department of Agriculture, Land Reform and Rural Development
DMPR	Department of Mineral and Petroleum Resources
DMR	Department of Mineral Resources
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme Report
EMM	Ekurhuleni Metropolitan Municipality
FSR	Final Scoping Report
HDPE	High-Density Polyethylene
I&AP	Interested and Affected Party
IAP2	International Association for Public Participation
LM	Local Municipality
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMWA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)

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Abbreviation	Description
NGO	Non-Governmental Organisation
PAIA	Promotion of Access to Information Act, 2000 (Act No. 2 of 2000)
PGMs	Platinum Group Metals
POPIA	Protection of Personal Information Act, 2013 (Act No. 4 of 2013)
PPP	Public Participation Process
RPM	Rustenburg Platinum Mines Limited
S&EIA	Scoping and Environmental Impact Assessment
SMS	Short Message Service
TSF	Tailings Storage Facility
TLM	Thabazimbi Local Municipality
UG2	Upper Group 2 Reef (platinum-bearing reef)
WDM	Waterberg District Municipality
WML	Waste Management Licence
WUL	Water Use Licence

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1. Project Background and Motivation

The Rustenburg Platinum Mines Limited (RPM) Amandelbult Mine (AMB) is situated in the Thabazimbi Local Municipal (TLM) area of the Waterberg District Municipality (WDM) in the Limpopo Province and extends over some 20 km from east to west. It is located approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

The main activity at AMB is mining of both the Merensky and UG2 reefs using underground and open pit mining methods. The mine area is divided into western, central and eastern sections. The mine consists of three different operational areas including Tumela Mine, Dishaba Mine and the AMB Concentrator and associated tailings storage facility (TSF) complex located centrally within the mine.

The AMB Concentrator itself consists of two (2) operational plants, namely UG2 1 and UG2 2, that treat mainly UG2 reef and one (1) non-operational plant, namely the Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon non-use of the Merensky Concentrator plant, UG2 Open cast and low-grade ore are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Mine TSF consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with the current arisings being deposited mainly on 3B, but also on 3A from time to time. AMB is currently undertaking a Feasibility study, with the objective to explore and investigate the possibility of reprocessing historical tailing dam material from the Amandelbult Mine TSF to recover Chrome and Platinum Group Metals (PGMs) Test work completed has indicated that Dam 2 is currently the priority dam in terms of viable ounces to be reclaimed.

AMB now proposes to reclaim and process the tailings from Dam No. 2. This would also allow for the reuse of this TSF footprint, once reclamation has ceased for future tailings deposition, negating the need for a green fields site. Reclamation activities will reduce rehabilitation and closure liabilities of the TSF complex. This project may be referred to as the Amandelbult Mine TSF Reclamation and Processing Project.

2. Project Description

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes on top of TSF 2, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for a second time for any residual vegetation, and oversize material that cannot make its way through the piping system. The vegetation will be removed from the screened area and transferred back to TSF 1 for composting.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface and will be placed in a dedicated

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area on top of TSF 1, where chipping and composting of material will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous (general waste) according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from TSF 2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The proposed project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3, and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material post extraction from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

3. Legislative Requirements and Good-Practice Guidelines

3.1 Applicable Legislation

The Public Participation Process (PPP) as required by the environmental laws and regulations specified therein was followed as best practice. The PPP was undertaken in line with the statutory requirements for public participation. The following legislation was considered when developing and implementing the PPP:

- National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
- The Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) (EIA 2014 Regulations).
- Public Participation guideline in terms of NEMA Act No. 107 of 1998.
- National Environmental Management: Waste Act 59 of 2008 (NEMWA): List of Waste Management Activities.
- Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA).
- Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA).

In addition to the above legislation, the PPP needs to be aligned to International good-practice guidelines for public participation, particularly in regard to the following Core Values of the International Association for Public Participation (IAP2).

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- Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- Public participation includes the promise that the public's contribution will influence the decision.
- Public participation promotes sustainable decisions by recognising and communicating the needs and interests of all participants, including decision makers.
- Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- Public participation seeks input from participants in designing how they participate.
- Public participation provides participants with the information they need to participate in a meaningful way.
- Public participation communicates to participants how their input affected the decision.

POPIA: Safeguarding Registered Person's Personal Information
In terms of section 19 of the Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party or parties to whom the information is supplied.

4. Public Participation Process

The PPP is designed to build and maintain constructive relationships. It is an ongoing process between the applicant and the Project's stakeholders that extends throughout the life of the Project. The PPP for the Project ensures that adequate and timely information is provided to all potentially Project-affected people and other stakeholders, that stakeholders are given sufficient opportunity to raise comments, and that these comments are taken into consideration during Project decisions.

4.1 Objectives of the Public Participation Process

The PPP objectives for this Project was to:

- Ensure that stakeholders are informed about the development of for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

The stakeholder engagement process was undertaken in four phases as presented in Table 4-1 below.

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Table 4-1: Stakeholder Engagement Activities

Project Phase	Activities to be Undertaken
Pre-Scoping Phase **Completed**	• Stakeholder identification (WinDeed searches, compilation of stakeholder database). • Consultation with various Community leadership (Senior Traditional Leaders, Community Leaders). • Consultation with the relevant Authorities (including ward councillors/ward committees) (Microsoft Teams/One-on-one consultation meetings). • Consultation with Competent Authorities DMPR and DWS. • Compilation of announcement documents (Background Information Document (BID), Registration sheet, Advert, Site notice and Draft Scoping Report (DSR) notification letter) and providing Project information to stakeholders. • Obtaining initial comments, suggestions from stakeholders. • Land Claims enquiry.
Scoping Phase **Completed**	• Consultations with Indirectly Affected Landowners (Consultation meetings). • Distribution and placement of Project announcement materials (site notices, and newspaper advertisements). • Updating of the stakeholder database. • Making available the Draft Scoping Report for public review and comment. • Providing stakeholders with further details of the Project and associated specialist studies. • Consultations with stakeholders (Online meetings and Public Meeting / Open Day meetings). • Obtaining further comments or suggestions from stakeholders. • Development of Comments and Response Report (CRR), capturing all comments/questions and responses. • Informing specialists and the applicant about comments received from stakeholders. • Making available the Final Scoping Report to all stakeholders.
EIA Phase **Completed**	• Provide feedback about the specialist studies conducted and management of mitigation measures proposed by means of consultation with stakeholders. • Provide opportunity for stakeholders to comment on specialist findings (and reports), impacts assessments and recommendations. • Make the relevant environmental reports available for public review and comment. • Consultations with stakeholders (Online meetings and In-person meetings/ Public Meetings / Open Day Meetings).

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Project Phase	Activities to be Undertaken
	• Verify that comments raised by stakeholders have been accurately recorded. • Update CRR with new comments, questions and responses. • Inform specialists and the proponent of stakeholders' comments. • Making available the Final EIA / EMPr to all stakeholders.
Decision Making Phase	• Once the Competent Authority which is DMPR had come to a decision regarding the authorisation of the Project, all registered stakeholders will be notified of the decision made and the appeal process will be explained with associated timeframes.

4.2 Summary of Issues Raised by Stakeholders

Comments raised by stakeholders during the Scoping Phase and EIA Phase are included in the Comments and Responses Report (CRR), as presented in **Appendix C10**.

4.3 Public Participation Approach

4.3.1 Submission of the Environmental Authorisation Application Form

The application for an Environmental Authorisation (EA) was submitted to the Department of Mineral and Petroleum Resources (DMPR) which is the Competent Authority (CA) for the Project, on **Tuesday, 17 June 2025**, prior to a pre-application meeting held with them on **Wednesday, 26 March 2025.**

4.4 Stakeholder Mapping and Identification

Stakeholder mapping is a process of identifying stakeholders before the Project commences. Identified stakeholders are grouped according to their levels of participation, interest, and influence in the Project. These groupings assist in determining how best to involve and communicate to each group throughout the PPP. Project stakeholders are defined as individuals / groups / entities that have an interest in the Project. Such stakeholders are referred to as Interested & Affected Parties (I&APs).

To ensure a proper representation of all stakeholders, the following identification methods were used as part of the stakeholder identification and analysis process:

- Desktop and online research and WinDeed searches for the directly affected and adjacent farm portions.
- Using existing database of AMB.
- Identify and consult with relevant community leadership (Senior Traditional Authorities and Leaders and Community Leaders within the nearby surroundings of the Project).
- Identify and consult with relevant Authorities (DMPR, DWS).
- Identify and consult with relevant Local and District and Local Authorities:
  - Thabazimbi Local Municipality.
  - Waterberg District Municipality.
- Identify and consult relevant ward councillors and ward committees for the affected wards:
  - Directly Affected Wards: Ward 6 and 11:
    - Councillor (Cllr) Mfundiso Tyhalintwentwe, Ward Councillor: Ward 6.
    - Cllr Xolile Nozozo, Ward Councillor: Ward 11.
  - Indirectly Affected Wards: Ward 3.

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- Cllr Refilwe Daniel Mampeule.

- Consult with adjacent landowners and land occupiers (directly affected and adjacent).
- Consult with the Department of Agriculture, Land Reform and Rural Development (DALRRD), Office of the Regional Land Claims Commissioner: Limpopo Province.
- Consulting government departments on a National, Provincial and Local level relevant to the Project.
- Consult with Stakeholders who respond to the publication of newspaper advertisements.
- Consult with Stakeholders who respond to the distribution of project documentation.

Updating the stakeholder database from attendance registers from a broad range of stakeholder meetings that were held throughout the process.

I&APs have been grouped into the following broad categories:

- **Government:** National, Provincial, and Local Authorities (including ward councillors and ward committee members).
- **Parastatals:** Various semi-Government entities, Organs of State.
- **Landowners and Occupiers:** Landowners / occupiers that are either:
  - **Directly Affected:** (i.e., owning properties within an application boundary area or on property / properties within the footprint of the Project.
  - **Adjacent (Indirectly Affected):** (i.e.; directly adjacent to the application boundary or property / properties within the footprint of the Project).
  - **Other Affected:** Landowners / occupiers who have registered formally as a stakeholder.
- **Communities:** Surrounding communities (Senior Traditional Leaders / Community Leaders).
- **Agriculture and Water:** Associations, entities responsible for water management and/or regulation.
- **Environmental Forums.**
- **Non-Governmental Organisations (NGOs):** Environmental organisations.
- **Community-based Organisations (CBO):** Community Forums.
- **Business and Industry:** Small, Medium and Micro Enterprises (SMMEs), mines, industrial and large business organisations.

A stakeholder database was compiled and continuously updated throughout the environmental regulatory process, as shown in **Appendix C1**.

4.4.1 Land Claims Enquiry

A formal letter of enquiry was compiled and sent to the Land Claims Commission, Mr Lazarus Masuku, Department of Agriculture, Land Reform and Rural Development (DALRRD), on **Thursday, 12 June 2025**. The letter will contain a list of all the directly affected properties for the Project. Should DALRRD confirm that there are land claims on the affected project areas, our project team will consult with the relevant parties, as shown in **Appendix C2.**

Feedback was received from DALRRD by means of letters dated **Friday, 20 June 2025**, also provided in **Appendix C2**, indicating that land claims exist for the project areas but are not valid.

DALRRD, clarified that the letter references a challenge to the Amendment Act of 2014 and states that the land claims are considered invalid in view of the finding of the Constitutional Court. As a result, the claims were not investigated further to confirm their validity. The claimants listed in the letter are being kept on record until Parliament passes new legislation that allows for the re-opening of land claim submissions.

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5. Communication and Engagement

5.1.1 Public Participation Materials: Scoping Phase

Considering the legislative requirements and good practice guidelines, the following documents were developed and distributed to stakeholders. The various PPP information materials were used as part of the Scoping and Environmental Impact Assessment (EIA) process.

Background Information Document (BID): The BIDs, English and Setswana versions, as detailed in **Appendix C3,** were emailed on **Thursday, 12 June 2025**, to I&APs listed on the stakeholder database as illustrated in **Appendix C6.** The BIDs were also available on the Kongiwe website: (https://kongiwe.com/projects/), as well as at Public Meetings / Open Days.

The BID provides the following details:

- A project description of the Project.
- The Scoping and EIA and the PPP to be undertaken in support of the relevant environmental authorisations / permits and the contact details of the Environmental Assessment Practitioner (EAP) and the stakeholder engagement consultants.
- Details about how stakeholders can register as an Interested and Affected Party (I&AP) and be kept informed about the Project developments.
- The public review and comment period for environmental reports.
- Invitation to attend an Open Day.

Notification Letter with a Registration and Comment Form: An email was sent to stakeholders on **Thursday, 12 June 2025**, to inform them about the Project. The email also shared details of the Public Meetings / Open Days and invited the greater public to formally register as I&APs. A Registration and Comment Form was also provided for stakeholders to use for formal registration as an I&AP and to submit their comments as shown in **Appendix C3.**

A reminder notification was emailed on **Thursday, 19 June 2025** to remind stakeholders of the availability of the DSR for public review and comment. The reminder emails also served the purpose of reminding stakeholders to attend the Public Meetings / Open Days, as presented in **Appendix C6.**

SMS: An SMS was sent to stakeholders on **Thursday, 12 June 2025** who have no access to the internet. Arrangements were made to ensure that these stakeholders had full access to project documentation. Stakeholders were also notified on when the Public Meetings / Open Days were held.

Newspaper Advertisements: A newspaper advert as shown in **Appendix C4**, was placed in the **Platinum Bosvelder**, on **Friday, 13 June 2025**.

The advert included the following details:

- Brief Project description.
- Legal framework and details of the Competent Authorities.
- How stakeholders can access the Draft Scoping Report for public review and comment.
- The details of the Open Day.
- Registration as I&APs.
- The contact details of the stakeholder engagement consultants.

Site Notice: Site notices were placed on **Tuesday, 17 June 2025** and **Wednesday, 18 June 2025**. The site notice provided an overview of the Project and highlighted the applicable legislation, environmental authorisation/permits applicable to the Project. It also outlined the stakeholder engagement process to be followed and where relevant information could be obtained. A locality map of the Project site was included in the site notice. Details of the Public Meetings / Open Days and how stakeholders could register as an I&APs were included in the Site Notice.

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Pictures and co-ordinates of where the site notices were placed was recorded in the site notice report and a site notice map was developed, as shown in **Appendix C5.**

Telephonic Discussions: Stakeholders were also consulted by means of telephonic discussions where required. These discussions facilitate the process of inviting stakeholders to stakeholder meetings and provide stakeholders with a platform to raise comments and suggestions regarding the Project. Comments raised through telephonic discussions were recorded and addressed by the project team (EAP and the relevant specialists).

6. Stakeholder Engagement Meetings

Consultation during the Scoping phase aimed at providing stakeholders with an overview of the Project and to obtain comments to inform specialist studies and Project planning. Stakeholders were invited to participate through online and in-person engagements depending on preference. The purpose of these meetings was to discuss the Project, contents of the DSR, provide stakeholders with an opportunity to raise their comments and to interact with the Project team members. Locality, infrastructure and land tenure maps were distributed as part of these meetings.

The following meetings were held:

- **Authority Meetings:** Meetings were held with the relevant Authorities.
- **Focus Group Meetings with Community Leaders:** Early upfront engagement meetings have been held with the relevant Local Community Leaders and Municipalities in the area
- **Landowner Meetings:** Consultation meetings were held with indirectly affected landowners.
- **Online Meeting:** Online meeting was held with stakeholders who prefer online engagements.
- **Broader Public Consultation Meeting:** Public Meetings / Open Days were held with the broader public during the public review period.

Refer to Table 6-1 below for the schedule of stakeholder meetings.

Table 6-1: Stakeholder Meetings

Meeting Dates	Stakeholders	Time Slots
In-Person Meetings		
Thursday, 13 March 2025	Focus Group Meeting with Leadership Accountability Forum (Pre-Application) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	09:00 – 10:00
Friday, 06 June 2025	Focus Group Meeting with Baphalane Ba Ramokoka (Pre-Application) at Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	08:00 – 09:00
Friday, 06 June 2025	Focus Group Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner) at Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	10:00 – 11:00
Monday, 23 June 2025	Broader Stakeholder Meeting (Public Meeting / Open Day) held with the Thabazimbi LM and associated communities on at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	13:00 – 15:00
Tuesday, 24 June 2025	Broader Stakeholder Meeting (Public Meeting / Open Day) held with Baphalane Ba Ramoroka at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	12:00 – 15:00

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Meeting Dates	Stakeholders	Time Slots
Friday, 11 July 2025	Broader Stakeholder Meeting (Public Meeting / Open Day) with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	10:00 – 12:00
Online Meetings		
Wednesday, 26 March 2025	Microsoft Teams - Online pre-application meeting was held with Department of Mineral and Petroleum Resources (DMPR) officials.	09:00 – 10:00
Friday, 27 June 2025	Microsoft Teams – Online Meeting (with indirectly affected landowners and the broader stakeholders)	10:00 – 11:30

Focused efforts were made to engage with directly impacted stakeholders (those residents in the AMB areas and a pre-application Community Senior Leadership meeting in the Project area), including vulnerable groups at local level. These individuals were consulted directly and via their representatives and other influential people within communities. Meetings were held in a culturally appropriate manner, allowing stakeholders to voice their opinions openly. Stakeholders were given the option to raise issues in the language of their choice and where translation was required, it was provided.

Authorities, NGOs, landowners / land occupiers and community members were engaged to promote attendance, by means of telephonic consultation and distribution of emails and SMS.

A list of meetings and consultations undertaken during the process is provided in **Appendix C8.**

Minutes of these meetings, along with the presentation materials, were compiled and distributed to all stakeholders who attended, as shown in **Appendix C8.**

All comments raised by stakeholders during these meetings were recorded in the Comment and Response Report (CRR), with responses prepared in accordance with the project scope and available information, as detailed in **Appendix C10.**

6.1 Stakeholder Meetings held during Scoping Phase

6.1.1 Pre-Application Meeting with Department of Mineral and Petroleum Resources (DMPR)

An Online pre-application meeting was arranged and attended with DMPR officials on **Wednesday, 26 March 2025 from 10:00 - 11:00.** Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was:

- To act as a pre-application engagement with the Department of Mineral and Petroleum Resources with regards to the proposed reclamation and processing Project.
- To provide information and Project details on the Proposed Reclamation and Processing Project.
- To present and discuss the proposed Environmental Authorisation process (EA) for the Amandelbult Mine TSF, Dam 2 Reclamation and Reprocessing Project.

6.1.2 Focus Group Meeting with AMB Leadership Accountability Forum (Pre-Application)

An In-person meeting was arranged and attended by Community Leaders, Traditional Authorities/Councils and Municipalities at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Thursday, 13 March 2025** from 09H00-10H00. Information was presented by means of a PowerPoint presentation. Copies of the Background Information Document (in English) were also distributed to stakeholders who attended.

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The purpose of this meeting was:

- To act as a Pre-authorisation engagement with the Local Leadership and Municipalities with regards to the Proposed Reclamation and Processing Project.
- To provide information and Project details on the Proposed Reclamation and Processing Project; To present and discuss the proposed Environmental Authorisation process (EA) for the Amandelbult Mine TSF, Dam 2 Reclamation and Reprocessing Project.
- Provide the stakeholders with an opportunity to raise comments/seek clarity and provide input into the proposed project.
- Record comments raised and then include them in the Comments and Responses Report (CRR) which was integrated into the Scoping and Environmental Impact Assessment (S&EIA) reports.

6.1.3 Focus Group Meeting with Baphalane Ba Ramokoka (Pre-Application)

An In-person meeting was arranged and attended by Community Leaders at the **Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362** on **Friday, 6 June 2025 from 08H00 - 10H00.** Information was presented by means of a PowerPoint presentation. Copies of the Background Information Document (in English) were also distributed to stakeholders who attended.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult Mine Tailings Storage Facility, Dam 2 Reclamation and Processing Project and its relevant authorisations and licencing.
- Provide an overview of the S&EIA process in support of the EA and Waste Management Licence Applications.
- Provide the meeting attendees with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised and included these in the Comments and Responses Report.

6.1.4 Focus Group Meeting with Baphalane Ba Mantserre Development Community Trust (Indirectly Affected Landowner)

An In-person meeting was arranged and attended by Community Leaders at the **Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362** on **Friday, 6 June 2025 from 10H00 - 11H00**. Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult Mine Tailings Storage Facility, Dam 2 Reclamation and Processing Project;
- Provide an overview of the S&EIA process in support of the EA, and WML Applications.
- Provide indirectly affected landowners with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

6.1.5 Online Meeting with Broader Stakeholders

Formal consultation meeting was held online via Microsoft Teams during the public review period for all stakeholders on the database. This meeting was held on **Friday, 27 June 2025 from 10H00 - 11H30**. Information was presented by means of a PowerPoint presentation.

The purpose of the meeting was to:

- Present and discuss the proposed Amandelbult Mine Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
- Provide an overview of the S&EIA process in support of the EA, WML and applications.

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- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

6.1.6 Broader Stakeholder Meetings

Broader Stakeholder Meetings (Public Meetings / Open Days) were held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Monday, 23 June 2025 from 09H00 - 12H00**, as shown in Figure 6-1, and on **Tuesday, 24 June 2025 from 13H00 - 15H00**, as shown in Figure 6-2. Information was presented by means of a PowerPoint presentation in English and translated into Setswana and Xhosa.

Posters with information regarding the Proposed Project Description, Locality, Infrastructure and the Land Tenure maps were displayed. Copies of the non-technical summary (BID) were also distributed to stakeholders who attended. The non-technical summaries (BID) were available in English and Setswana, as shown in **Appendix C3.**

The purpose of the Broader Stakeholder Meetings (Public Meetings / Open Days) was to:

- Present and discuss the proposed Amandelbult Mine Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
- Provide an overview of the S&EIA process in support of the EA, WML and applications.
- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

Figure 6-1: Photo from Stakeholder Meeting held with the Thabazimbi LM and Associated Communities on Monday, 23 June 2025

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Figure 6-2: Photo from Stakeholder Meeting held with Baphalane Ba Ramokoka on Tuesday, 24 June 2025

6.1.7 Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner)

The initial meeting with the Mantserre Community was scheduled for the 23rd of June 2025; however, the Mantserre Community requested the meeting to be rescheduled. An additional Stakeholder Meeting (Public Meeting / Open Day) was held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Friday, 11 July 2025 from 10H00 - 12H00** as shown in Figure 6-3. Information was presented by means of a PowerPoint presentation in Setswana.

The purpose of the Public Participation Meeting was to:

- Present and discuss the proposed Amandelbult Mine Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
- Provide an overview of the S&EIA process in support of the EA, and WML applications.
- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

Posters with information regarding the Proposed Project Description, Locality, Infrastructure and the Land Tenure maps were displayed. Copies of the non-technical summary and presentation was distributed to stakeholders who attended. The non-technical summaries (BID) were available in English and Setswana, as shown in **Appendix C3.**

Figure 6-3: Photos from Stakeholder Meeting held with Mantserre Community on Friday, 11 July 2025

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6.1.8 Availability of the Draft Scoping Report for Public Review and Comment

The Draft Scoping Report (DSR) was made available for public review and comment from **Wednesday, 18 June 2025 to Thursday, 17 July 2025.**

The Draft Scoping Report was made available as follows:

- An electronic copy on Kongiwe's website: https://kongiwe.com/projects/.
- A hard copy of the Draft Scoping Report (DSR) was made available at the following public places, as listed in Table 6-2

Table 6-2: Places where the DSR Reports were Circulated

Location	Physical Address	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Amandelbult Mine, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, Social Performance Contact No: (060) 954 6635 Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, Assistant Librarian Contact No: (060) 848 1391 Mon – Fri: 08h30-16:30

A hard copy of the DSR non-technical summary (BID) was made available at the following public places as indicated in the Table 6-3 below and these were also made available at the various Stakeholder meetings:

Table 6-3: Places where the Non-technical Summary (BIDs) was Circulated

Location	Physical Address	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Mon – Fri: 08h00-16h00
Smash Block Community (Thabang Children Centre)	Smashblock – Front - opposite Chromite Primary School Thabang Dropping Centre Main Street Smashblock, Stand No 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00
Amandelbult Mine 'notice boards', Mlanje Hostel	Amandelbult Mine Mlanje SAV, Behind Chrome-Plant R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi Mon – Fri: 08h00-16h00
Dishaba Mine Entrance (Jabulani Residents)	Amandelbult Mine- Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile Village and Recreation Club entrances	Amandelbult Mine,	Mr Jerry Motshedi

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Location	Physical Address	Contact Person
	Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Amandelbult Mine)	Mr Kaitumela Letebele to facilitate (AMB) Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00

The DMPR indicated that they do not require a copy of the Draft Scoping Report for review and will only review the Final Scoping Report.

Key Commenting Authorities received an email with a website link to where they can download the (DSR).

Table 6-4 below provides a summary of the stakeholder engagement activities that formed part of the Draft Scoping Phase.

Table 6-4: Summary of Activities Undertaken as Part of the Scoping Phase

Activity	Details	Appendices
Stakeholder Mapping and Identification	• Stakeholders were identified by means of WinDeed searches, stakeholder networking and research for the compilation of a stakeholder database. • The database was continuously updated with new I&APs who formally registered and attended stakeholder meetings or submitted comments.	**Appendix C1** Stakeholder Database
Identification of Land Claims	• A formal letter of enquiry was compiled and sent to the Land Claims Commission, Office of the Regional Land Claims Commissioner: Gauteng Province, DALRRD. • The letter listed directly affected properties for the project. Feedback was received from DALRRD.	**Appendix C2** Land Claims Enquiry Letter and Correspondence from the DALRRD
Development of the Background Information Document (BID)	• The BIDs were developed and distributed to stakeholders. The Background Information Document (BID) was available on the Kongiwe website.	**Appendix C3** BID
Placement of Newspaper Advertisements	• A newspaper advert was placed in **Platinum Bosvelder**.	**Appendix C4** Newspaper Advertisements
Placement of Site Notices	• Site notices have been placed at publicly accessible places within proximity of the Project. • Pictures and co-ordinates of where the site notices were placed were recorded in the site notice report and a site notice map.	**Appendix C5** Site Notice Report and Placement Map

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Activity	Details	Appendices
Announcement of the Project and the Availability of the Draft Scoping Report	The announcement letter was distributed to stakeholders to: • Announce availability of the Draft Scoping Report (DSR); • Invite stakeholders to the stakeholder meetings; and • Indicate where the Scoping Report was available for public review and comment. The Draft Scoping Report was made available on Kongiwe's website. A copy of the DSR and non-technical summary were placed in the following public place: • Thabazimbi Public Library; and • Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance). The non-technical summary was also placed in additional public places.	**Appendix C6** Announcement Correspondence **Appendix C3** (BID)
Stakeholder Meetings	• Consultation during the Scoping phase was aimed at providing key stakeholders with an overview of the Project, potential impacts, mitigation measures, risks, opportunities and to obtain comments which will inform specialist studies and project planning. • Stakeholders were invited to participate through online and in-person engagements. One-on-one consultation meetings with authorities, directly and indirectly affected landowners were held via on-line forums such as Microsoft Teams or in-person depending on preference. • The Project team presented a formal presentation of the Project the Locality, Infrastructure and Land Tenure maps were displayed as part of the meetings.	**Appendix C8** List of Meetings and Meeting Minutes **Appendix C10** Comment and Response Report (CRR)
Broader Stakeholder Meetings (Public Meetings / Open Days): Scoping Phase	• Stakeholders were invited to participate through online and in-person engagements. The purpose of these meetings was to discuss the Project, contents of the Draft Scoping Report (DSR), to provide stakeholders with an opportunity to raise their comments and to interact with the Project team members. • Minutes of these meetings were compiled and distributed to everyone who attended these	**Appendix C8** List of Meetings and Meeting Minutes **Appendix C10** (CRR)

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Activity	Details	Appendices
	meetings. Comments raised from the meeting was included into the Comment and Response Report (CRR).	

6.1.9 Consultation Undertaken as part of the Final Scoping Phase

The Final Scoping Report (FSR) was submitted to DMPR on **Monday, 28 July 2025**.

The DMPR emailed an acceptance letter on Tuesday, 2 September 2025, indicating that the FSR was accepted and that the process could proceed to the EIA phase, as shown in **Appendix C7.** They also noted that their comments and requirements should be addressed.

Stakeholders were notified by email of the availability of the FSR for review on **Wednesday, 30 July 2025**. Stakeholders were provided with the opportunity to verify that their comments were captured during the Draft Scoping Phase and to review responses provided by the project team. All comments received on the FSR were incorporated into the CRR.

Table 6-5 below is a summary of the activities during the Final Scoping Phase.

Table 6-5: Summary of Activities to be Undertaken During the Final Scoping Phase

Activity	Details
Update of Stakeholder Information	The stakeholder database was updated with new I&APs who formally registered, participated in stakeholder meetings or submitted comments.
Placement of Final Scoping Reports	The Final Scoping Report (FSR) was made available on the following website: • Kongiwe's website: https://kongiwe.com/projects/
Submission to Competent Authority	The Final Scoping Report was submitted to DMPR.
Announcement of the Final Scoping Report	• A notification letter notifying stakeholders that the Final Scoping report has been submitted to DMPR was emailed to the full stakeholder database. • An SMS was sent to stakeholders who have no access to the internet.

7. Impact Assessment Phase Stakeholder Engagement

Consultation with stakeholders during the EIA Phase entails providing stakeholders with comments on specialist study's findings, recommendations and mitigation measures proposed. These studies and recommendations were included as part of the EIA report and the EMPr, in support of the EA application. Stakeholder meetings were held to present the findings of the specialist studies and to get comments from stakeholders. The format of stakeholder meetings was similar to the Scoping Phase; however, it was determined on a case-by-case basis depending on stakeholders' preferences.

7.1 Public Participation Materials: EIA Phase

Notification Letter: A letter, detailed in **Appendix C6,** was emailed to the full stakeholder database on **Friday, 19 September 2025.** The letter provided information regarding the availability of the Draft EIA/EMPr for public review and comment, as well as an invitation to participate in both online and in-person engagements.

A reminder notification was emailed on **Thursday, 2 October 2025** to remind stakeholders of the availability of the Draft EIA/EMPr for public review and comment. The reminder emails also served the purpose of reminding stakeholders to attend the Public Meeting / Open Day **(Appendix C6**: Correspondence**).**

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Newspaper Advertisements: A newspaper advert, included in **Appendix C4,** was published in **the Platinum Bosvelder on Friday, 26 September 2025, in both English and Setswana.** The advertisement outlined the public review period for the Draft EIA/EMPr, provided details on how the public could access the draft reports, and announced opportunities for participation through the scheduled online and in-person engagement sessions.

SMS: An SMS was sent to stakeholders on **Friday, 19 September 2025** who have no access to the internet. Arrangements were made to ensure that these stakeholders had full access to project documentation. Stakeholders were also notified on when the Public Meetings / Open Days will be held.

Telephonic Discussions: Stakeholders were consulted by means of telephonic discussions. These discussions facilitate the process of inviting stakeholders to online and in-person engagements and provide stakeholders with a platform to raise issues of concern and suggestions regarding the draft reports. Comments raised through telephonic discussions were recorded and addressed by the project team (EAP and the relevant specialists).

Maps: Various maps which are part of the Draft EIA/EMPr were on display during online and in-person engagements.

Posters: Posters were developed and presented at the in-person engagements. The following aspects were covered in the poster presentation below:

- Project Overview.
- EIA process and legislative timeframes.
- Specialist findings, impacts and proposed mitigation measures.
- PPP undertaken to date and next steps.

7.2 Availability of the Draft Environmental Impact Assessment Report / Environmental Management Programme Report for Public Review and Comment

The Draft EIA/EMPr was compiled and made available for a 30-day public review and comment period from **Friday, 26 September 2025 until Monday, 27 October 2025.**

The Draft EIA/EMPr was made available as follows:

- Electronic copies on Kongiwe's website: https://kongiwe.com/projects/.
- The non-technical summaries of the Draft EIA/EMPr were emailed to all stakeholders.
- Hard copies of the non-technical summaries were distributed to Stakeholder Meetings attendees.
- Hard copies of the Draft EIA/EMPr were available at the public locations listed in Table 7-1

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Table 7-1: Places where the Draft EIA/EMPr was Circulated

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously Social Performance)	Amandelbult Mine, Main Office, R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, Social Performance Contact No: (060) 954 6635 Mon – Fri: 08h00-18h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, Assistant Librarian Contact No: (060) 848 1391 Mon – Fri: 08h30-16h30

A hard copy of the Draft EIA/EMPr non-technical summary was available at the following public places as indicated in Table 7-2 below.

Table 7-2: Places where the Non-technical Summary of the Draft EIA/EMPr was Circulated

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (Previously Social Performance)	Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti to facilitate Mon – Fri: 08h00-16h00
Smash Block Community (Thabang Children Centre)	Smashblock – Front-opposite Chromite Primary School, Thabang Dropping Centre, Main Street Smashblock, Stand no. 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00
Amandelbult Mine Notice Boards, Mlanje Hostel	Amandelbult Mine, Mlanje SAV, Behind Chrome Plant, R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00

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Location	Physical Adress	Contact Person
Dishaba Mine Entrance (Jabulani Residents)	Amandelbult Mine, Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile Village Entrance and Recreation Club	Amandelbult Mine, Behind Mlanje SAV, R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 84KQ, District of Thabazimbi, Front Opposite Amandelbult Mine	Mr Kaitumela Letebele to facilitate Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00
Ramokokastad	Ramokoka Clinic and Traditional Office	Mr Desmond Ramokoka Mon – Fri: 08h00-16h00

7.2.1 Submission of the Draft EIA/EMPr

The Draft EIA/EMPr and appendices were delivered to the Department of Mineral and Petroleum Resources (DMPR) which is the Competent Authority on **Thursday, 25 September 2025.**

8. Stakeholder Engagement Meetings

Stakeholders were invited to participate through online and in-person engagements. Consultation meetings were held using platforms like Microsoft Teams, and In-person Broader Stakeholder Meetings (Public Meetings / Open Days).

The purpose of these Stakeholder Meetings (Public Meetings / Open Days) was to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/EMPr and interact with the project team. Posters with information regarding the Project description, findings from the specialist studies, impacts and proposed mitigation measures were displayed, these posters include various maps of the affected areas. Copies of the non-technical summary and presentations were distributed to stakeholders who attended. The non-technical summaries were available in English and Setswana and the presentation in English.

Details of the stakeholder meetings held during the EIA phase are provided in Table 8-1.

Table 8-1: Details of the Stakeholder Meetings

Proposed Dates	Available Time Slot	Method of Engagement	Language
Online Meeting			
Tuesday, 7 October 2025	10H00 - 11H30	Online / Microsoft Teams (Postponed to Monday 24 November 2025)	English
Monday, 24 November 2025	11H00 - 12H30	Online / Microsoft Teams (Held)	English
Thursday, 13 November 2025	09H30 – 11H00	Meeting with DMPR and DWS	English

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Proposed Dates	Available Time Slot	Method of Engagement	Language
In-person Meeting (Public Meetings / Open Day)			
Thursday, 9 October 2025	09H00 - 12H00	Broader Stakeholder Meeting (Public Meeting / Open day) held with the Thabazimbi LM and associated communities on at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	English Setswana Xhosa
Thursday, 9 October 2025	13H00 - 15H00	Broader Stakeholder Meeting (Public Meeting / Open day) held with Baphalane Ba Ramoroka at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	English Setswana Xhosa
Friday, 10 October 2025	09H00 - 12H00	Broader Stakeholder Meeting (Public Meeting / Open day) with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	English Setswana
Wednesday, 12 November 2025	09H00 - 12H00	Broader Stakeholder Meeting (Public Meeting / Open day) with Baphalane Ba Mantserre (Indirectly Affected Landowner) at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	English Setswana

Focused efforts were made to engage with directly impacted stakeholders (those residents in and around the AMB areas and a pre-application Community Senior Leadership meeting in the Project area), including vulnerable groups at local level. These individuals were consulted directly and via their representatives and other influential people within communities. Meetings were held in a culturally appropriate manner, allowing stakeholders to voice their opinions openly. Stakeholders were given the option to raise issues in the language of their choice and where translation was required, it was provided in Setswana and Xhosa.

Authorities, NGOs, landowners / land occupiers and community members were engaged to promote attendance, by means of telephonic consultation and distribution of emails and SMS.

A detailed list of all meetings and consultations to be undertaken is provided in **Appendix C8.** Minutes of these meetings, along with the presentation materials, were compiled and distributed to all stakeholders who attended, as shown in **Appendix C8.**

All comments raised by stakeholders during these meetings were recorded in the Comment and Response Report (CRR), and responses were prepared in line with the overall project scope and available information, as detailed in **Appendix C10.**

8.1 Stakeholder Meetings held During EIA Phase

8.1.1 Meeting with Department of Mineral and Petroleum Resources (DMPR) and Department of Water and Sanitation (DWS)

An Online meeting was arranged and attended with DMPR and DWS officials on **Thursday, 13 November 2025 from 09H30 to 11H00.** Information was presented by means of a PowerPoint presentation.

The purpose of this meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.

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- Provide an overview of the specialist study's findings.
- Discuss the Waste Record of Decision (RoD) and the requirements.
- Timelines for submission of reports.
- Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).

8.1.2 Online Meeting with Broader Stakeholders

Formal consultation meeting was held online via Microsoft Teams during the public review period for all stakeholders on the database. This meeting was held on **Monday, 24 November 2025 from 11H00 - 12H30**. Information was presented by means of a PowerPoint presentation.

The purpose of the meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility Reclamation and Processing Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised and included in the Comments and Responses Report.

8.1.3 Broader Stakeholder Meetings (Public Meetings / Open Days)

Broader Stakeholder Meetings (Public Meetings / Open Days) were held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Thursday, 9 October 2025 from 09H00 - 12H00**, as shown in Figure 8-1 and on **Thursday, 9 October 2025 from 13H00 - 15H00**, as shown in Figure 8-2. Information was presented by means of a PowerPoint presentation in English and translated into Setswana and Xhosa.

Information regarding the Proposed Project description, findings from the specialist studies, impacts and proposed mitigation measures were presented to stakeholders, which included various maps of the affected areas. Copies of the non-technical summary of the DEIA/EMPr and presentations were distributed to stakeholders who attended. The non-technical summaries were available in English and Setswana and the presentation in English, as shown in **Appendix C3.**

The purpose of the Broader Stakeholder Meetings was to:

- Discuss the proposed Amandelbult Tailings Storage Facility Reclamation and Processing Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised and included in the Comments and Responses Report.

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Figure 8-1: Photo from Stakeholder Meeting held with the Thabazimbi LM and Associated Communities on Thursday, 9 October 2025 from 09H00 to 12H00

Figure 8-2: Photo from Stakeholder Meeting held with Baphalane Ba Ramokoka on Thursday, 9 October 2025 from 13H00 to 15H00

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8.1.4 Broader Stakeholder Meeting with Baphalane Ba Mantserre (Indirectly Affected Landowner)

The initial meeting with the Mantserre Community was scheduled for the **Friday, 10 October 2025**; however, the Mantserre Community requested the meeting to be rescheduled. But the Project Team was available on the day, to make sure that if anyone wanted to attend that they were available because it was advertised broadly, not one attended.

An additional Stakeholder Meeting (Public Meeting / Open Day) was held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380** on **Wednesday, 12 November 2025 from 09H00 - 12H00** as shown in Figure 8-3. Information was presented by means of a PowerPoint presentation in English and Setswana. At this meeting the Mantserre Community refused to sign the attendance registers and refused for the project team to present the findings of the EIA. The Mantserre Community agreed that Mr Grant Cornish-Bowden present the previous meeting minutes, which he did. The Mantserre Community indicated that Kongiwe need to compile minutes of the meeting, please see **Appendix C8**.

Notices were placed in the Mantserre Community on **Friday, 07 November 2025**. The notices provided an overview of the Project and highlighted the applicable legislation, environmental authorisation/permits applicable to the Project. It also outlined the stakeholder engagement process to be followed and where relevant information could be obtained. A locality map of the Project site was included in the site notice. Details of the Public Meetings / Open Days and how stakeholders could register as an I&APs were included in the Site Notice.

Pictures of where the notices were placed was recorded in the notice report was developed, as shown in **Appendix C5.**

Information regarding the Proposed Project description, findings from the specialist studies, impacts and proposed mitigation measures were presented to stakeholders, which included various maps of the affected areas. Copies of the non-technical summary of the DEIA/EMPr and presentations were distributed to stakeholders who attended. The non-technical summaries were available in English and Setswana and the presentation in English, as shown in **Appendix C3.**

The purpose of the Broader Stakeholder Meeting was to:

- Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.
- Provide an overview of the specialist study's findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).

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Figure 8-3: Photos from Stakeholder Meeting held with Mantserre Community on Wednesday, 12 November 2025 from 09H00 - 12H00

Table 8-2 below provides a summary of the stakeholder engagement activities that formed part of the Draft EIA/EMPr Phase.

Table 8-2: Summary of PPP Activities Undertaken as Part of the Draft EIA/EMPr Phase

Impact Assessment Phase		
Activity	**Details**	**Appendices**
Announcement of the Availability of the Draft EIA/EMPr	The announcement letter was distributed to stakeholders to: • Announce availability of the Draft EIA/EMPr. • Invite stakeholders to the Online Meeting and Public Meeting / Open Day. • Indicate where the Draft EIA/EMPr was available for public review and comment.	**Appendix C6** Announcement Letter
Placement of Media Advertisement for the Draft EIA/EMPr Phase	Newspaper advert was placed in **the Platinum Bosvelder**.	**Appendix C4** Advertisement
Placement of Draft EIA/EMPr for Public Review and Comment	The Draft EIA/EMPr has been compiled and made available for a 30-day public review and comment period. Copies of the abovementioned reports were available on Kongiwe's website. The announcement letter was distributed to stakeholders to: • Announce availability of the Draft EIA/EMPr. • Invite stakeholders to the Broader Stakeholder Meetings. • Indicate where the Draft EIA/EMPr is available for public review and comment. A copy of the Draft EIA/EMPr and non-technical summaries were placed in the following public place: • Thabazimbi Public Library. • Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance). The non-technical summary was also placed in additional public places.	-
Broader Public Consulting Meetings (Public Meetings / Open Days): EIA Phase	• Stakeholders were invited to participate through online and in-person engagements. Consultation meetings were be held via online forums such as Microsoft Teams, and Stakeholder Meetings were held with the broader public. • The purpose of these Stakeholder Meetings was to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a	**Appendix C10** CRR

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Impact Assessment Phase		
Activity	**Details**	**Appendices**
	platform to raise comments on the Draft EIA/EMPr and also interact with the project team. • Minutes of these meetings were compiled and distributed to everyone who attended these meetings. • All comments raised by stakeholders during these meetings were captured into the (CRR). Responses to comments are provided in line with the overall project scope and available information.	

8.2 Availability of the Final Environmental Impact Assessment Report / Final Environmental Management Programme Report

Stakeholders were notified of the availability of the Final EIA/EMPr for review by the CAs. A summary of the PPP activities undertaken as part of the Final EIA/EMPr phase is presented in Table 8-3.

Table 8-3: Summary of the PPP Activities Undertaken as Part of the Final EIA/EMPr Phase

Activity	Details
Announcement of the submission of the Final EIA/EMPr to DMPR	• A notification letter notifying stakeholders that the Final EIA/EMPr has been submitted to DMPR was emailed to the full stakeholder database. • An SMS was sent to stakeholders who have no access to the internet.
Placement of the Final EIA/EMPr	The Final EIA/EMPr is available on Kongiwe's website.
Submission to the Competent Authority	The Final EIA/EMPr was submitted to the DMRP on **Thursday, 18 December 2025.**

8.2.1 Consultation with Stakeholders During the Decision-Making Phase

Once the Competent Authority which is DMPR has come to a decision regarding the EA authorisation of the Proposed Project, all stakeholders will be notified of the decision made and the appeal process to be followed. The decision from the Competent Authority (CA) will be communicated to stakeholders by means of a notification letter (electronic), SMS, local newspaper advertisement, and on Kongiwe's website.

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Appendix C1: Stakeholder Database

Environmental Authorisations, Waste Management Licence and Water Use Licence Application for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Stakeholder Database

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Agricultural Union	AFGRI SA	Mr	Ernest	Botha	Afgri-Attorney	Limpopo
Agricultural Union	AFGRI SA	Ms	Nadia	Hetzel	Legal Representative (Afgri)	Limpopo
Agricultural Union	Agri South Africa (National)	Mr	Janse	Rabie	Head of Natural Resources	Limpopo
Agricultural Union	TAU SA Limpopo Region	Ms	Wilma	Prinsloo	Regional Secretary	Limpopo
Agricultural Union	Thabazimbi Farmers Associations	Mr	Thaba	Dludlu		Limpopo
Agricultural Union	TLU Limpopo	Mr	Danie	Prins	Regional Manager	Limpopo
Agricultural Union	TLU SA: Limpopo	Mr	Fanie	Havinga	Chairman	Limpopo
Agricultural Union	TLU SA: Mpumalanga	Mr	Mauritz	Lombard	Manager: Policy Liaison	Limpopo
Agricultural Union	Transvaal Agricultural Union of South Africa (TAUSA)	Mr	Henry	Geldenhuys	President	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Business & Commerce	Eskom	Ms	Charmaine	Mare	Environmental Manager	Limpopo
Business & Commerce	Eskom	Ms	Thakgalo	Lechaba		Limpopo
Business & Commerce	Eskom	Mr	Tshilisanani	Tshifularo		Limpopo
Business & Commerce	Eskom (National): National Transmission Company South Africa SOC Ltd (NTCSA)	Mr	John	Geeringh	Senior Consultant Environmental Management Grid Planning: Land and Rights	Limpopo
Business & Commerce	Eskom: Limpopo	Mr	Baldwin	Maudu	NED & LD Manager	Limpopo
Business & Commerce	Eskom: Limpopo	Ms	Deidre	Herbst	Generation Environmental Manager	Limpopo
Business & Commerce	Minerals Council South Africa (National)	Mr	Babalwa	Matiwane	Environment Department (National)	Limpopo
Business & Commerce	Minerals Council South Africa (National)	Ms	Jeannette	Hofsajer	Environment Department (National), Administration	Limpopo
Business & Commerce	Road Agency Limpopo (RAL)	Mr	Shuni	Tshivhase	Operation Manager	Limpopo
Business & Commerce	Siyanda Resources Mine	Ms	Palesa	Staat		Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Mr	Izak	Van der Linde	PM: Traffic & Transport	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Mr	Ockert	Stevens		Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Ms	Naledi	Itumeleng	Land Acquisition Specialist	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Ms	Ria	Barkhuizen	Environmentalist (NR)	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Ms	SANRAL	SANRAL	Central Environmental Department email	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Ms	Victoria	Bota	Environmentalist (Gauteng Region)	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL): Limpopo	Ms	Thembelihle	Ndlandla	Environmental Manager	Limpopo
Business & Commerce	South African National Roads Agency Limited (SANRAL)	Mr	David	Thubane	Land Acquisition Specialist	Limpopo
Business & Commerce	Transnet Freight Rail Ltd: Limpopo	Mr	Avhatendi	Tambani	Specialist Environmental Compliance (Northern Region)	Limpopo
Catchment Forum	Thabazimbi Catchment Forum	Mr	E	Madumo		Limpopo
Catchment Forum	Thabazimbi Catchment Forum	Mr	Peter	Lentsoane		Limpopo
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	Frank	Tisane	CPA-Chairperson	Limpopo
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	Isaac	Seleteng	Deputy Chairperson	Limpopo
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	J	Mabula		Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	Moabi	Tisane	Additional Member	Limpopo
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	Ridgemond	Sojane	Secretary	Limpopo
Communal Property Associations	Sebilong Communal Property Association (CPA)	Mr	Sinkisa	Mosito	Deputy Secretary	Limpopo
Community Based Organisation	Thabang Children Centre - Smash Block Community	Ms	Gloria	Vilakazi	Centre Manager	Limpopo
Community Member	Community Member	Mr	Senwe	Ishmael	Northam	Limpopo
Community Member	Community Member	Mr	Elias	Mosa	Northam	Limpopo
Community Member	Community Member	Mr	Abbey	Mpete		Limpopo
Community Member	Community Member	Mr	Alfred	Mabilo	Northam	Limpopo
Community Member	Community Member	Mr	Andrew	Moloto	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Athandile	Rafuza	Smash Block	Limpopo
Community Member	Community Member	Mr	Aubrey	Dinake	Smash Block	Limpopo
Community Member	Community Member	Mr	Bamy	Rathele	Ramokokastad	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Boitshoko	Setlhabi	Community Member	Limpopo
Community Member	Community Member	Mr	Boitshoko	Mfulwane	Northam	Limpopo
Community Member	Community Member	Mr	Boitumelo	Dingaan	Bojating	Limpopo
Community Member	Community Member	Mr	Bokang	Motlhasedi	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Cobongela	Siseko	Jabulani	Limpopo
Community Member	Community Member	Mr	Caiphus	Masilo	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Cornelius	Mphela	Community Member	Limpopo
Community Member	Community Member	Mr	Daniel	Mphela	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Daniel	Thepe	Community Member	Limpopo
Community Member	Community Member	Mr	David	Maruma	Mmorogong	Limpopo
Community Member	Community Member	Mr	David	Skanka	Mmorogong	Limpopo
Community Member	Community Member	Mr	E	Singela	Smash Block	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Eserae	Maledu	Community Member	Limpopo
Community Member	Community Member	Mr	Fish	Maponya	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Gadifele	Phiri	Northam	Limpopo
Community Member	Community Member	Mr	Gabriel	Thamane	Smash Block	Limpopo
Community Member	Community Member	Mr	George	Mphela	Community Member	Limpopo
Community Member	Community Member	Mr	Gift	Thato	Northam	Limpopo
Community Member	Community Member	Mr	Given	Ramoshaba	Smash Block	Limpopo
Community Member	Community Member	Mr	Given	Hobyane	Smash Block	Limpopo
Community Member	Community Member	Mr	Heron	Moloto	Smash Block	Limpopo
Community Member	Community Member	Mr	Ipeleheng	Mokumo	Community Member	Limpopo
Community Member	Community Member	Mr	Jerry	Bulang	Northam	Limpopo
Community Member	Community Member	Mr	Jahannes Nelson	Mokoka	Ramokokastad	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	James	Mphela	Bilkop/Phadi	Limpopo
Community Member	Community Member	Mr	K	Tau	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Kagiso	Billi	Northam	Limpopo
Community Member	Community Member	Mr	Kagiso	Motlhamme	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Kagiso	Phalane	Ramokokastad	Limpopo
Community Member	Community Member	Mr	KB	Tau	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Keletso	Tau	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Kgomotso	Bareng	Northam	Limpopo
Community Member	Community Member	Mr	Kgomotso	Moitsiwa	Baphalane	Limpopo
Community Member	Community Member	Mr	Klaas	Phadi	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Klaas	Setlhare	Northam	Limpopo
Community Member	Community Member	Mr	Klauis	Mphela	Ramokokastad	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Lemogang	Botsi	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Lesolang	Motswadi	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Letsoalo	Khutso	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Lobone	Ogaseng	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Lukhanyo	Ncewula	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Luvuyo	Mjongwa	Jabulani	Limpopo
Community Member	Community Member	Mr	M	Matshoba	Ga-Ramokoka	Limpopo
Community Member	Community Member	Mr	Malebo	Hlalele	Northam	Limpopo
Community Member	Community Member	Ms	Mary-Jane	Mojaka	Community Member	Limpopo
Community Member	Community Member	Mr	Mathepe	Agheus	Community Member	Limpopo
Community Member	Community Member	Mr	Mathews	Ramadiro	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Mfundiso	Tuhalindiwe	Jabulani	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Mjungula	Khangiso	Jabulani	Limpopo
Community Member	Community Member	Mr	Mkateko	Maluleke	Jabulani	Limpopo
Community Member	Community Member	Mr	Mohalepula	Mpeoa	Smash Block	Limpopo
Community Member	Community Member	Mr	Molwantwa	Kgolagano	Smash Block	Limpopo
Community Member	Community Member	Mr	Moruwa	Orethabotso	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Moses	Semoramitshi	Northam	Limpopo
Community Member	Community Member	Mr	Mpho	Sitto	Bojating	Limpopo
Community Member	Community Member	Mr	Mzoli	Kose	Northam	Limpopo
Community Member	Community Member	Mr	Nandipha	Mkhutshwa	Smash Block	Limpopo
Community Member	Community Member	Mr	Neo	Sebopa	Ramokokastad	Limpopo
Community Member	Community Member	Mr	NG	Chauke	Northam	Limpopo
Community Member	Community Member	Mr	Ntlahla	Gxabu	Northam	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Odirile	Botsi	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Ofeng	Phiri	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Okohle	Mjembe	Jabulani	Limpopo
Community Member	Community Member	Mr	Omphile	Mohlhasedi	Northam	Limpopo
Community Member	Community Member	Ms	Onele	Joyi	Community Member	Limpopo
Community Member	Community Member	Mr	Ontiretse	Ganetseng	Northam	Limpopo
Community Member	Community Member	Mr	Orapeleng	Bonoro	Northam	Limpopo
Community Member	Community Member	Mr	Patrick	Sethole	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Pitso	Morch	Moreki Engineering	Limpopo
Community Member	Community Member	Mr	Thabo	Pondo	Mmorogong	Limpopo
Community Member	Community Member	Mr	Rantaki	Rakeketsi	Smash Block	Limpopo
Community Member	Community Member	Mr	Robert	Mashimo	Community Member	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Samuel	Thukwama	Northam	Limpopo
Community Member	Community Member	Mr	Sanibongela	Sozana	Smash Block	Limpopo
Community Member	Community Member	Mr	Siepati	Phiri	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Sihle	Nzimande	Smash Block	Limpopo
Community Member	Community Member	Mr	Sikelela	Nokozayo	Smash Block	Limpopo
Community Member	Community Member	Mr	Sikimani	Siyamanga	Smash Block	Limpopo
Community Member	Community Member	Mr	Sinegaga	Ziba	Smash Block	Limpopo
Community Member	Community Member	Mr	Sisanda	Madotyeni	Smash Block	Limpopo
Community Member	Community Member	Mr	Sithole	Mzamo	Sebilong	Limpopo
Community Member	Community Member	Mr	Sivuyise	Ntibane	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Siwaphiwe	Mabhalane	Smash Block	Limpopo
Community Member	Community Member	Mr	Star	Njisane	Jabulani	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Sphamandla	Ngece	SANESPA Construction (Pty) Ltd	Limpopo
Community Member	Community Member	Mr	Stephen	Lerumo	SMME Chairperson	Limpopo
Community Member	Community Member	Mr	Stephinah	Lethabo	Northam	Limpopo
Community Member	Community Member	Mr	Tebogo	Motwedi	Bojating	Limpopo
Community Member	Community Member	Mr	Thabang	Mmutlana	Mmorogong	Limpopo
Community Member	Community Member	Mr	Thabisa	Phiri	Smash Block	Limpopo
Community Member	Community Member	Mr	Thabo	Tshukudu	Mmorogong	Limpopo
Community Member	Community Member	Mr	Thapelo	Monodi	Northam	Limpopo
Community Member	Community Member	Mr	Thapelo	Masilo	Smash Block	Limpopo
Community Member	Community Member	Mr	Thembinkosi	Ndlonongwana	Smash Block	Limpopo
Community Member	Community Member	Mr	Thomas	Mphela	Phadi	Limpopo
Community Member	Community Member	Mr	Thompson	Mthombeni	Smash Block	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Tlhalefang	Majece	Bojating	Limpopo
Community Member	Community Member	Mr	Tlhapi	Maponyane	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Tonny	Nhlanhla	Northam Youth Member	Limpopo
Community Member	Community Member	Mr	Topollo Lucas	Moselakgoma	Community Member	Limpopo
Community Member	Community Member	Mr	Tshephang	Moidi	Northam	Limpopo
Community Member	Community Member	Mr	Tumi	Phalan	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Tumi	Sebotsa	Community Member	Limpopo
Community Member	Community Member	Mr	Velile	Mkolwana	Smash Block	Limpopo
Community Member	Community Member	Mr	William	Molwantwa	Smash Block	Limpopo
Community Member	Community Member	Mr	Xolani	Tshotlho	Smash Block	Limpopo
Community Member	Community Member	Mr	Zebulon	Mogale	Ramokokastad	Limpopo
Community Member	Community Member	Mr	Zolani	Jaca	Smash Block	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Mr	Zukhona	Cona	Smash Block	Limpopo
Community Member	Community Member	Mr	Zukisani	Mawulana	Northam	Limpopo
Community Member	Community Member	Ms	Lydia	Mkhukhu	Smash Block	Limpopo
Community Member	Community Member	Ms	Abongile	Madotyeni	Smash Block	Limpopo
Community Member	Community Member	Ms	Afikile	Qobozana	Smash Block	Limpopo
Community Member	Community Member	Ms	Agnes	Chauke	Mmorogong	Limpopo
Community Member	Community Member	Ms	Alice	Mponwane	Smash Block	Limpopo
Community Member	Community Member	Ms	Amanda	Matome	Mmorogong	Limpopo
Community Member	Community Member	Ms	Anna	Molebatsi	Community Member	Limpopo
Community Member	Community Member	Ms	Asabonga	Diko	Smash Block	Limpopo
Community Member	Community Member	Ms	Asanda	Lugumpu	Jabulani	Limpopo
Community Member	Community Member	Ms	Bella	Sono	Jabulani	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Ms	Boniswa	Ngada	Northam	Limpopo
Community Member	Community Member	Ms	Christinah	Rambau	Northam	Limpopo
Community Member	Community Member	Ms	Connie Constance	Bonolo	Northam	Limpopo
Community Member	Community Member	Ms	Dibolotseng	Ipotseng	Northam	Limpopo
Community Member	Community Member	Ms	Didintle	Selokedu	CEF Coordinator	Limpopo
Community Member	Community Member	Ms	Dimokatso	Masilo	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Dintwa	Matsape	Mmorogong	Limpopo
Community Member	Community Member	Ms	Florence	Khumalo	Mmorogong	Limpopo
Community Member	Community Member	Ms	Glory	Ngobeni	Northam	Limpopo
Community Member	Community Member	Ms	Gomotsegang	Mothlasedi	Northam	Limpopo
Community Member	Community Member	Ms	Grace	Lamola	Northam	Limpopo
Community Member	Community Member	Ms	Iptleng	Motlhasedi	Northam	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Ms	Johanna	Mphela	Community Member	Limpopo
Community Member	Community Member	Ms	Josphine	Chefa	Smash Block	Limpopo
Community Member	Community Member	Ms	Kealeboga	Matjila	Community Member	Limpopo
Community Member	Community Member	Ms	Keamogetswe	Motlhasedi	Northam	Limpopo
Community Member	Community Member	Ms	Kedisaletse	Tau	Bojating	Limpopo
Community Member	Community Member	Ms	Lebogang	Tlhokotsi	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Lesego	Motshegwe	Northam	Limpopo
Community Member	Community Member	Ms	Letta	Kekana	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Letty	Modimoeng	Bojating	Limpopo
Community Member	Community Member	Ms	Litha	Somtseuv	Jabulani	Limpopo
Community Member	Community Member	Ms	Lucia	Malesa	Smash Block	Limpopo
Community Member	Community Member	Ms	Mahadi	Hlalele	Northam	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Ms	Mapula	Molokomme	Community Member	Limpopo
Community Member	Community Member	Ms	Margaret	Mothwaledi	Sebilong-Assistant Councillor	Limpopo
Community Member	Community Member	Ms	Marry Monare	Malefa	Smash Block	Limpopo
Community Member	Community Member	Ms	Masego	Dire	Northam	Limpopo
Community Member	Community Member	Ms	Matseliso	Ngada	Northam	Limpopo
Community Member	Community Member	Ms	Msoli	Kase	Northam	Limpopo
Community Member	Community Member	Ms	Nkele	Makgao	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Nolitha	Kheswa	Smash Block	Limpopo
Community Member	Community Member	Ms	Nolwazi	Nyikima	Smash Block	Limpopo
Community Member	Community Member	Ms	Nomabah	Rafuza	Smash Block	Limpopo
Community Member	Community Member	Ms	Nomsa	Dumbisa	Smash Block	Limpopo
Community Member	Community Member	Ms	Nontokozo	Jokwana	Smash Block	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Ms	Nothembile	Mphangwe	Smash Block	Limpopo
Community Member	Community Member	Ms	Pertunia	Ramokoka	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Pitsi	Tholwana	Smash Block	Limpopo
Community Member	Community Member	Ms	Pouline	Phiri	Smash Block	Limpopo
Community Member	Community Member	Ms	Princess	Mahlangu	Smash Block	Limpopo
Community Member	Community Member	Ms	Realeboga	Moletsane	Northam	Limpopo
Community Member	Community Member	Ms	Rhythmic	Puleng	Smash Block	Limpopo
Community Member	Community Member	Ms	Rita	Ngomane	Rethabile	Limpopo
Community Member	Community Member	Ms	Rosinah	Sigida	Mmorogong	Limpopo
Community Member	Community Member	Ms	Sandra	Ndhlovu	Ramokokastad	Limpopo
Community Member	Community Member	Ms	Sekhula	Monene	Northam RDP	Limpopo
Community Member	Community Member	Ms	Sina	Seakgosing	Bojating	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Community Member	Ms	Sinah	Sono	Northam	Limpopo
Community Member	Community Member	Ms	Sindile	Khosa	Northam	Limpopo
Community Member	Community Member	Ms	Sisanda	Ngomane	Northam	Limpopo
Community Member	Community Member	Ms	Stephina	Moselakgomo	Community Member	Limpopo
Community Member	Community Member	Ms	Suzan	Kgwathisi	Northam	Limpopo
Community Member	Community Member	Ms	Tandeka	Joseph	Northam	Limpopo
Community Member	Community Member	Ms	Thabsile	Mkhabela	Youth Member	Limpopo
Community Member	Community Member	Ms	Thandile	Marom	Smash Block	Limpopo
Community Member	Mantserre Community Member	Mr	David	Morutlwa	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Frank	Diale	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Katlego	Shuping	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	L.	Mokoka	Youth League	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Mantserre Community Member	Mr	Malebo	Morebodi	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Marcus	Monene	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Mokgosi	Ralehoko	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Mpho	Moatshe	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Otsile	Mpuru	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Peter	Boikhutso	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Phillip	Morebudi	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	R.	Manstileng	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Ramadi	Moeng	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Reatlegile	Sithole	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Samuel	Moraise	Men League	Limpopo
Community Member	Mantserre Community Member	Mr	Maemo	Moabi	Community Member	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Mantserre Community Member	Mr	Letshedi	Lebogang	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Abram	Mmeme	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Rodner	Serake	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Nkakeng	Mogwe	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Sean	Mogale	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Sipho	Mkhonto	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Stephan	Olukile	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	T.H	Madira	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Tebogo Essau	Ditshwane	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Thapelo	Morake	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Tlohiso	Mawela	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Kefilwe	Diphale	Community Member	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Mantserre Community Member	Mr	Tshepo	Phiri	Community Member	Limpopo
Community Member	Mantserre Community Member	Mr	Walter	Makgopela	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Dilkeledi Emily	Mogale	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Ipeleng	Koloi	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Lerato	Syawa	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Tsholofelo	Sevenster	Community Member	Limpopo
Community Member	Mantserre Community Member	Ms	Lesego	Modibana	Women League	Limpopo
Community Member	Mantserre Community Member	Ms	Mmapula	Mfati	Women League	Limpopo
Community Member	Mantserre Community Member	Ms	Seipati Joyce	Malope	CPF	Limpopo
Community Member	Mantserre Community Member	Ms	Nthabiseng Cynthia	Lekaota	CPF	Limpopo
Community Member	Mantserre Community Member	Ms	Kagiso	Kubyane	CPF	Limpopo
Community Member	Mantserre Community Member	Ms	Obakeng	Otukile	CPF	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Mantserre Community Member	Ms	Rebone Clamantine	Mogale	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Teko	Mesole	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Jeanet	Motlhabane	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Ramagi	Segoner	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Reatlegile	Sithole	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Keamogetswe	Matha	Youth League	Limpopo
Community Member	Mantserre Community Member	Mr	Topollo	Moselakgomo	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Monnye Dorcas	Ramokoka	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Sylvia	Tebatso	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Dikeledi	Monegi	Youth League	Limpopo
Community Member	Mantserre Community Member	Ms	Thato	Ragae	Youth League	Limpopo
Community Member	Northam Community Member	Mr	George	Serole	Semane Community Patrol	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Community Member	Northam Community Member	Mr	John	Motlhan	Semane	Limpopo
Community Member	Northam Community Member	Mr	Kamogelo	Medupe	Semane Community	Limpopo
Community Member	Northam Community Member	Mr	Thabiso	Madibela	Semane Community	Limpopo
Community Member	Ramokokastad Community Member	Mr	SJ	Makakaba	Baphalane	Limpopo
Community Member	Ramokokastad Community Member	Ms	Maria	Letlape	Baphalane	Limpopo
Community Member	Smashblock	Mr	Ellen	Phiri	Community Member	Limpopo
Community Member	Thabazimbi Community Accountability Forum	Mr	Bosney	Mashao	PR Cllr, CEF	Limpopo
Directly Affected Landowner	Valterra Platinum	Ms	Ursula	Marvey	AMB Environmental Manager	Limpopo
District Municipality	Limpopo Department Environmental and Health: Waterberg District Environmental	Ms	Tebogo	Tshabalala	Divisional Manager	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Mr	Bhekani	Gumede	Environmental Health Practitioner	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Mr	Ben	Greeff	Land Use Planner	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Mr	Phathu	Siebe	Manager: Town Planning	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
District Municipality	Waterberg District Municipality (WDM)	Mr	Preciousstone	Raputso	Municipal Manager	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Mr	Stenley	Koenaite	Air Quality Information	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Mr	Vincent	Raphunga	Air Quality Officer	Limpopo
District Municipality	Waterberg District Municipality (WDM)	Ms	Zelda	Oosthuizen	Town Planning	Limpopo
Environmental NGO's	Benchmarks Foundation (BMF)	Mr	David	van Wyk	Environmental	Limpopo
Environmental NGO's	Benchmarks Foundation (BMF)	Mr	Moses	Cloete	Director	Limpopo
Environmental NGO's	Bench-marks Foundation (BMF): Limpopo	Ms	Mmathapelo	Thobejane	Environmental	Limpopo
Environmental NGO's	Birdlife South Africa (BLSA)	Dr	Kirsten	Day	Policy & Advocacy Manager	Limpopo
Environmental NGO's	Centre for Environmental Rights (CER)	Mr	Brandon	Abdinor	Programme Head: Pollution & Climate Change	Limpopo
Environmental NGO's	Centre for Environmental Rights (CER): Limpopo	Ms	Tarisai	Mugunyani	Attorney	Limpopo
Environmental NGO's	Council of Geosciences	Dr	Thakane	Ntholi	Specialist Scientist	Limpopo
Environmental NGO's	Earthlife Africa Johannesburg	Ms	Makoma	Lekalakala	Director	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Environmental NGO's	EarthLife: Limpopo	Mr	Thabo	Sibeko	Programme Officer	Limpopo
Environmental NGO's	Endangered Wildlife Trust (EWT)	Mr	Kish	Chetty	Senior Manager for Sustainable Financing	Limpopo
Environmental NGO's	Federation for Sustainable Environment (FSE)	Ms	Mariette	Liefferink	Chief Executive Officer	Limpopo
Environmental NGO's	Groundwork: Limpopo	Ms	Avena	Jacklin	Operational Director	Limpopo
Environmental NGO's	Mining Affected Communities United in Action (MACUA)	Mr	Gilbert	Moela	Media Liaison	Limpopo
Environmental NGO's	South African National Biodiversity Institute	Ms	Zama	Nzeru		Limpopo
Environmental NGO's	WESSA Wildlife & Environmental Society of South Africa (WESSA)	Ms	Seipati	Mphasane	Senior Education Officer: Environmental Coordinator	Limpopo
Environmental NGO's	Wildlife and Environment Society of South Africa (WESSA)	Ms	Kgomotso	Kotlai		Limpopo
Environmental NGO's	Wildlife and Environment Society of South Africa (WESSA): Limpopo	Ms	Leanne	Ray	Regional Coordinator	Limpopo
Environmental NGO's	Wildlife and Environmental Society of South Africa (WESSA)	Mr	John	Wesson	Manager: Conservation Specialist	Limpopo
Environmental NGO's	Wildlife and Environmental Society of South Africa (WESSA)	Mr	Sabelo	Sithole	Admin	Limpopo
Farmers Associations	Farmlands on the way to Northam	Mr	Johan	Buitendag	Neighbouring Farmers	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Farmers Associations	Haakdoorndrift and Portion of ElandsKuil	Mr	Jano	Buitendag	Neighbouring Farmers	Limpopo
Farmers Associations	Haakdoorndrift and Portion of ElandsKuil	Mr	Louis	Scheepers	Neighbouring Farmers	Limpopo
Farmers Associations	Koptjee Alleen 422 KQ	Mr		Leon	Neighbouring Farmers	Limpopo
Farmers Associations	Moddergat 389 K	Mr		Riaz	Neighbouring Farmers	Limpopo
Farmers Associations	Moddergat 389 K	Mr	Jan	Van Der Sandt	Neighbouring Farmers	Limpopo
Farmers Associations	Middelaagte PTY Ltd	Ms	Elizabeth	Koekemoer	Neighbouring Farms	Limpopo
Farmers Associations	Middelaagte PTY Ltd	Mr	Daniel Elardus	Koekemoer	Landowner	Limpopo
Indirectly Affected Landowner, Traditional Authorities	Mantserre Traditional Council	Mr	Sello	Ramokoka	Royal Family	Limpopo
Indirectly Affected Landowner, Traditional Authorities	Mantserre Traditional Council	Mr	Paul	Ramokoka	Royal Family	Limpopo
Indirectly Affected Landowner	Northam Platinum	Ms	Sonwabiso	Ndaki	Environmental Coordinator	Limpopo
Indirectly Affected Landowner	Northam Platinum Mine	Ms	Daleen	Smith		Limpopo
Indirectly Affected Landowner	Northam Platinum Mines	Mr	Mpho	Mutobvu	Environmental Manager	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Interested & Affected Party	Amandelbult (Rethabile residents) and Mlanje Hostel employees	Mr	Jerry	Motshedi		Limpopo
Interested & Affected Party	Baphalane Ba Mantserre Community Development Trust	Mr	Thabo	Sekele	Independent Trustee	Limpopo
Interested & Affected Party	Dikuno (Leadership Accountability Forum)	Mr	Ronny	Manyama		Limpopo
Interested & Affected Party	Dishaba Mine Entrance - Jabulani residents: Dora spaza-shop	Ms	Lydia	Sikhwari		Limpopo
Interested & Affected Party	Sekgatlhamela (Leadership Accountability Forum)	Mr	M.S	Masisi		Limpopo
Interested & Affected Party	Smash Block Community	Mr	Skalak	Ntshole		Limpopo
Interested & Affected Party	Thabazimbi Business Forum	Mr	Bafana	Motheng		Limpopo
Interested & Affected Party	Thabazimbi Community Accountability Forum	Mr	Karabo	Pule		Limpopo
Interested & Affected Party	Thabazimbi Community Accountability Forum	Mr	Thabo	Mogotlane		Limpopo
Interested & Affected Party	Thabazimbi Community Accountability Forum	Mr	Thapelo	Matjila		Limpopo
Interested & Affected Party	Trollope Prop Pty	Mr	Percy	Ratombo	Environmental Officer	Limpopo
Interested & Affected Party	Trollope Prop Pty	Mr	Sello	Mashabela	HR Manager	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Interested & Affected Party	Trollope (Pty) Ltd	Ms	Masego	Chimole	Environmental Intern	Limpopo
Libraries	Thabazimbi Public Library	Ms	Kgaugelo	Nkopane	Assistant Librarian	Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Abe	Mogashoa	LED Manager	Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Benjamin	Nkge	Technical Manager	Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Itumeleng	Seilaboali	Councillor	Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Olebogeng	Molefe		Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Tshegofatso	Motlhabane	Municipal Manager	Limpopo
Local Municipality	Moses Kotane Local Municipality	Mr	Vincent	Sephofelo	Office of Speaker	Limpopo
Local Municipality	Moses Kotane Local Municipality	Ms	Bafedile	Moselane	Head: IDP Manager	Limpopo
Local Municipality	Moses Kotane Local Municipality	Ms	Nketu	Nkotswe	Mayor	Limpopo
Local Municipality	Moses Kotane Local Municipality	Ms	Tsholofelo	Maphunye	Waste Unit	Limpopo
Local Municipality	Thabazimbi Local Municipality	Cllr	Johanna	Swanepoel	EXCO Member	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Local Municipality	Thabazimbi Local Municipality	Cllr	Orapeleng Hendrick	Selokela	EXCO Member	Limpopo
Local Municipality	Thabazimbi Local Municipality	Cllr	Rankhedi Andries	Tshukudu	EXCO Member	Limpopo
Local Municipality	Thabazimbi Local Municipality	Cllr	Tumisang	Pilane	Municipal Mayor	Limpopo
Local Municipality	Thabazimbi Local Municipality	Mr	Dingaan	Sebata	Speaker	Limpopo
Local Municipality	Thabazimbi Local Municipality	Mr	Joshua	Motsomane	Head of Communication	Limpopo
Local Municipality	Thabazimbi Local Municipality	Mr	Ntokozo	Jele	PA of Municipal Manager	Limpopo
Local Municipality	Thabazimbi Local Municipality	Mr	Tshepo	Makutu	Environmental	Limpopo
Local Municipality	Thabazimbi Local Municipality	Mr	Tumisang	Pilane	Mayor	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Boitumelo	Matlhafuna	Parks and Solid Waste Manager	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	G	Letsoalo	Municipal Manager	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Lena	Monawa-Lesotho	IDP Manager	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Mmapula Lettah	Ndiweni	Chief Whip	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Local Municipality	Thabazimbi Local Municipality	Ms	Nomfundo	Mthethwa	Senior Environmental Officer	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Olindwawo	Lithole	Town Planning	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Piet	Van Rensburg	Town Planning	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Rabelani	Tshiswaise	Manager: Planning and Economic Development	Limpopo
Local Municipality	Thabazimbi Local Municipality	Ms	Rabelani	Tshiwaise	Town Planner	Limpopo
National Government	Department of Agriculture (DALRRD)	Ms	Mashudu	Marubini	Deputy Director	Limpopo
National Government	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Mr	Tele	Maphoto	Chief Director: Land Restitution Support	Limpopo
National Government	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Ms	Anneliza	Collet	Directorate: Land Use & Soil Management	Limpopo
National Government	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Ms	Mashudu	Mukwevho	Resource Auditor	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)			Biodiversity and Conservation		Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)			DFFE - Biodiversity		Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Dr	Dee	Fischer	Assistant Director: National Infrastructure Projects	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Dr	Mpho	Tshitangoni	Chief Director: Land Remediation	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Kelvin	Mathebula	Integrated Environmental Authorisations	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Lucas	Mahlangu	Control Environmental Officer: Waste Licensing	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Mahlatse	Shubane	Assistant Director: Strategic Infrastructure Development	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Makhosi	Yeni	Environmental Officer	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Mulalo	Sundani	National Office: Directorate: Forestry Regulation and Oversight: Environmental	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Sabelo	Malaza	Chief Directorate: Integrated Environmental Authorisations	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Seoka	Lekota	Biodiversity Conservation	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Boikanyo	Matsha	Senior Forestry Regulation Officer	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Jacoline	Mans	Chief Directorate: Integrated Environmental Authorisations	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Mahlatse	Shubane	Integrated Environmental Authorisations	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Mashudu	Mudau	Protected Areas Planning and Management Effectiveness	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Milicent	Solomons	Director: Strategic Infrastructure Development Responsible for the processing	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Nomfundo	Tshabalala		Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Olivia	Letlalo	Deputy Director Integrated Environmental Authorisations:	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Portia	Makitla	Biodiversity and Conservation	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Tabisa	Fiko	Chief Directorate Environmental Programmes: Gauteng	Limpopo
National Government	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Thabisile	Mnisi	Integrated Environmental Authorisations	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Adv	Mmadikeledi	Malebe	DDG: Mineral Regulation	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	David	Msiza	Mine Health and Safety Inspectorate	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Jacob	Mbele	Director General	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Jimmy	Sekgale	Assistant Director	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Lebohang	Mojanaga	Director: IPP (Monitoring and Evaluation Expert)	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Lunga	Mankazana	Technical Specialist	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Musa	Mangobe	Gauteng Environment	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Nkosinathi	Mahlaba	Environmental Officer	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Rudzani	Mabogo	Head of Environment: Assistant Director	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Mr	Siyabonga	Vezi	Acting Gauteng Regional Director	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Ms	Buyisiwe Ntokozo	Ngcwabe	DDG- Mineral Policy & Promotions	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Ms	Carol	Khanyile	Gauteng Regional: Secretary	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Ms	Mapula	Sathekge	Sub-Directorate: Mine Environmental Management	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Ms	Tebogo	Mangaba	Secretary	Limpopo
National Government	Department of Mineral Resources and Energy (DMPR)	Ms	Thobile	Mbatha	Chief Director	Limpopo
National Government	Limpopo- Department of Mineral Resources and Energy (DMPR)	Mr	Thivhulawi	Kolani	Director: Environmental Management	Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Mr	Lutendo	Neduvhuledza	Town Planning Services (HO)	Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Mr	Malusi	Ganiso	Town Planning Services (HO)	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Public Works and Infrastructure (DPWI)	Mr	Thapelo	Duma	PA to Regional Manager	Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Ms	Desire	Msimango		Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Ms	Jabulile	Mabaso	Acting Regional Manager	Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Ms	Lerato	Mbatha		Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Mr	Jacob	Mahloko	Construction Project Management	Limpopo
National Government	Department of Public Works and Infrastructure (DPWI)	Ms	Friedah	Khoza	Property Manager	Limpopo
National Government	Department of Transport	Adv.	James	Mlawua	Director General	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Adriaan	Claassen	Chief Engineer	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Desmond	Mutshaine	Geochemistry	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Dikeledi	Baloyi	Environmental Officer	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Gawie	Van Dyk	Director	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Karl	Bester	Chief Engineer	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Water and Sanitation (DWS)	Mr	Kevin	Aphane	GT	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Londolani	Mutshekwa	National	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Love	Hlekane	Directorate: Water Use Authorisation	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Mihloti	Taka	Scientist: Water Use Authorisation	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Nemataheni	Thivhafuni	Scientist Manager: Water Use Efficiency in the IMP Sector	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Noe	Malaise	Resource Protection & Waste	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Roets	Wietsche	Specialist Scientist	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Sean	Cloete	Water Quality Management - Lower Orange Water Management Area	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Victor	Nkuna	Environmental Officer	Limpopo
National Government	Department of Water and Sanitation (DWS)	Ms	Candace	Enoch	Environmental Officer	Limpopo
National Government	Department of Water and Sanitation (DWS)	Ms	Mathedimosa Hellen	Makgwale	GAU	Limpopo
National Government	Department of Water and Sanitation (DWS)	Ms	Mogadi	Machaba	Environmental Officer	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government	Department of Water and Sanitation (DWS)	Ms	Mulalo	Sidogi	Environmental Officer	Limpopo
National Government	Department of Water and Sanitation (DWS)	Ms	Nthata	Thandile		Limpopo
National Government	Department of Water and Sanitation (DWS)	Ms	Portia C	Chawane	Control Environmental Officer Grade A	Limpopo
National Government	Department of Water and Sanitation (DWS)	Mr	Phillimon	Khwinana	Control Environmental Officer, Blesbokspruit and Rietspruit Catchment Forum Chairman	Limpopo
National Government	National Department of Health (DOH)	Ms	Belinda	Makhafola	Directorate: Environmental Health Services	Limpopo
National Government	National Nuclear Regulator (NNR)	Mr	Pemo	Hajane		Limpopo
National Government	South African Heritage Resources Agency (SAHRA)	Ms	Khanyisile	Bonile	Heritage Officer: Development Applications Unit	Limpopo
National Government	South African Heritage Resources Agency (SAHRA)	Ms	Natasha	Higgitt	Manager	Limpopo
National Government (Provincial Office)	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Mr	Mabule	Ramodike		Limpopo
National Government (Provincial Office)	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Ms	Lorraine	Mosebedi	Deputy Director: Information Management Unit	Limpopo
National Government (Provincial Office)	Department of Forestry, Fisheries and the Environment (DFFE)	Mr	Khuliso	Khomari	BC Admin	Limpopo
National Government (Provincial Office)	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Khuliso	Khomari		Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government (Provincial Office)	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Nompumelelo	Lekalakala	Biodiversity	Limpopo
National Government (Provincial Office)	Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Nozi	Molteno		Limpopo
National Government (Provincial Office)	Department of Mineral and Petroleum Resources (DMPR)	Ms	Reshoketswe	Mphaphuli	Case Officer	Limpopo
National Government (Provincial Office)	Department of Mineral and Petroleum Resources (DMPR)	Mr	Azwihangwisi	Mulaudzi	Limpopo Regional Manager	Limpopo
National Government (Provincial Office)	Department of Mineral and Petroleum Resources (DMPR)	Mr	Telly	Mashau	Environmental Scientist	Limpopo
National Government (Provincial Office)	Department of Mineral and Petroleum Resources (DMPR)	Ms	Daisy	Mudau	Sub-Directorate: Mine Environmental Management	Limpopo
National Government (Provincial Office)	Department of Public Works and Infrastructure (DPWI): Limpopo	Mr	Phethani	Muvhali	Regional Manager	Limpopo
National Government (Provincial Office)	Department of Water and Sanitation (DWS)	Ms	Lucy	Kobe	Limpopo Regional Head	Limpopo
National Government (Provincial Office)	Department of Water and Sanitation (DWS)	Ms	Mashudu	Mmbadi	Environmental Officer	Limpopo
National Government (Provincial Office)	Department of Water and Sanitation (DWS)	Ms	Wendy	Ralekoa	Director	Limpopo
National Government (Provincial Office)	Limpopo- Department of Forestry, Fisheries and the Environment (DFFE)	Ms	Fiona	Grimett	Environmental Impact Assessment process and Environmental Authorisation process	Limpopo
National Government (Provincial Office)	Limpopo Department of Public Works and Infrastructure (DPWI)	Ms	Thabisho	Kgabi	Property Manager	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
National Government (Provincial Office)	Limpopo Economic Development, Environment and Tourism (Ledet)	Mr	Sekwala	Makhukho		Limpopo
National Government (Provincial Office)	South African Heritage Resources Agency	Mr	John	Phakwe	Heritage Officer	Limpopo
National Government (Provincial Office)	Thabazimbi Catchment Forum (DWS)	Mr	Thato	Mjona	Environmental Officer	Limpopo
Nature Reserve	Amandelbult Mine Madeleine Robinson Nature Reserve	Mr	Jacques	Snyman	Reserve Manager	Limpopo
Nature Reserve	South African National Biodiversity Institute (SANBI)	Ms	Vivian	Malema	Director: Biodiversity Education and Public Engagement Directorate	Limpopo
Provincial Government	Department of Transport: Limpopo	Mr	Mawope Gerald	Sekatane	Waterberg District	Limpopo
Provincial Government	Department of Water and Sanitation (DWS)	Mr	Mulalo	Nethengwe	Water Resources Scientist & WULA Manager	Limpopo
Provincial Government	Department of Water and Sanitation (DWS)	Ms	Basani	Nkuna	Environmental Officer	Limpopo
Provincial Government	Limpopo Department of Co-operative Governance, Human Settlements and Traditional	Mr	Mesile	Kutumela		Limpopo
Provincial Government	Limpopo Department of Co-operative Governance, Human Settlements and Traditional	Mr	Nyiko	Mashamba		Limpopo
Provincial Government	Limpopo Department of Cooperative Governance, Human Settlements and Traditional	Miss	Lorraine	Tjebane		Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Mr	Tlhagala R	Ngoasheng	Environmental Impact Management	Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Mr	Victor	Mongwe	Director: Environmental Impact Assessment	Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Mr	Thomas	Maluleke		Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Mr	V	Egan	Biodiversity Management	Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Mr	William	Mothapo	Environmental Officer Specialised Production	Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Ms	MM	Komape		Limpopo
Provincial Government	Limpopo Department of Economic Development Environment and Tourism (LEDET)	Ms	Tirhani	Kubaye	Environmental Impact Management	Limpopo
Provincial Government	Limpopo Department of Economic Development, Environment and Tourism (LEDET)	Mr	Tsholedi Joel	Ngoasheng	Air Quality and Climate Change Management	Limpopo
Provincial Government	Limpopo Department: Cooperative Governance, Human Settlements and Traditional	Dr	Modjadji	Malahlela	Chief Director	Limpopo
Provincial Government	Limpopo Department: Cooperative Governance, Human Settlements and Traditional A	Mr	Rodgers Basikopo	Makamu	MEC	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Traditional Authorities	Bakgatla Ba Kgalefela (BBK)	Mr	Lincwe Ramono	Pilane		Limpopo
Traditional Authorities	Bakgatla Ba Kgalefela (BBK)	Mr	George	Moatshe		Limpopo
Traditional Authorities	Bakgatla Ba Kgalefele (BBK)	Mr	Alfred	Madiseng		Limpopo
Traditional Authorities	Bakgatla Ba Kgalefele (BBK)	Mr	Maitseo	Sakeng		Limpopo
Traditional Authorities	Bakgatla Ba Kgalefele (BBK)	Mr	Sam	Ditsele		Limpopo
Traditional Authorities	Bakgatla Ba Kgalefele (BBK)	Mr	Zitha	Dube		Limpopo
Traditional Authorities	Bakgatla-Ba-Kgalefele (BBK)	Mr	C.Z	Dube		Limpopo
Traditional Authorities	Bakgatla-Ba-Kgalefele (BBK)	Mr	Karabo	Sefora		Limpopo
Traditional Authorities	Bakgatla-Ba-Kgalefele (BBK)	Mr	PA	Madiseng		Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	J.E.M.	Ramokoka	Kgosi (Chief)	Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	Dominique	Bela		Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	Gabone	Sehunwe	Secretary	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	Lesego	Sejang		Limpopo
Traditional Authorities	Baphalane Ba Mantserre Community Development Trust	Ms	Dineo	Peta	Independent Trustee	Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council (Sizwe)	Mr	Tshepo	Kgasago	Advisor to the King	Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	Bongani	Pearce	Kgosi's P. A	Limpopo
Traditional Authorities	Baphalane Ba Ramokoka Traditional Council	Mr	Peter	Thompo	Kgosi Advisor	Limpopo
Traditional Authorities	Baphalane Traditional Council	Mr	Thapelo	Letlape	Kgosana (Prince)	Limpopo
Traditional Authorities	Baphalane Traditional Council	Ms	Lerato	Modise	Ramokokastad	Limpopo
Traditional Authorities	Baphalane Traditional Council	Ms	Morongwa	Tlou	Member	Limpopo
Traditional Authorities	Baphalane Traditional Council	Ms	Nkele	Sekhu	Member	Limpopo
Traditional Authorities	Baphalene Traditional Council	Mr	Peter	Ramokoka	Member	Limpopo
Traditional Authorities	Bojating Traditional Council	Mr	Gabriel	Ratau	Member	Limpopo
Traditional Authorities	Bojating Traditional Council	Mr	Morris	Motlhamme	Traditional Council	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Traditional Authorities	Mantserre Traditional Council	Mr	Welcome	Matshoga	Secretary	Limpopo
Traditional Authorities	Mantseree Sub Council	Mr	E	Ramokoka		Limpopo
Traditional Authorities	Mantseree Sub Council	Mr	Kabelo	Mojawesi	Business portfolio	Limpopo
Traditional Authorities	Mantseree Sub Council	Mr	Pheto	Ramokoka	Royal Family	Limpopo
Traditional Authorities	Mantseree Sub Council	Ms	Keneilwe Popy	Phiri	Secretary	Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	AS	Ramokoka	Royal Family: Chairperson	Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	Desmond	Ramokoka	Traditional Council	Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	Dikgang	Ramokoka		Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	Jackie	Ntshabele		Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	John	Dinake		Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	KJ	Ntshabele		Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	PD	Ramokoka		Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Traditional Authorities	Mantserre Traditional Council	Mr	TD	Letlape		Limpopo
Traditional Authorities	Mantserre Traditional Council	Mr	Thapelo Kgosana	Letlape		Limpopo
Traditional Authorities	Mantserre Traditional Council	Ms	Maggie	Mopedi		Limpopo
Traditional Authorities	Mmorogong Traditional Council	Mr	Mogemi	Ketana	Traditional Council	Limpopo
Traditional Authorities	Ramokokastad Traditional Council	Mr	Michael	Matshaba	Member	Limpopo
Traditional Authorities	Ramokokastad Traditional Council	Ms	Caroline	Moatshe	Member	Limpopo
Traditional Authorities	Ramokokastad Traditional Council	Ms	Mmapitso	Molebatsi	Member	Limpopo
Traditional Authorities	Ramokokastad Traditional Council	Mr	Solomon	Moatshe	Ramokokastad	Limpopo
Traditional Authorities	Sesome Traditional Council (Clan)	Mr	Fistos	Sesome	Clan Leader	Limpopo
Traditional Authorities	Thabeng Traditional Council	Mr	Eliphus	Matshaba	Traditional Council	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Aaron	Matlou	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Amukelani	Makhubele	Ward 3 Committee Member	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Ward Committee Member	Thabazimbi Local Municipality	Mr	Elder	Sikwane	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Jackson	Maluleka	Ward 3 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Mzuvukile	Ngongo	Ward 3 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Retshori	Basani	Ward 3 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Mr	Simlindile	Njisane	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Ms	Blessing	Maluleke	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Ms	Salome	Gobusamang	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Ms	Sarah	Shiko	Ward 6 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Ms	Thulisile	Manzini	Ward 3 Committee Member	Limpopo
Ward Committee Member	Thabazimbi Local Municipality	Ms	Tshabo	Kwele	Wad 6 Committee Member	Limpopo
Ward Councillor	Thabazimbi Local Municipality	Cllr	Mfundiso	Tyhalintwentwe	Ward Councillor: Ward 6	Limpopo
Ward Councillor	Thabazimbi Local Municipality	Cllr	Refilwe Daniel	Mampeule	Ward Councillor: Ward 3	Limpopo

I&AP Sector	Organisation	Mr/Ms	First Name	Last Name	Position	Province
Ward Councillor	Thabazimbi Local Municipality	Cllr	Xolile	Nozozo	Ward Councillor: Ward 11	Limpopo
Water Bodies -Institution	Magalies Water	Mr	Xolani	Bulose	Water Quality Advisor	Limpopo
Water Bodies -Institution	Water Research Commission	Dr	Shafick	Adams	Senior Research Manager:	Limpopo
Water Bodies -Institution	Water Research Commission	Mr	Bennie	Mokgonyana	Water Use & Waste Management	Limpopo
Water Bodies -Institution	Water Research Commission	Mr	Jay	Bhagwan	Research Manager	Limpopo
Water Bodies -Institution	Water Research Commission	Ms	Penny	Jaca	Water Resource Management	Limpopo
Water Bodies -Institution	Water Research Commission	Ms	Shirley	Machelisi	Water Use & Waste Management	Limpopo

Environmental Authorisations, Waste Management Licence and Water Use Licence Application for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Landowners Database

Directly Affected Landowners

Farm Name & Number	Farm ID	Farm Portion	Owner-Windeed	Farm owner	Contact Person
Amandelbult 383	KQ	0 (RE)	Rustenburg Platinum Mines Ltd	Rustenburg Platinum Mines Ltd	Ms Hazel Fiehn
Amandelbult 383	KQ	1	Rustenburg Platinum Mines Ltd	Rustenburg Platinum Mines Ltd	Ms Hazel Fiehn

Indirectly Affected Landowners

Farm Name & Number	Farm ID	Farm Portion	Owner-Windeed	Farm owner	Contact Person
Middellaagte 382	KQ	0 (RE)	Rustenburg Platinum Mines Ltd	Rustenburg Platinum Mines Ltd	Ms Hazel Fiehn
Elandskuil 378	KQ	1	Rustenburg Platinum Mines Ltd	Rustenburg Platinum Mines Ltd	Ms Hazel Fiehn
Zwartkop 369	KQ	24 (RE)	Rustenburg Platinum Mines Ltd	Rustenburg Platinum Mines Ltd	Ms Hazel Fiehn

Farm Name & Number	Farm ID	Farm Portion	Owner-Windeed	Farm owner	Contact Person
Middeldrift 379	KQ	0 (RE)	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Middeldrift 379	KQ	3	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Middeldrift 379	KQ	4 (RE)	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Zondereinde 384	KQ	0 (RE)	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Zondereinde 384	KQ	2	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Vrugbaar 387	KQ	0	Northam Platinum Ltd	Northam Platinum Ltd	Mr Mpho Mutobvu
Schildpadnest 385	KQ	0 (RE)	Baphalane Ba Mantserre Community Development Trust	Baphalane Ba Mantserre Community Development Trust	Mr Paul Ramokoka

Appendix C2: Land Claims

Vanessa Viljoen

From: Vanessa Viljoen
Sent: Thursday, 12 June 2025 10:36
To: 'Lorraine.Mosebedi@dalrrd.gov.za'
Subject: Land Claims enquire for the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex
Attachments: 210525_AMB_Lclaims_Let_V4.pdf

Dear Ms Lorraine Mosebedi

Kongiwe Environmental (Pty) Ltd ('Kongiwe') has been appointed as the Independent Environmental Assessment Practitioner (EAP), tasked with conducting the Scoping and Environmental Impact assessment (S&EIA), Waste Management Licence and Water Use Licence (WUL) processes which are aimed at critically evaluating the potential environmental and social impacts of the proposed Project.

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) aims to reclaim and reprocess the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

The proposed reclamation project is located on the operational AMB surface rights footprint, which is situated in the Thabazimbi Local Municipality of the Waterberg District Municipality in the Limpopo Province. The proposed project is located approximately, 15 km north of Northam and 30 km southwest of Thabazimbi.

We would appreciate it if you could assist us with the attached Land Claims enquire.

Kind Regards,

Vanessa Viljoen | Principal Stakeholder Engagement Consultant | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Cell: +27 (71) 485 5388 | Fax: +27 (86) 476 6438 | Email: vviljoen@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

www.kongiwe.com

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Thursday, 12 June 2025

Attention: Ms Lorraine Mosebedi, Deputy Director: Information Management Unit
Department of Agriculture, Land Reform and Rural Development (DALRRD)
Office of the Regional Land Claims Commissioner: Limpopo Province
Email: Lorraine.Mosebedi@dalrrd.gov.za

Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

LAND CLAIMS ENQUIRY

Kongiwe Environmental (Pty) Ltd ('Kongiwe') has been appointed as the Independent Environmental Assessment Practitioner (EAP), tasked with conducting the Scoping and Environmental Impact assessment (S&EIA), Waste Management Licence and Water Use Licence (WUL) processes which are aimed at critically evaluating the potential environmental and social impacts of the proposed Project.

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) aims to reclaim and reprocess the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

The proposed reclamation project is located on the operational AMB surface rights footprint, which is situated in the Thabazimbi Local Municipality of the Waterberg District Municipality in the Limpopo Province. The proposed project is located approximately, 15 km north of Northam and 30 km southwest of Thabazimbi.

The project area impacts **3 farm** portions, all falling within the Thabazimbi Local Municipality. The affected farms are listed in **Table 1** below.

Table 1: Directly affected property details.

Farm Name & Number	Farm ID	Farm Portion	Landowner
Amandelbult 383	KQ	R/E	Rustenburg Platinum Mines Ltd
Amandelbult 383	KQ	1	Rustenburg Platinum Mines Ltd
Middellaagte 382	KQ	R/E	Rustenburg Platinum Mines Ltd

Kongiwe Environmental (Pty) Ltd.
Registration Number 2016/135562/07
Telephone: +27 (10) 140 6508 / Email: info@kongiwe.com
Registered Address: 150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
Mailing Address: PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Kongiwe would like to enquire if there are any land claims on any of the farms listed above. Please could you revert to us as a matter of urgency.

Kind regards,

Vanessa Viljoen
Stakeholder Engagement Consultant

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: LIMPOPO

Polokwane Offices: Koos Smit Building 61 Biccard Street Tel 015 495 1912 / Thabakgolo Nedbank Building 13th -15th Floor,50-58 Landros Mare Street Polokwane, Tel 495 2389 Vhembe District Office, Old Mutual Building, 62 Mphephu Drive, Thohoyandou, 0950, Tel: 015 495 1882, or 015 495 2055

Enq: Pleasant Gavhi/ Lorraine Mosebedi
Our Ref: 12/ R/5/124/474/2366

Kongiwe Environmental (Pty) Ltd
150 Bryanston Drive
Bryanston, Sandton , 2191

E-mail: info@kongiwe.com

Dear Sir/Madam

LAND CLAIMS ENQUIRY – R/E AND PORTION 1 OF THE FARM AMANDELBULT 383 KQ AND R/E OF THE FARM MIDDELLAAGTE 382 KQ, WATERBERG DISTRICT

We refer to your e-mail dated the 12 June 2025.

We confirm that there is an existing land claim against the property. The land claim was lodged by Modderkuil Community (Makgale CG) with Ref No. R/5/124/474/2366 on 16/07/2014.

The claim was lodged in terms of the Restitution of Land Rights Amendment Act, 2014 (Act No 15 of 2014) ("the Amendment Act") which, amongst others, reopened the lodgment of claims for a period of five years.

The validity of the Amendment Act was challenged in the Constitutional Court. The Constitutional Court found the Amendment Act to be invalid because of the failure of Parliament to facilitate public involvement as required by the Constitution. The Amendment Act ceased to be law on 28 July 2016.

The Constitutional Court ordered that the claims that were lodged between 1 July 2014 and 27 July 2016 are validly lodged, but it interdicted the Commission from processing those claims until the Commission has finalised the claims lodged by 31 December 1998 or until Parliament passes a new law providing for the re-opening of lodgement of land claims.

The Commission will therefore not be processing the above claim until it finishes claims lodged by 31 December 1998 or until Parliament passes a new law providing for re-opening of lodgement of claims.

It is important to note that the provisions of section 11 (7) of the Restitution of Land Rights Act, 1994 do not apply until after the Commission has accepted the claim for investigation and published its details in the Government Gazette. That will only be done on the happening of either event in the previous paragraph.

Yours faithfully,

L Mosebedi

Mr. S S MABEBA
DIRECTOR QUALITY ASSURANCE AND ADMINISTRATION
DATE: 20/06/2025

Appendix C3: Consultation Materials

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province
Background Information Document (BID)

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

1. Purpose of the Document

This Background Information Document (BID) aims to provide important information regarding:

- The proposed Amandelbult Tailings Reclamation and Processing Project in the Thabazimbi Local Municipality (TLM), Limpopo Province;
- The independent Scoping and Environmental Impact Assessment (S&EIA) and the Public Participation Process (PPP) to be undertaken as part of the application for Environmental Authorisation (EA);
- The Water Use Licence (WUL) process;
- How you can register as an Interested and Affected Party (I&AP) and be kept informed about the project developments; and
- The public review and comment period for the Draft Scoping Report, Draft Environmental Impact Assessment and Environmental Management Programme (EIA/EMPr), and Draft Integrated Water and Waste Management Plan (IWWMP).

Kongiwe Environmental (Pty) Ltd ('Kongiwe') has been appointed as the Independent Environmental Assessment Practitioner (EAP), tasked with conducting the S&EIA and WUL processes which are aimed at critically evaluating the potential environmental and social impacts of the proposed Project.

2. Project Background

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) has been operating since the 1970s. The mine is situated in the TLM of the Waterberg District Municipality (WDM) in the Limpopo Province and extends over some 20 km from east to west. It is located approximately 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

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The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with the tailings being deposited mainly on 3B, but also on 3A from time to time. Deposition of material on Dam 1, Dam 2 and 3A has stopped. The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

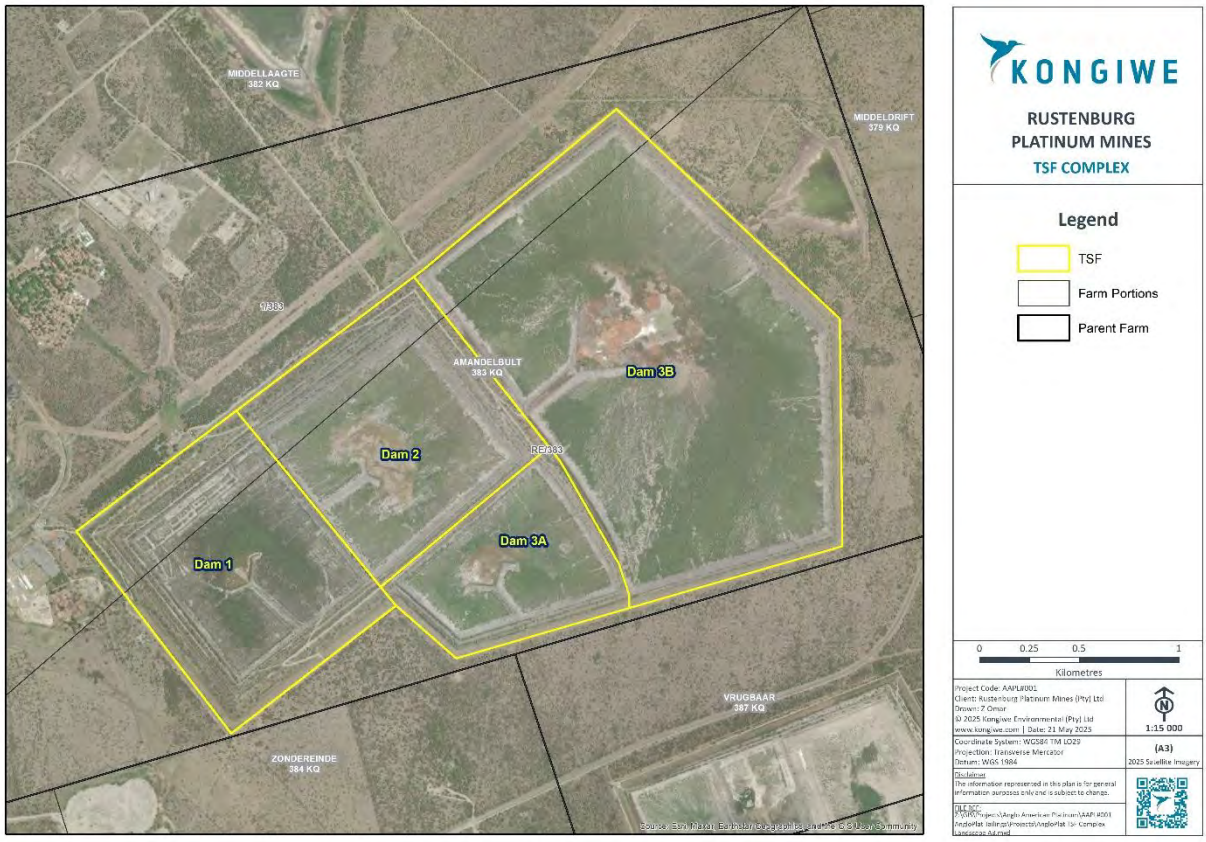

Figure 1: Amandelbult TSF configuration.

The proposed project seeks to recover Chrome and Platinum group metals (PGMs) from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the extraction of PGMs and Chrome. The reclamation will also potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Additionally, a Water Use Licence (WUL) in terms of section 21 of the National Water Act, 1998 (Act No. 36 of 1998) (NWA) will be required.

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Description of Project Activities

AMB aims to reclaim and process the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Mechanically reclaimed material will be excavated and trucked from the TSF to the slurry transfer station, where a transitory stockpile will be located. Here the material will be fed into the repulping plant. At the repulping plant the “dry” material will be converted into a slurry and fed into the pipelines that will connect to the processing plants. The repulping plant will screen out vegetation, woodchips and oversize material from the dry/mechanically removed material.

Hydraulically reclaimed material will be transported from the barge station (this will move on top of the TSF following the progress of the hydraulic reclamation) on top of dam 2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material that cannot make its way through the piping system.

The screened-out vegetation from the slurry transfer station will be stockpiled in a designated stockpile area, whereafter, it will be taken to the composting facility on site.

The proposed project will investigate two location options for the slurry transfer station. Both of these options are located at the base of the TSF.

The slurry will then be pumped from the slurry transfer station, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electrical reticulation (TSF Mini Substation) will also be required to provide power to the reclamation station for the reclamation activity from the current substation located at the concentrator plant. This powerline will be approximately 2,5 km long and it will be an 11 kV line. Additional powerlines will be required to run from the new mini substation to the two water booster stations. These will be 11 kV lines and with an approximate distance of 2,5 km to water booster option 1 and 3.2 km to water booster option 2. A powerline option from #4 Shaft will also be investigated. This powerline is also an 11 kV line from the #4 shaft to the reclamation site. This powerline is approximately 1,3 km long.

The proposed process water sourcing options include the water held in the mines existing Return Water Dam (RWD), Holding dam and existing concentrator plant. The process water will be provided from one of these options via new water booster stations. The first is located at the RWD, this option will require a

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new pipeline from the newly constructed booster station, which will run along an existing pipeline route, to the hydroguns for the hydraulic reclamation. This pipeline will be approximately 7 km in length. The second option for process water is from the holding dam. Process water will be pumped from a newly constructed booster station within a newly constructed pipeline along existing pipeline routes to the hydroguns for use in the hydraulic reclamation. This pipeline will be approximately 7.5km in length. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The third option for process water, will be process water sourced from the existing concentrator plant and new slurry transfer station located at the base of the TSF. Process water, gland service water (GSW) and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The pipelines are approximately 2.5 km in length each.

The proposed project will additionally include the construction of a new PGM Processing plant, Chrome Recovery plant, Services plant to service the PGM and Chrome plant and a new tailing thickening plant. The proposed layout for the new plant is a disturbed, existing projects laydown area located near the existing Amandelbult concentrator plant area. The proposed project additionally will include the option to tie in with the existing Chrome plant, concentrator plant, as well as the Kilken PGM plant.

The proposed project will also include the construction of a new Pollution Control Dam (PCD) for the new PGM and Chrome processing plant and associated infrastructure areas. Two possible PCD options are being considered. Both options are positioned on previously disturbed land next to the existing Kilken Plant PCDs. These dams will be lined and designed to have silt controls to ensure sediment is held back from the PCD.

The reclaimed material will be pumped through the new PGM Processing Plant and the new Chrome recovery plant or the existing concentrator plant to extract the PGMs and Chrome. The product generated here will then be collected from product silo/bins at the PGM processing plant and from the new Chrome Stockpile/stacker next to the existing CRP stock pad for further processing offsite. Two possible options are being investigated for the Chrome stockpile areas. One to the north of the existing stock pad and one adjacent, east to the existing stock pad. These stock pads will be situated near the existing railway for ease of logistics.

Residual tailings waste material from these plants will be sent to the TSF Thickener plant and then to an existing holding tank located at the main existing Amandelbult plant before it is transported via existing pipelines to the TSF 3B dam for deposition.

The proposed project layout is illustrated below and in Figure 6 to Figure 8.

Locality

The Amandelbult TSF is situated in the central area of the Amandelbult Mine. The TSF is predominantly surrounded by mining infrastructure, disturbed land and open land. The proposed project is located within the operating mine footprint.

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The proposed project is located on the Remaining Extent and Portion 1 of the farm Amandelbult 383 KQ, and the Remaining Extent of the farm Middellaagte 382 KQ. The project is situated in Wards 6 and 11 of the TLM in the Limpopo Province.

Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m.

Life of Operation

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation would take place.

Method of Reclamation

AMB proposes to implement both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These will be undertaken once the EA has been granted and the new plant and associated infrastructure has been installed.

Mechanical Reclamation: Entails the removal of “dry” tailings material from the TSF Dam no 2, by making use of a truck and shovel method of removal. It is then envisioned that the material will be transported to a transitory stockpile area next to the slurry transfer station and systematically fed through the system. The repulping plant will screen out vegetation, woodchips and oversize material from the dry/mechanically removed material. The screened-out vegetation from the plant will be stockpiled adjacent to the repulping plant, in a designated stockpile area, whereafter, it will be taken to the composting facility on site. This plant will then convert the dry material into a slurry, this slurry will then be fed into the system and follow the pipelines to the new processing plant. The removed oversize material will be broken down and fed through the repulping plant to the processing plant. An example of mechanical reclamation is indicated in Figure 2 below.

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Figure 2: Example of a truck and shovel operations in South Africa

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) (these will move on top of the TSF following the progress of the reclamation) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF, an example of this is indicated in Figure 3. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilized slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow toward a collection area located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry a short distance to the slurry transfer station, whereby vegetation and oversized material are removed, as discussed above. The position of the barge pump will change as the reclamation progresses. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

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Figure 3: Mobile tracked hydraulic monitor on a tailing's facility in South Africa

This project will entail a mixture of both the options mentioned above, which will allow for the hydraulic and mechanical excavation of the TSF material simultaneously.

Pipelines

New slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located within existing pipeline routes. The Pipeline will run approximately 3 km from the TSF Dam 2 to the processing facility and have an approximate dimension of 400mm. This will comprise of two slurry pipelines within the pipeline route.

The proposed process water sourcing options include the water held in the mines existing Return Water Dam (RWD), Holding dam and existing concentrator plant. The process water will be provided from one of these options via new water booster stations. The first is located at the RWD, this option will require a new pipeline from the newly constructed booster station, which will run along an existing pipeline route, to the hydroguns for the hydraulic reclamation. This pipeline will be approximately 7 km in length. The second option for process water is from the holding dam. Process water will be pumped from a newly constructed booster station within a newly constructed pipeline along existing pipeline routes to the hydroguns for use in the hydraulic reclamation. This pipeline will be approximately 7.5km in length. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The third option for process water, will be process water sourced from the existing concentrator plant and new slurry transfer station, located at the base of the TSF. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The pipelines are approximately 2.5 km in length each.

Power Supply, Sewage, Process Water and other requirements

Powerlines and other electrical reticulation (TSF Mini Substation) will also be required to provide power to the reclamation station for the reclamation activity from the current substation located at the concentrator plant. This powerline will be approximately 2,5 km long and it will be an 11 kV line. Additional powerlines will be required to run from the new mini substation to the two water booster stations. These

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will be 11 kV lines and approximately 2,5 km to water booster option 1 and 3.2 km to water booster option 2. A powerline option from #4 Shaft will also be investigated. This powerline is also an 11 kV line from the #4 shaft to the reclamation site. This powerline is approximately 1,3 km long.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the contractors and TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water will be recycled and re-used on site. Water required for the reclamation activities will be sourced from either the Return Water Dam, the Holding dam or the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 800m^3/h of water will be required for the reclamation activities. The process water is recycled continuously through the tailings reclamation, processing and deposition process.

Diesel Storage and refilling infrastructure will be required at the TSF laydown area, this laydown area will be located close to the TSF. This laydown area will be used to re-fuel and maintain larger machinery (yellow machines). The diesel storage will have the following specifications:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and Conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

At the new plant area dangerous good storage will be required:

- 184m^3 Bulk storage of SIBX Liquid – Xanthate;
- 19m^3 Bulk Storage Tank – Copper Sulphate; and
- 9.5m^3 Bulk Storage – Sasfroth.

Ore Storage after the processing process will be located close to the various processing facilities. The PGM processing plant will have various storage silos/bins to store dry concentrate which will be collected by trucks and taken to the Anglo-American Platinum smelters at Polokwane or Waterval. The final chrome product will be stockpiled at the new chrome stockpile/stacker with an option of railway / truck transportation, both options are already operational on site.

Furthermore, a stockpile for vegetation and the oversize material from the TSF that cannot be processed will be located close to the TSF Dam No.2. The vegetation and oversize stockpile will occupy a footprint of approximately 30 000m^2. Vegetation will be sent to a composting facility on site on a continuous basis. The

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oversize material will be broken down and reintroduced into the slurry transfer station. There are two location operations for this stockpile that will be investigated. This debulked slurry will then be fed to the processing plant.

Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF laydown area. This area will have a footprint of 15 000 m^2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m3.

Rehabilitation

The TSF Dam 2 proposed to be reclaimed is part of an active TSF Complex. It is envisioned that once the reclamation has been completed that the footprint will be re-used for deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan.

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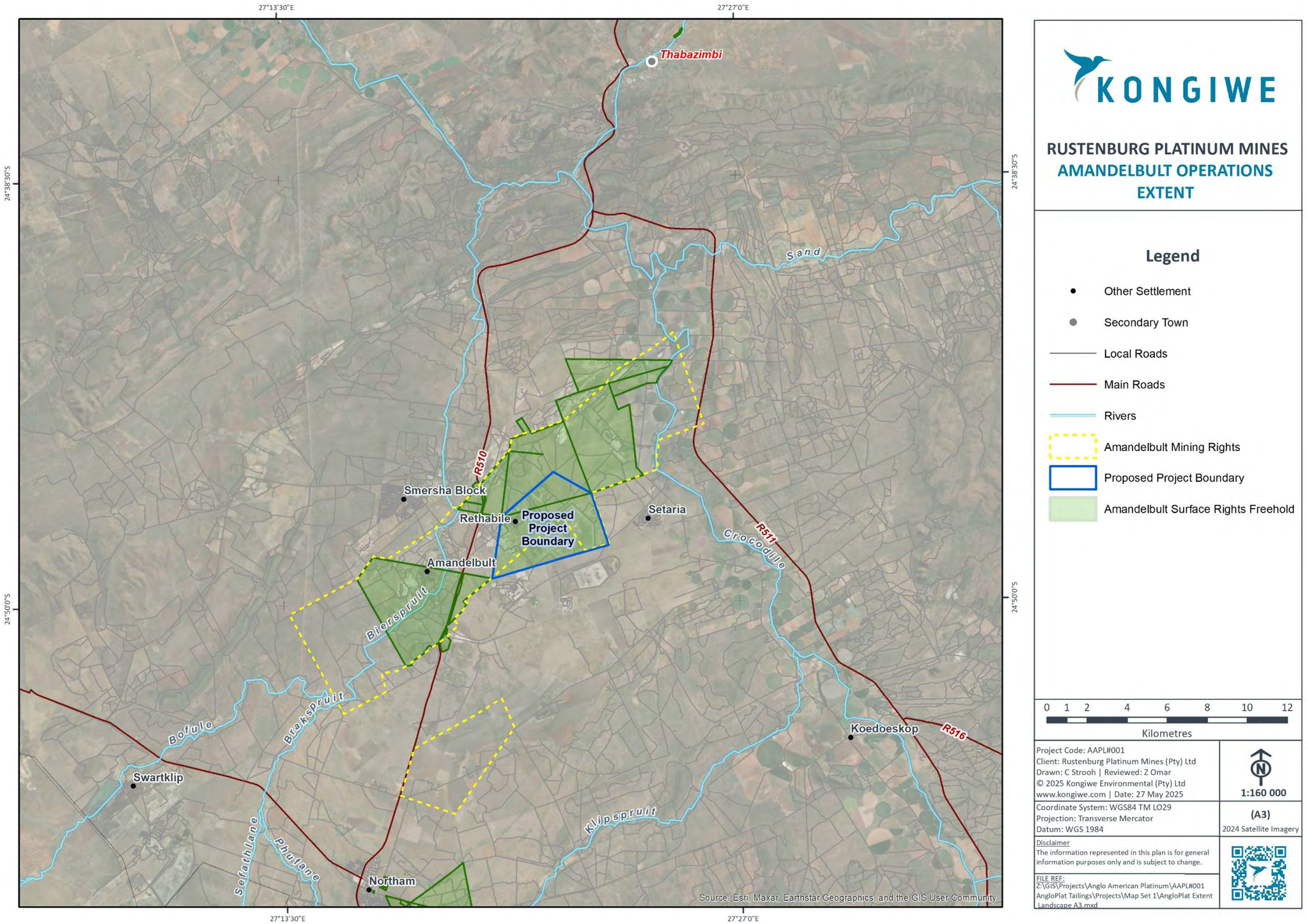

Figure 4: Amandelbult Operation Location and extent.

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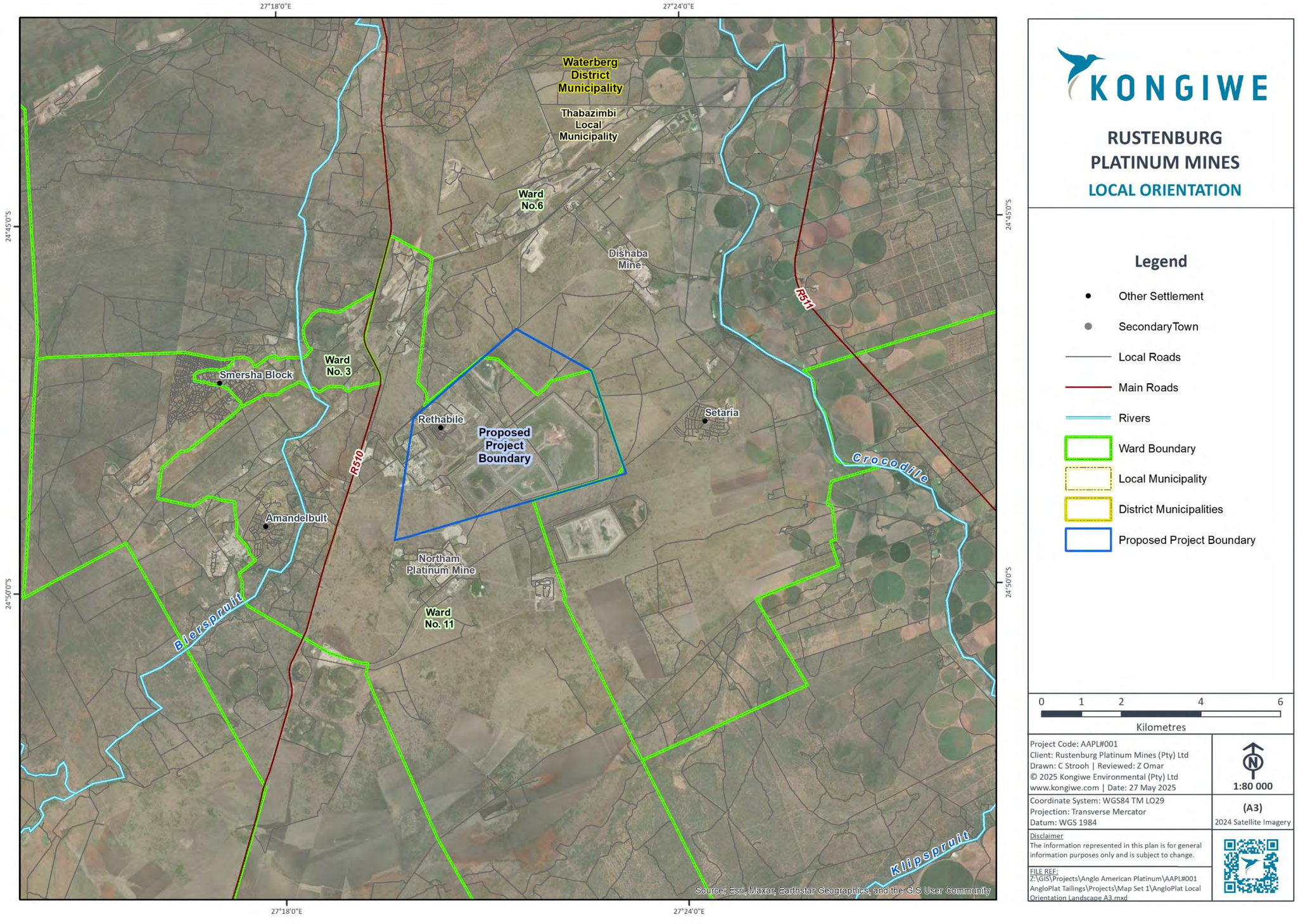

Figure 5: Reclamation and processing project Local orientation

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3. Legislative Framework

A Scoping and Environmental Impact Assessment (S&EIA) process is being undertaken which evaluates the environmental impacts associated with the Proposed Project as part of an application for Environmental Authorisation (EA). The S&EIA and specialist studies to be undertaken will support the applications for the required approvals. The following applications will be made to the Department of Mineral Resources and Energy (DMRE) for the Proposed Project:

- **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 and GN R985[1] published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
- **Application for a Waste Management Licence (WML)** authorising waste management activities listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).
- **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.

In addition, the following application will be made to the relevant Competent Authority:

A Water Use Licence Application (WULA) in terms of the National Water Act, 1998 (Act No. 36 of 1998) (NWA) will be submitted to the Department of Water and Sanitation (DWS) The EIA findings, including specialist findings, are used by the applicant and authorities to obtain an objective view of the potential environmental, social and cultural impacts that could arise during the reclamation of the proposed area. Measures for the avoidance or mitigation of negative impacts will be proposed, and positive impacts will be enhanced.

[1] These Listing Notices have been amended by GN R327, GN R325 and GN R324 of 7 April 2017 and GN R 517 of 11 June 2021

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Listed Activities

The following activities are being applied for in terms of the NEMA and NEM:WA as illustrated by Table 1.

Table 1: Activities to be authorised in terms of NEMA and NEM:WA

Name of Activity	Aerial Extent of the Activity (ha)	Listed Activity	Applicable listing notice	Waste Management Authorisation
Overland slurry and Process Water pipelines	The new proposed pipelines will be greater than 1000m in length. These pipelines will be placed within existing and operational pipeline routes.	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	GNR 983 – 10	
Water Transfer Pumps and associated infrastructure	The construction and operation of the Water booster station and their associated infrastructure have a footprint larger than 100 square metre and is within 32 meters of a non-perennial stream.	The development of- (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs- (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse	GNR 983 – 12	
The storage of Diesel and other Dangerous goods required for the reclamation and processing activities.	The total combined storage of dangerous goods will be 240 cubic meters	The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.	GNR983 – 14	
The Activity will include the processing of reclaimed tailings material, and the inclusion of the operation of the mining activity will apply. In addition, the expansion of the Mining Right over the entire TSF.	The total area of the reclamation and associated areas is approximately 119 hectares.	Any activity including the operation of that activity which requires an amendment or variation to a right or permit in terms of section 102 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity contained in this Listing Notice or in Listing Notice 3 of 2014, required for such amendment.	GNR983 – 21D	Category B, Activity 11
		Any activity including the operation of that activity which requires a mining right in terms of section 22 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or Listing Notice 3 of 2014, required to exercise the mining right.	GNR 984 - 17	Category B, Activity 11

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Name of Activity	Aerial Extent of the Activity (ha)	Listed Activity	Applicable listing notice	Waste Management Authorisation
Clearance of vegetation	Less than 20 Hectares of indigenous vegetation clearance will be required for the construction and operation of the proposed infrastructure.	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	GNR 983 - 27	
The lengthening and widening of an existing haul road required for the reclamation and reprocessing activities.	The current existing haul road will be lengthened by more than 1 km and widened by approximately 8-9 m	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.	GNR983 – 56	
Associated processing infrastructure.	The PCD, chrome stockpile and other associated infrastructure will trigger this requirement.	The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding— (i) activities which are identified and included in Listing Notice 1 of 2014; (ii) activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; (iii) the development of facilities or infrastructure for the treatment of effluent, polluted water, wastewater or sewage where such facilities have a daily throughput capacity of 2 000 cubic metres or less; or (iv) where the development is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will not exceed 50 cubic metres per day.	GNR 984 – 6	
Reclamation of the residue deposit known as TSF Dam No 2 within the AMB TSF Complex.	Entire extent of the TSF Dam No 2: 104 Ha	N/A	N/A	X - Category B, Activity 11

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Scoping and Environmental Impact Assessment Process

In accordance with the provisions of the EIA 2014 Regulations, the S&EIA process for the proposed project will be carried out in the following phases:

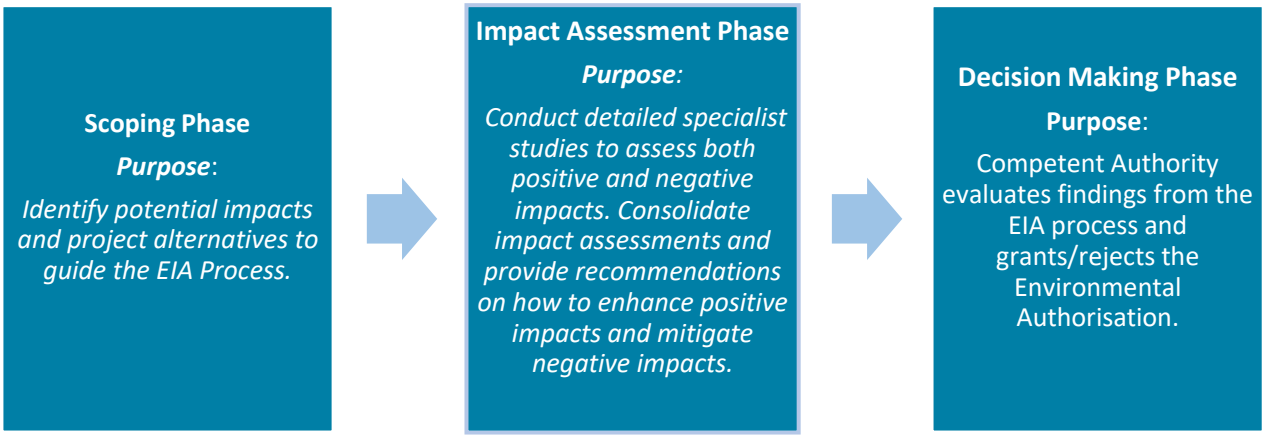

Figure 2: S&EIA process and the associated timeline

Water Use Licence

A WULA will be conducted for water uses associated with Section 21 of the NWA. The WULA process will be undertaken concurrently with the EA process for the proposed project.

Table 2: NWA Activities to be applied for

Activity Number	Water Use
NWA	
21 (c) and (i)	Impeding or diverting the flow of water in a watercourse and altering the bed, banks, course or characteristics of a watercourse.
21 (g)	Disposing of waste in a manner which may detrimentally impact on a water resource.

Specialist studies

Various specialist studies will be undertaken as part of the S&EIA/WULA process to assess the potential impacts associated with the proposed project. Specialist studies being undertaken include:

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- Biodiversity
- Surface Water
- Groundwater
- Noise
- Financial Provision
- Socio-economic
- Heritage and Archaeology
- Air quality
- Wetlands

4. Public Participation Process

The public participation process will form part of the Integrated S&EIA and the WULA process. The public participation process offers stakeholders a fair opportunity to be informed about the proposed project, to raise issues and to make suggestions for enhanced project benefits. The project team will consider relevant issues and suggestions during the S&EIA/WULA process.

Availability of the Scoping Report for Public Review and Comment

The Draft Scoping Report (DSR) for the proposed project will be made available for public review and comment for a period of **30 days**, from **Wednesday, 18 June 2025 to Thursday, 17 July 2025**.

The DSR will be made available as follows:

- An electronic copy on Kongiwe's website: https://kongiwe.com/projects/
- A hard copy of the Draft Scoping Report will be made available at the following public place:

Location	Physical Adress	Contact Person
Amandelbult Social Performance Office	Amandelbult Mine, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Social Performance Mon – Fri: 08h00-16h00
Thabazimbi Public Library	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, Assistant Librarian Mon – Fri: 8:30 am–4:30 pm

- A hard copy of the DSR non-technical summary (BID) will be made available at the following public place as indicated in the table below:

Location	Physical Adress	Contact Person
Smash Block Community (Thabang Children Centre)	Smash Block – Front-opposite Chrome Mine Primary School Thabang Dropping Centre Main street Smash Block, Stand no 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00

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Location	Physical Adress	Contact Person
	Mlanje SAV & AET, Behind Chrome-Plant R510 Thabazimbi Road, Amandelbult, 0362	
Dishaba Mine Entrance (Jabulani residents)	Amandelbult Mine - Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile village entrance and Recreation Club	Amandelbult Mine - Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Aamandelbult Mine)	Mr Kaitumela Letebele to facilitate – Mon – Fri: 08h00-16h00

- Copies of the non-technical summary of the DSR will be distributed to all stakeholders on the database and will be available at the meetings.

Availability of the EIA/EMPr and IWWMP for Public Review and Comment

During the EIA phase of the project, the Draft Environmental Impact Assessment and Draft Environmental Management Programme (DEIA/EMPr) will be made available for public review for **30 days.**

Once the information required for the WULA has been finalised, an Integrated Water and Waste Management Plan (IWWMP), in support of the WULA process, will be made available for a public review and commenting period of **60 days**. It is anticipated that the IWWMP will be made available during the impact assessment phase. Information regarding the availability of the IWWMP and how stakeholders can provide their comments will be communicated to all stakeholders.

Stakeholder Meetings

Stakeholders are invited to participate through online and in-person engagements. Consultation meetings will be held during the public review period using platforms like Microsoft Teams and an Open Day. The purpose of these meetings is to discuss the proposed project, contents of the Scoping Report, EIA and the IWWMP, to provide stakeholders with an opportunity to raise their comments and to interact with the project team.

Please see below (Table 3) for the proposed stakeholder meeting schedule for the Scoping Phase.

Table 3: Proposed dates and methods of public engagement

Proposed dates	Method of Engagement
Face-to-Face Meeting: Open Day	
Monday, 23 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Tuesday, 24 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

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Proposed dates	Method of Engagement
Online Meeting:	
Friday, 27 June 2025	Microsoft Teams – Virtual meeting

Invitation to be involved as a stakeholder

Kongiwe Environmental has put measures in place to ensure that all stakeholders are meaningfully consulted by using a wide range of media, documents and online tools. The proposed methods of engagements for the proposed project are planned as follows:

- Telephonic Communication.
- Short Message Services.
- Email correspondence:
  - Stakeholders with access to email are requested to send their comments/queries via email; and
  - Stakeholders can email their Registration and Comment Form.
- Online engagements:
  - Teams virtual meetings.
- In-person Engagements:
  - Open Day.

The purpose of the above-mentioned methods of engagements is to encourage dialogue with stakeholders and provide stakeholders with opportunities to raise their comments. Minutes from all engagements with stakeholders will be compiled and recorded in the Comments and Responses Report. Stakeholders are encouraged to indicate their preferred method of engagement to the stakeholder engagement team, please see contact details below.

For consultation to be inclusive it is the responsibility of stakeholders to:

- Register or ensure you are registered as an Interested and Affected Party (I&AP);
- Inform others whom you think may be interested and/or affected by the proposed project;
- Ensure comments are submitted within the allowed timeframes received by the Stakeholder Engagement office;
- Contributing information and/or knowledge of the environment;
- Provide comments on the proposed project; and
- Attend meetings scheduled throughout the process to participation and access information.

5. Comments and Queries

Any person affected by or who may be interested in the proposed project is asked to register as an I&AP. Should you have any comments/queries, please contact the stakeholder engagement team.

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Contact Details:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Our team welcomes your participation and looks forward to your involvement throughout this process

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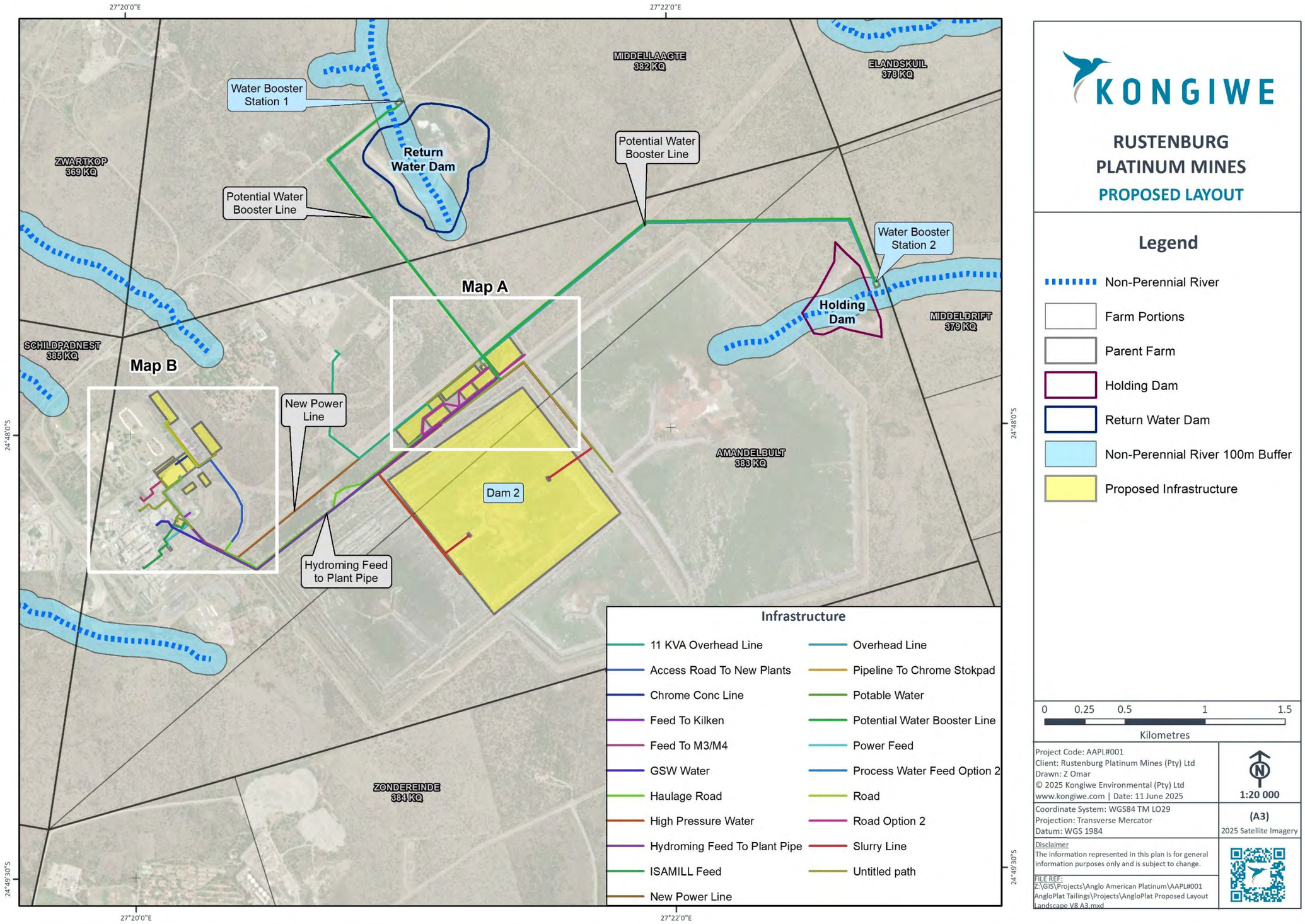

Figure 6: Proposed Project Layout

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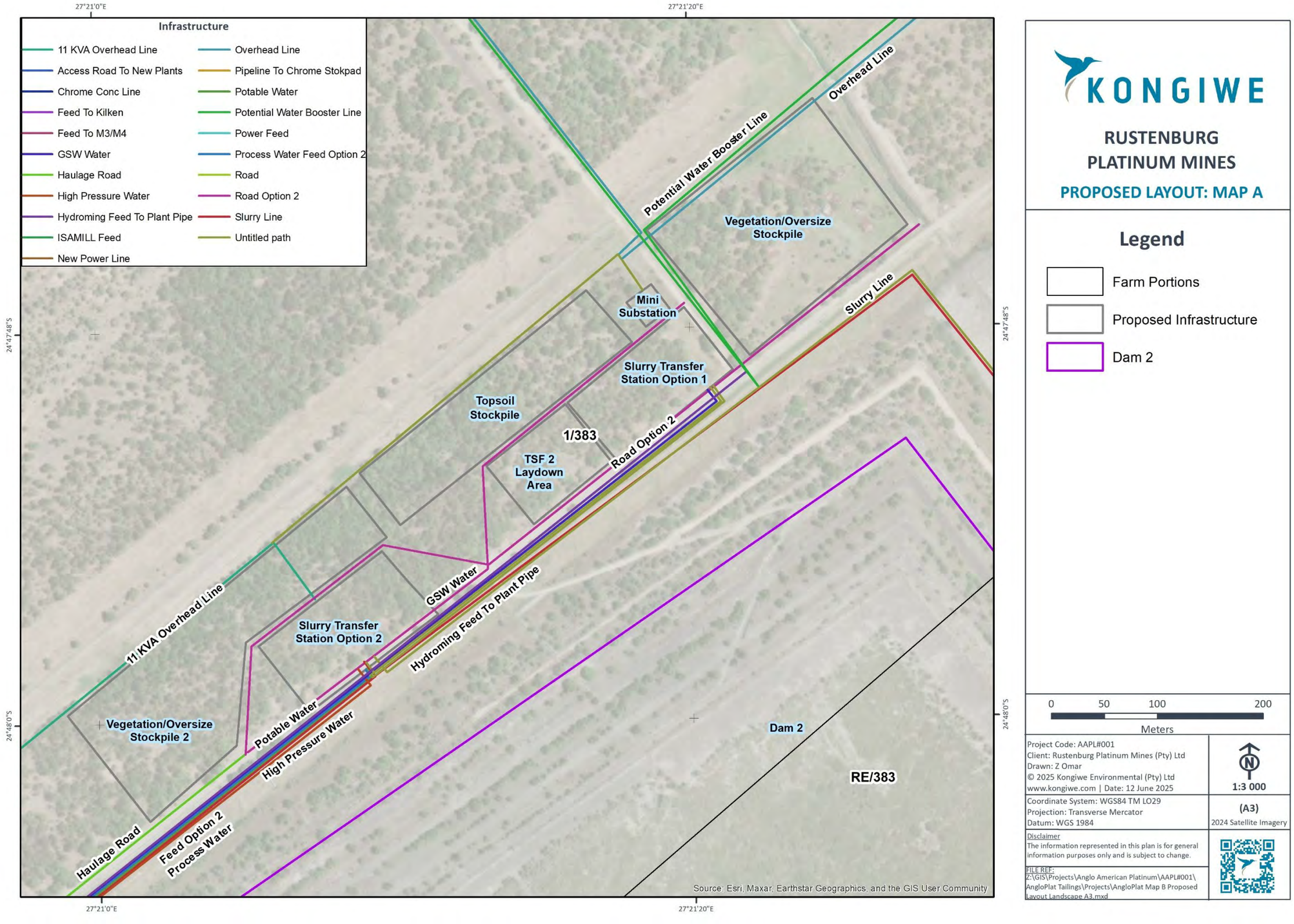

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT: MAP A

Legend

- Farm Portions
- Proposed Infrastructure
- Dam 2

0 50 100 200

Meters

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 12 June 2025

1:3 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)

2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001\AngloPlat Tailings\Projects\AngloPlat Map B Proposed Layout Landscape A3.mxd

Figure 7: Proposed Project Layout Map A

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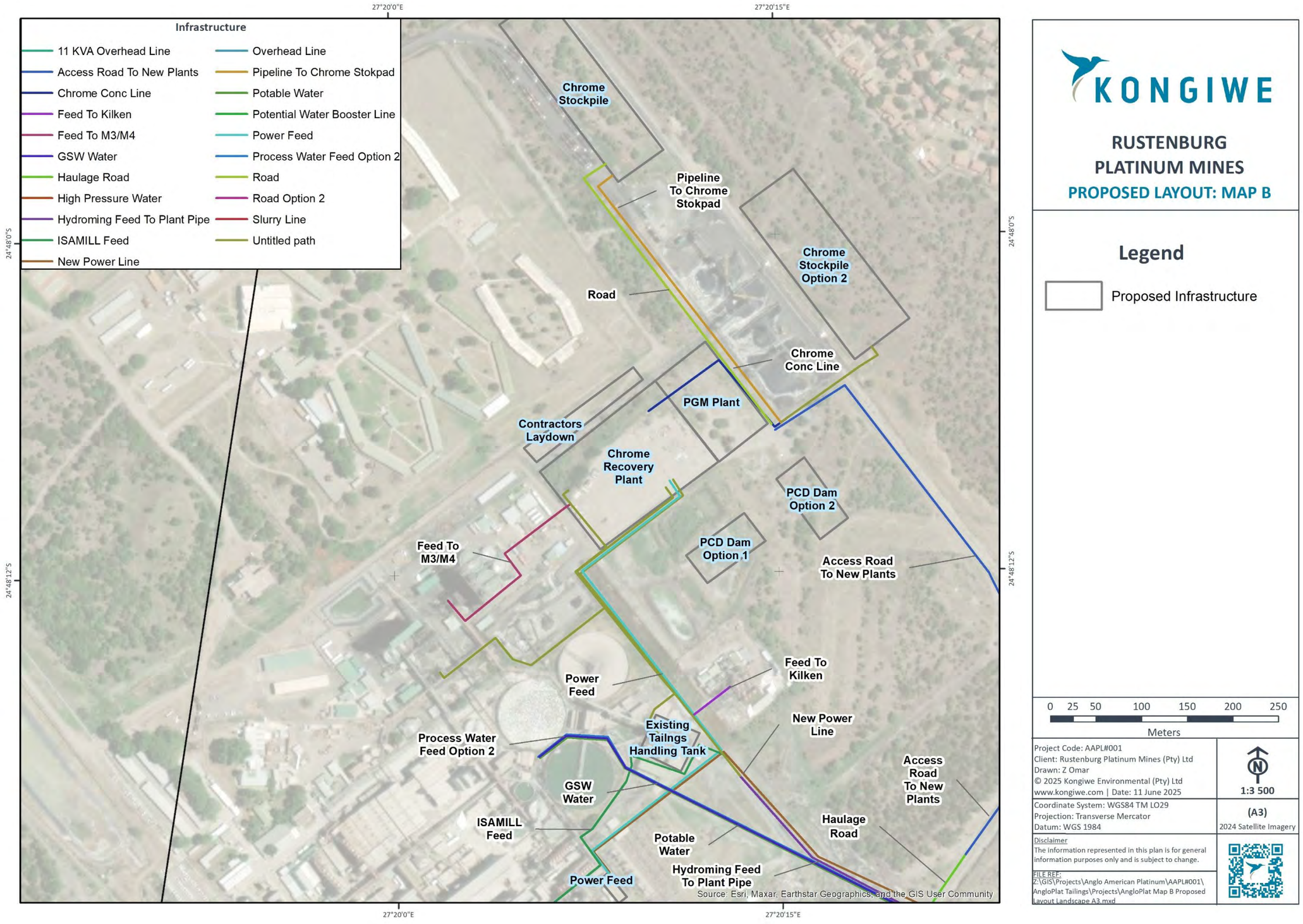

Figure 8: Proposed Project Layout Map B

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Ditlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, Laesense ya Tiriso ya Metsi, le Karolo 102 e Fetotsweng ya Amandelbult Tailings Storage Facility Letamo 2 Porojeke ya Pusetso ya Lefatshe le Tiriso ya Lone mo Mmasepaleng wa Selegae wa Thabazimbi, Porofense ya Limpopo.

Tokumente ya Tshedimosetso ya Tlhaloso (Background Information Document [BID])

Nomoro ya referense ya DMRE: LP 30/5/1/2/2/48 MR
Nomoro ya referense ya DWS: E tla tlhomamisiwa

1. Boikaelelo jwa Tokumente

Boikaelelo jwa Tokumente ya Tshedimosetso ya Tlhaloso ke go naya tshedimosetso ya botlhokwa mabapi le:

- Porojeke ya Amandelbult e e Kopelwang ya Pusetso ya Lefatshe le Tiriso ya Lone mo Mmasepaleng wa Selegae wa Thabazimbi (TLM), Porofense ya Limpopo;
- Tshekatsheko e e ikemetseng ka nosi ya Tiro ka Botlalo le go Amega ka Tikologo (Scoping and Environmental Impact Assessment [S&EIA]) le Tiro ya go Tsaya Karolo ga Morafe (Public Participation Process [PPP[) e e tshwanetseng go dirwa e le karolo ya kopo ya Titlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation [EA]);
- Tiro ya Laesense ya Tiriso ya Metsi (Water Use Licence [WUL])
- O ka ikwadisa jang jaaka Motho yo o Nang le Kgatlhego le o o Amegang (Interested and Affected Party (I&AP) le go nna o itsisiwe ka ditlhabololo tsa porojeke; le
- Nako ya go sekaseka le go tshwaela ga setšhaba ka ga Draft Scoping Report, Draft Environmental Impact Assessment and Environmental Management Programme (EIA/EMPr), le Draft Integrated Water and Waste Management Plan (IWWMP).

Kongiwe Environmental (Pty) Ltd (Kongiwe) e tlhophilwe go nna Independent Environmental Assessment Practitioner (EAP), e e rweleng maikarabelo a go dira dithulaganyo tsa S&EIA le WUL tse boikaelelo jwa tsone e le go sekaseka ka kelotlhoko ditlamorago tse di ka nnang teng mo tikologong le mo loagong tsa Porojeke e e kopelwang.

2. Tlhaloso ka Porojeke

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) e ntse e dira fa e sale ka 1970. Meepo o o mo Masepaleng wa Selegage wa TLM, Kgaolo ya Waterberg (WDM) mo Porofenseng ya Limpopo mme

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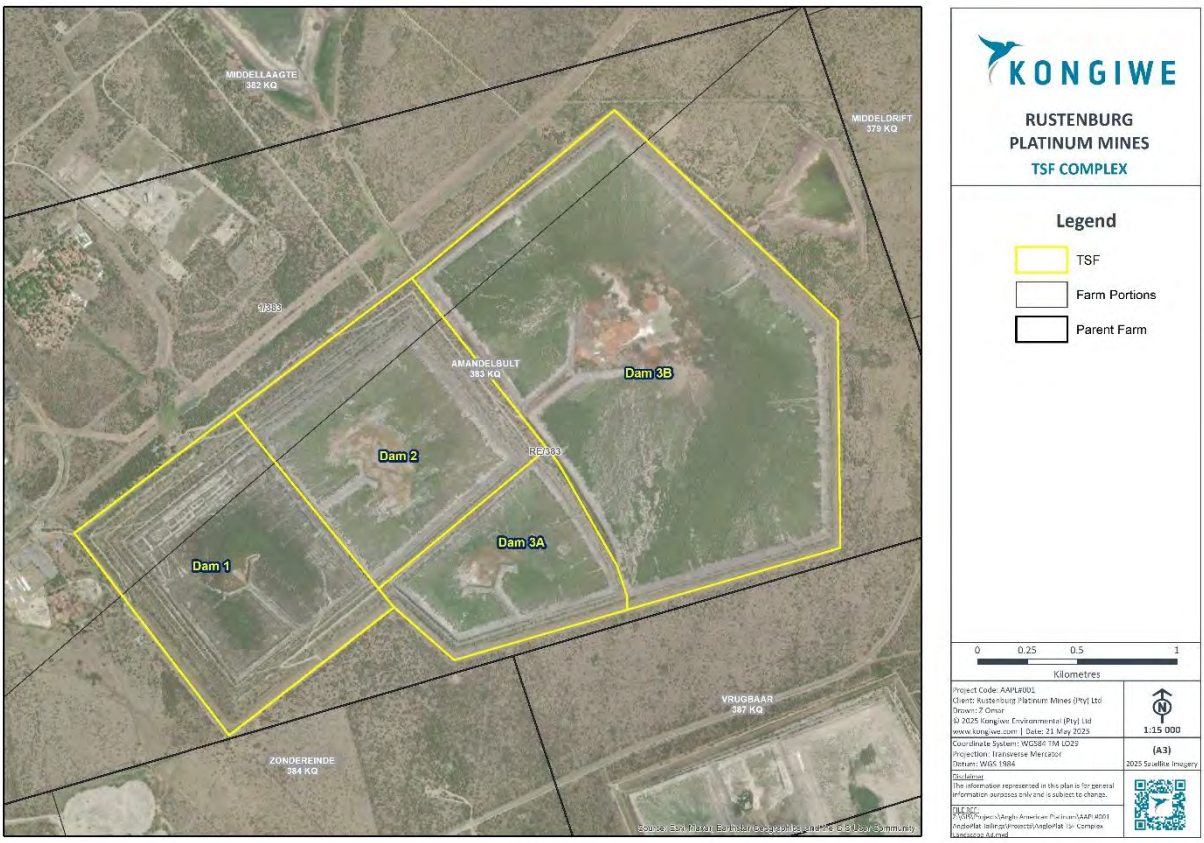
e anama mo sekgaleng sa dikilometara di le 20 go tswa kwa botlhaba go ya kwa bophirima. Go fopholediwa gore e bokgakala jwa dikilometara di 15 kwa bokone jwa Northam le dikilometara di le 30 kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

Tailings Storage Facility (TSF) ya Amandelbult e na le dikarolo di le 4, Letamo 1, Letamo 2, Letamo 3A le Letamo 3B. Matamo 3A le 3B a tsewa jaaka 'matamo a a nang le metsi' ka mme seretse sa manya se latlhelwa segolo bogolo mo go 3B, mme gape le mo go 3A gangwe le gape. Go latlhelwa ga matheriale mo go Letamo 1, Letamo 2 le 3A go emisitswe. Go tshelwa ga seretse sa manya labofelo mo go Letamo 2 le DA e ne e le ka ngwaga wa 2022 le 2023 ka go latelana, mme jaanong go seretse sa manya se latlhelwa thata mo letamong la 3B gantsi, e e leng lefelo le le berekang thata la seretse sa manya mo nakong eno.



Setshwantsho1: Thulaganyo ya TSF ya kwa Amandelbult.

Porojeke e e kopelwang e batla go ntsha dimetale tsa setlhopha sa Chrome le Platinum (di-PGM) mo go Letamo 2 la TSF fa e ntse e tlhomamisa bokgoni le maikarabelo mo tikologong. Seno se tla dira gore go nne le mosola mo seretseng sa manya, ka go dira gore materiale ono e nne tshono ya go oketsa go ntshiwa ga di-PGM le Chrome. Go busediwa ga lefelo lefatshe gape go ka nna ga dira gore go nne le lefelo le lengwe kwa go ka latlhelwang seretse sa manya gone ka nako e e tlang, go sa fetelwe mo mafelong a go sa agiwang sepe mo go one.

Porojeke e tla tlhoka tetla ya go dira tiro mo tikologong go ya ka National Environmental Management Act,

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1998 (Molao No. 107 wa 1998) (NEMA) le Molao wa Naga wa go Dira Tiro mo Tikologong Waste Management Act, 2 004 (Molao 59 wa 2008) (NEM:WA). Porojeke eno e dira gore go tlhokege gore go dirwe Tshekatsheko ya go Amega ga Tikologo (Environmental Impact Assessment[EIA).

Mo godimo ga moo, go tlile go tlhokiwa Water Use Licence (WUL) go ya ka karolo 21 ya National Water Act, 1998 (Molao No. 36 wa 1998) (NWA).

Tlhaloso ya Ditiro tsa Porojeke

Boikaelelo jwa AMB ke go tsosolosa le go baakanya Letamo 2 la TSF la Amandelbult la khompolekese ya TSF ya Amandelbult, ka maikaelelo a go tsosolosa chromium le di-PGM ka go dirisa dithulaganyo tsa go busetsa lefatshe la lefelo ka metsi le ka metšhine. Fa AMB e ntse e dira tiro ya go busetsa lefatse la lefelo la Letamo 2, e tla tlhomamisa gore Matamo a a mo tikologong a a mo khompolekeseng ya TSF a tswelela pele a dira sentle gore Matamo a a setseng a a mo khompholekeseng ya TSF a tswelele a dira.

Dithoto tse di tserweng ka metšhine di tla epololwa mme di isiwe ka dikoloi go tswa kwa TSF go ya kwa seteišeneng sa phetisetso ya seretse, eleng lefelo le go isiwa dilo tse di santseng di tla baakanngwa. Fano matheriale o tla tsenngwa mo polanteng e e dirang dikhemikhale seretse. Kwa polanteng e e dirang seretse matheriale ‘o o omeletseng’ o tla fetolwa gore e nne seretse o bo o tsenngwa mo dipompong tse di tla golaganang le polante e e dirang tiro. Polante e e dirang dikhemikhale seretse e tla ntsha dimela, ditlhatshana tsa logong le dilo tse dikgolo thata mo dilong tse di omileng/tse di tlositsweng ka metšhine.

Matheriale o o buseditsweng ka metsi o tla romelwa go tswa kwa pompong e e fa godimo ga letamo la 2 go ya kwa seteišeneng sa phetisetso ya seretse (se se tla tsamaya mo godimo ga TSF morago ga kgatelopele ya pusetso ya metsi) ka dipompo tse dintšha tse dikhutshwane tsa HDPE, tse di bapileng le TSF. Kwa seteišeneng sa phetisetso ya seretse, matheriale o o busediwang ka metsi/matlakala a a kgotletsweng a tla tlhatlhobiwa go bona gore a ga a na dimela, ditokinyana tsa digong le matheriale o mogolo thata o o sa kgoneng go tsena mo tsamaisong ya diphaepe.

Dimela tse di tlhaotsweng go tswa mo seteišeneng sa phetisetso ya seretse se tla bolokiwa mo lefelong le le tlhophilweng la go boloka dilo, mme morago ga moo, di tla isiwa kwa lefelong la go dira motshotelo.

Porojeke e e tshitshintsweng e tla batlisisa ditsela tse pedi tsa mafelo a seteišene sa phetiso ya seretse. Bobedi jwa dikgetho tseno di mo botlaseng jwa TSF.

Go tswa foo, seretse seo se tla pompiwa go tswa mo seteišeneng sa phetisetso ya seretse, go tla dirisiwa dipompo tse disha mo ditseleng tsa diphaepe tse di leng teng, go ya ko dikago tsa go baakanya. Dipompo di tla nna tsa boleele ja mo e ka nnang dikilometara di le 3 go tswa kwa Letamong la TSF 2 go ya kwa dikago tsa go baakanya. Tsela e e setseng e le teng ya go rwala dithoto e tla tlhabololwa gore go kgonege go tsamaya fa gare ga lefelo la TSF le polante ya madirelo. Tsela e e leng teng ya go rwala dithoto e tla atolosiwa ka dikilometara di le 1,2 mme e atolosiwe ka dimetara di le 8 go ya go 9.

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Go tla tlhokega gape gore go nne le megala ya motlakase le mafaratlhatlha a mangwe a motlakase (TSF Mini Substation) go tsenya motlakase kwa seteisheneng sa go busetsa lefelo la lefatshe sa tiro ya pusetso go tswa kwa seteišenepotlaneng sa ga jaana se se kwa polanteng ya go kokoanya. Megala eno ya motlhakase e tlile go nna dikilomitara di ka nna 2.5 ka boleele mme e tlile go nna le mogala wa motlakase wa 11 kV. Mo godimo ga moo go tla tlhokega megala e mengwe ya motlakase go tswa mo seteišenepotlaneng se sešwa go ya kwa diteišeneng tse pedi tsa go oketsa metsi. Tseno e tla nna mela ya 11 kV mme ka dikilometara di le 2,5 go ya kwa kgethong ya go oketsa metsi ya ntlha e tla nna dikilometara di le 3.2 go ya kwa kgethong ya go oketsa metsi ya bobedi. Kgetho ya mogala wa motlakase go tswa kwa šafote ya bone (#4 Shaft) le yona e tla batlisisiwa. Mogala wa motlakase gape ke mogala wa 11 kV go tswa kwa šafoteng ya bone go ya kwa lefelong la go tsosolosa. Mogala ono wa motlakase o ka nna boleele jwa dikilometara di le 1,3.

Ditsela tse di kopelwang tsa go bona metsi di akaretsa go tswa mo metsing a a mo meepong a a leng teng a a tswang mo Letamo la Metsi a a Busediwang (Return Water Dam (RWD)), Letamo la go tshwara le polante e le leng teng ya go kokoanya metsi. Metsi a a dirisediwang go fetlha a tla tswa mo go nngwe ya ditsela tseno ka seteishene se sesha sa metsi. Ya ntlha e kwa RWD, tsela eno e tla tlhoka gore go agiwe pompo e ntšha go tswa kwa seteisheneng sa go tsenya maatla se se sa tswang go agiwa, e e tla tsamayang go bapa le tsela ya dipompo tse di leng teng, go ya kwa pusetsong ya lefelo la lefatshe ka metsi. Dipompo tseno di tlile go nna boleele jwa dikhilomitara di ka nna 7. Tsela ya bobedi ya go dirisa metsi e tswa mo letamong le le bolokang metsi. Metsi a a dirisediwang go dira tiro eno a tla pompiwa go tswa kwa seteišeneng se se sa tswang go agiwa se se tla thusang gore go dirwe tiro eno mo diphaepeng tse di sa tswang go agiwa go ralala ditsela tsa diphaepe tse di setseng di le teng go ya kwa pusetsong ya lefelo la lefatshe ka metsi. Dipompo tseno di tlile go nna boleele jwa dikhilomitara di ka nna 7,5. Diphaephi tsa metsi tsa thulaganyo di tla bewa go dikologa molelwane wa seretse sa manya go tlamela ka tlamelo e e lekaneng ya metsi a ditlhakanngwa (di-hydrogun). Kgetho ya boraro ya metsi a tiragatso, e tla nna metsi a tiragatso a fitlhetsweng polanteng e teng ya kokoanya le seteišene se ntšha sa phetiso ya seretse se fitlhetsweng mo motheong wa TSF. Metsi a tiro, metsi a tirelo ya kgeleswa (GSW) le metsi a a nowang a tla pompiwa go tswa kwa polanteng e e leng teng ya kokoanya go ya kwa TSF ka diphaepe tse dišwa mo ditseleng tse di leng teng tsa diphaepe go ya kwa lefelong la go tsosolosa. Diphaepe di ka nna dikilometara tse leng 2,5 km ka boleele nngwe le nngwe.

Porojeke e e solofetsweng e tla akaretsa go agiwa ga polante e ntšha ya go dira PGM, polante ya go busetsa chrome, polante ya ditirelo go direla polante ya PGM le ya chrome le polante e ntšha ya go dira dira seretse sa manya se se tshume. Leano le le akantshiwang la go aga polante e ntšha ya madirelo ke lefelo le le kgorelediwang, le le setseng le le gaufi le polante ya Amandelbult. Porojeke e e solofetsweng e tla akaretsa gape le tsela ya go golaganya le polante e e leng teng ya Chrome, polante ya concentrator, mmogo le polante ya Kilken PGM.

Porojeke e e solofetsweng gape e tla akaretsa go agiwa ga Pollution Control Dam (PCD) ya polante e ntšha ya PGM le polante ya go dira Chrome le dikago tse tsamaisanang le tsone. Ditsela tse di ka nnang tsa PCD di a akanyediwa. Ditsela tseno ka bobedi di mo lefelong le pele le neng le kgorelediswe gaufi le di-PCD tsa Kilken Plant e e ntseng e le teng. Matamo ano a tla bo a na le boalo le go dirwa ka tsela ya gore go se ka ga nna le seretse se se tla dirang gore metsi a se ka a tsena mo PCD.

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Matheriale o o neng o dirisitswe pele o tla pompelwa go mo go PGM Processing Plant e ntšha le polante e ntšha ya go busetsa Chrome gotsa polante e eleng teng ya kokoanyo go ntsha di-PGM le Chrome. Ditlhagiswa tse manya tse di dirwang fano di tla tsewa mo mo disigong/metemeng ya kwa polanteng e go dirwang PGM mo go yone le kwa Polokelong/Mekokoanyetsong ya Chrome e mesha go bapa le lefelo la polokelo le le leng teng go ya go dira dilo tse dingwe kwa lefelong le le ka kwantle. Go na le ditsela tse pedi tse di ka dirisiwang tse di ntseng di sekasekiwa malebana le mafelo a go nang le Chrome mo go one. Nngwe e kwa bokone jwa lefelo le le leng teng la polokelo mme e nngwe e e bapileng le yone, e kwa botlhaba jwa lefelo le le leng teng la polokelo. Mafelo ano a polokelo a tla nna gaufi le seporo se se leng teng gore go nne motlhofo go tsamaisa dilo.

Seretse se se latlhiwang sa manya se se setseng se se tswang mo madirelong ano se tla romelwa kwa polanteng ya TSF Thickener mme go tswa foo se isiwe kwa tankeng e e setseng e le teng e e leng kwa polanteng e kgolo ya Amandelbult pele ga se romelwa ka diphaepe tse di setseng di le teng go ya kwa letamong la TSF 3B gore se latlhelwe teng.

Thulaganyo e e kopelwang ya porojeke eno e bontshiwa fa tlase mo go Setshwantsho 6 go ya go Setshwantsho 8.

Lefelo

TSF ya Amandelbult e mo lefelong le le fa gare ga Moepo wa Amandelbult. TSF e dikologilwe thata ke mafaratlhatlha a meepo, naga e e kgorelediwang le naga e e bulegileng. Porojeke e e kopelwang e mo teng ga lefelo la moepo o o tsweletseng.

Porojeke e e kopelwang e mo go Remaining Extent le Karolo 1 ya polasi ya Amandelbult 383 KQ, le Remaining Extent ya polase ya Middellaagte 382 KQ. Porojeke eno e mo lefelong la Ward 6 le Ward 11 ya TLM mo Porofenseng ya Limpopo.

Go Kgona go Tsena

Go kgona go tsena mo lefelong leno e tla nna ka go tswa mo R510 go tsena mo ditseleng tse di dirisiwang go tsamaisa dithoto tse di dirisiwang ke moepo. Ditiro tsotlhe di tlile go dirwa mo lefelong la moepo mme di tla dirisa ditsela tse di leng teng le tse di dirisiwang go tsamaisa dithoto. Tsela e e setseng e le teng ya go rwala dithoto e tla tlhabololwa gore go kgonege go tsamaya fa gare ga lefelo la TSF le polante ya madirelo. Tsela e e leng teng ya go rwala dithoto e tla atolosiwa ka dikilometara di le 1,2 mme e atolosiwe ka dimetara di le 8 go ya go di le 9.

Boleele jwa Nako ya Tiro Eno

Nako e e go lebeletsweng gore porojeke eno e tlile go e tsaya ke dingwaga di ka nna 20. Go solofetswe gore go tla nna le lobaka lwa dingwaga di le pedi lwa go aga le go tokafatsa le le tla akaretsang go tlhoma

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dikago le go baakanya lefelo. Seno se tla dira gore go nne le Sebaka sa Tiro sa Dingwaga tse 18 (Life of Operation [LOO]) se se tla dira gore tiro ya go busetsa lefelo la lefatshe ka metsi le metšhine.

Mofuta wa Pusetso ya Lefelo la Lefatshe

AMB e kopela gore go dirisiwe mekgwa ya Metsi le Metšhine ya go busetsa lefelo la lefatshe mo lefelong leo ka nako ya ditiro tse di kopelwang tsa go busetsa lefelo la lefatshe. Dithulaganyo tseno di tla dirwa fa EA e sena go newa polante e ntšha le dikago tse di tsamaisanang le yone di se na go tlhomiwa.

Pusetso ka Metšhine: E akaretsa go ntshiwa ga matheriale wa seretse sa manya se se 'omeletseng' mo Letamong la No 2 la TSF, ka go dirisa mokgwa wa go ntsha ka lori le garawe. Morago ga moo go akanngwa gore matheriale ono o tla isiwa kwa lefelong la nakwana la bobolokelo le le gaufi le seteišeneng sa phetisetso ya seretse le go tsenngwa ka tsela e e rulaganeng mo tsamaisong eno. Polante e e dirang dikhemikhale seretse e tla ntsha dimela, ditlhatshana tsa logong le dilo tse dikgolo thata mo dilong tse di omileng/tse di tlositsweng ka metšhine. Dimela tse di tlhaotsweng go tswa mo polanteng e e dirang seretse di tla bolokiwa gaufi le polante ya go dira diminerala seretse le le tlhophilweng la go boloka dilo, mme morago ga moo, di tla isiwa kwa lefelong la go dira motshotelo. Go tswa foo polante eno e tla fetola matheriale o o omileng go nna seretse, seretse seno se tla tsenngwa mo thulaganyong se bo se tsamaisiwa ka diphaepe go ya kwa polanteng e ntšha e e dirang dilo. Dilo tse dikgoilo thata tse di tlositsweng di tla robiwa le go tsenngwa mo polanteng e e dirang dilo seretse di bo di itsiwa kwa polanteng e e dirang dilo. Sekai sa pusetso ya dilo ka metšhine e bontshiwng mo go Setshwantsho2 fa tlase.

Setshwantsho2: Sekai sa ditiro tsa lori le garawe mo Aforika Borwa

Pusetso ka Metsi: Botegenike bo dirisa dipeoleitlho tsa metsi (kgotsa di-hydrogun) (di tla tsamaya mo godimo ga TSF go latela kgatelopele pusetso ya lefatshe) go tsamaisa metsi a a tswang ka maatla go epolola

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ka metsi a magolo seretse sa manya se se sa tlhakanang mo TSF, sekai sa seno se bontshiwa mo go Setshwantsho 3. Metsi a ditlhakanngwa tsa di-hydrogun mo diretseng tsa manya mme a nna seretse se se nang le dilo tse dikgolo.

Mabota a a dikologileng TSF a tlhokomelwa gore a dire jaaka dikgoreletsi tse di thibelang, go tlhomamisa gore seretse se nna mo lefelong le le tlhophilweng. Seretse se se ntshiwang se tsamaya ka mekgokolosa e e dirilweng ka tsela e e botlhale go bapa le lefelo le go epelwang matlakala mo go lone, se dira gore se elele go ya kwa lefelong le le kwa tlase la lefelo le le dirisediwang tiro eno. Mo thotobolong eno, go dirisiwa thulaganyo ya pompo e e tsenngwang mo mokoronyaneng go ntsha le go fetisa seretse gore se dirisiwe gape.

Pompo ya mokorwannyana e tla tsamaisa seretse sekgala se sekhutshwane go ya kwa seteišene sa phetiso ya seretse, mo dimela le dilo tse dikgolo di tlosiwang teng, jaaka go builwe fa godimo. Seemo sa pompo e e mo mokorang se tla fetoga fa tiro ya pusetso ya lefelo la lefatshe e ntse e tswelela. Go busediwa ga lefelo la lefatshe go tla dirwa mo mafelong a a tlhomilweng go sa le gale (kgotsa mo dikarolong tse di kgaotsweng) mme go tla tsamaya ka tsela epe fela go fitlha TSF yotlhe e busediwa gape.

Setshwantsho 3: Sebayaleitlho sa metsi se se latedisiwang ka selulafouno mo lefelong la seretse sa manya mo Aforika Borwa

Porojeke eno e tlle go nna le ditsela tse di kopantsweng tse di umakiwang fa godimo, se se tlileng go dira gore go epa mathieriale wa TSF ka metsi le ka metšhine go dirwe ka nako e le nngwe.

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Diphaephe

Go tlile go tlhokiwa diphaephe tse disha tsa seretse di tshwanetseng go isa seretse kwa polanteng go tsa kwa lefelong le pusetso lefatshe. Diphaephe tseno di tla bo di le mo ditseleng tsa diphaphe tse di ntseng di le teng. Dipompo di tla nna tsa boleele ja mo e ka nnang dikilometara di le 3 go tswa kwa Letamong la TSF 2 go ya kwa lefelong la go dira dilo mme di tla bo di le bokima jwa 400 mm. Se se tla nna le diphaephi tse pedi tsa seretse mo teng ga tsela ya diphaephi.

Ditsela tse di kopelwang tsa go bona metsi di akaretsa mo metsi a a mo meepong a a leng teng a a tswang mo Letamo la Metsi a a Busediwang (Return Water Dam (RWD)), Letamo la go tshwara le polante e le leng teng ya go kokoanya metsi. Metsi a a dirisediwang go fetlha a tla tswa mo go nngwe ya ditsela tseno ka seteishene se sesha sa metsi sa go tsenya maatla. Ya ntlha e kwa RWD, tsela eno e tla tlhoka gore go agiwe pompo e ntšha go tswa kwa seteisheneng sa go tsenya maatla se se sa tswang go agiwa, e e tla tsamayang go bapa le tsela ya dipompo tse di leng teng, go ya kwa pusetsong lefelo la lefatshe ka metsi. Dipompo tseno di tlile go nna boleele jwa dikhilomitara di ka nna 7. Tsela e nngwe ya go dirisa metsi e tswa mo letamong le le bolokang metsi. Metsi a a dirisediwang go dira tiro eno a tla pompiwa go tswa kwa seteišeneng se se sa tswang go agiwa se se tla thusang gore go dirwe tiro eno mo diphaepeng tse di sa tswang go agiwa go ralala ditsela tsa diphaepe tse di setseng di le teng go ya kwa pusetsong ya lefelo la lefatshe ka metsi. Dipompo tseno di tlile go nna boleele jwa dikhilomitara di ka nna 7,5. Diphaephi tsa metsi tsa thulaganyo di tla bewa go dikologa molelwane wa seretse sa manya go tlamela ka tlamelo e e lekaneng ya metsi a ditlhakanngwa (di-hydrogun). Kgetho ya boraro ya metsi a tiragatso, e tla nna metsi a tiragatso a fitlhetsweng polanteng e teng ya kokoanya le seteišene se ntšha sa phetiso ya seretse se fitlhetsweng mo motheong wa TSF. Metsi a tiro, metsi a tirelo ya kgeleswa (GSW) le metsi a a nowang a tla pompiwa go tswa kwa polanteng e e leng teng ya kokoanya go ya kwa TSF ka diphaepe tse dišwa mo ditseleng tse di leng teng tsa diphaepe go ya kwa lefelong la go tsosolosa. Diphaepe di ka nna dikilometara tse leng 2,5 km ka boleele nngwe le nngwe.

Motlakase, Ntsholeswe, Metsi a a Dirisiwang le dilo tse dingwe tse di batliwang

Go tla tlhokega gore go nne le megala ya motlakase le mafaratlhatlha a mangwe a motlakase (seteišenepotlaneng sa TSF) go tsenya motlakase kwa seteisheneng sa go busetsa lefelo la lefatshe ya tiro ya pusetso go tswa mo seteišenepotlaneng sa ga jaana se se kwa polanteng ya go kokoanya metsi. Megala eno ya motlhakase e tlile go nna dikilomitara di ka nna 2.5 ka boleele mme e tlile go nna le mogala wa motlakase wa 11 kV. Godimo ga moo go tla tlhokega megala e mengwe ya motlakase go tswa kwa seteišenepotlaneng se sešwa go ya kwa diteišeneng tse pedi tsa go oketsa metsi. Tse e tla nna mela ya 11 kV le bokana ka dikilometara tse 2,5 go ya kwa kgethong ya go oketsa metsi ya ntlha le dikilometara tse 3.2 go ya kwa kgethong ya bobedi ya go oketsa metsi. Tlhopho ya mogala wa motlakase go tswa go Shafoteng ya bone le yone e tla batlisisiwa. Mogala wa motlakase gape ke mogala wa 11 kV go tswa kwa shafoteng ya bone go ya kwa lefelong la go pusetso ya lefatshe. Mogala wa motlakase o ka nna bolelele jwa dikilometara di le 1,3.

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Metsi a a giwang a a nowang ke babereki le borakonteraka a tla rekiwa kwa lekgotleng la metsi la Magalies, go na le kgonagalo ya gore go nne le ditanka tsa metsi tsa JoJo tse di kgonang go rwalwa kgotsa go golaganngwa le mafaratlhatlha a a leng teng a diphaepe tsa metsi.

Mo godimo ga moo, go tla tlhokega gore go agiwe dikago tsa kgelelo ya leswe kwa mafelong dikonteraka le a go bewang TSF kwa go one. Ditanka tsa polokelo di tla tlhomiwa kwa go batliwang teng. Ditanka tsa polokelo di tla tlhokomelwa ke didirisiwa tse di ntshang tswine ya dinotshe, mme metsi a a leswe a tla isiwa kwa polanteng ya go phepafatsa leswe ya Amandelbult Sewage. Mo godimo ga moo go tla dirisiwa matlwana a boithomelo a a ka tlosiwang mo lefelong la tiro pele ga go agiwa ditanka tsa go boloka metsi.

Metsi a a dirisitsweng a tla phepafadiwa a bo a dirisiwa gape mo lefelong la tiro. Metsi a a tlhokegang mo ditirong tsa pusetso ya lefatshe e tla bonwa go tswa kwa Letamong la Metsi a a Busediwang, letamo la go Tshwara kgotsa kwa polante ya ga jaana ya go kokoanya metsi mo lefelong mme a fetisiwe ka diphaephe tsa metsi a tshitshintsweng ka godimo. Metsi a a batliwang go dira ditiro tsa pusetso ya lefelo la lefatshe a tla tsewa kwa Letamong la Metsi a a Busediwang (Return Water Dam) kgotsa kwa Letamong le le Tsholang Metsi (Holding Dam) mme a tla tsamaisiwa ka diphaepe tsa metsi a a dirisediwang go dira dilo tse di umakilweng fa godimo. Go tlile go batliwa metsi a a fopholediwang go nna 800m^3/h go dira ditiro tsa pusetso ya lefelo la lefatshe. Metsi a a dirisediwang tiro eno a phepafadiwa ka nako yotlhe go dirisiwa thulaganyo ya go busetsa leswe mo mmung, go le dirisa le go le latlhela.

Go tlile go batliwa dikago tsa Polokelo ya Diesel le go e tlatsa gape mo lefelong la go bewang TSF mo go lone, mme lefelo leno le TSF e benwang kwa go lone le tla bo le le gaufi le yone. Lefelo leno le go bewang mo go lone le tlile go dirisiwa go tshela diesel mo metšhineng le go e tlhokomela (metšhine e e serolwana). Polokelo ya diesel e tlile go nna le dipopego tse di latelang:

- Ditanka tsa polokelo (tse di ka nnang 27 000L);
- Tsamaiso ya go ntsha diesel;
- Tsamaiso ya go tlhotlha le go Phepafatsa diesel;
- Didirisiwa tsa go baya diesel leitlho; le
- Mafelo a go tshela diesel gape

Kwa lefelong la polante e ntšha go tlile go batliwa lefelo la polokelo ya dilo tse di kotsi ;

- Polokelo ya dilo tse Dikgolo ya selekanyo sa 184m3 tsa SIBX Liquid – Xanthate;
- Tanka Polokelo ya Dilo tse Dikgolo ya 19m^3 – Copper Sulphate; le
- Polokelo ya Dilo tse Dikgolo tsa 9.5m^3 – Sasfroth.

Polokelo ya Manya morago ga tiro ya go dira dilo e tla bo e le gaufi le mafelo a a farologaneng a go dira dilo. Polante ya go dira PGM le e tlile go nna le disigo/meteme ya e e farologaneng ya polokelo go boloka khonsentereiti e e omileng e e tla tsewang ke dilori e bo e isiwe kwa disemeletareng tsa Anglo-American Platinum kwa Polokwane kgotsa kwa Waterval. Setlhagiswa sa bofelo sa chrome se tla bolokiwa mo lefelong le lesha la pokelong/kgobokanyetsong ya chrome mme lefelo le lengwe le le ka dirisiwang e ka nna ya seporo / lori e e rwalang dilo, ditsela tseno ka bobedi di setse di dirisiwang kwa lefelong la tiro.

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Mo godimo ga moo, go tla nna le bobolokelo jwa dimela le dilo tse dikgolo tse di tswang mo TSF tse di ka se kgoneng go dirisiwa gaufi le Letamo No. 2 la TSF. Dimela le dilo tse dikgolo tse di bolokilweng di tla nna mo lefelong la selekanyo se se ka nnang 30 000m2. Dimela di tlile go romelwa ka metlha kwa lefelong la go dira motshotelo kwa seteišeneng sa phetiso ya seretse. Go na le ditiro di le pedi tsa mafelo a thoto eno e e tlileng go batlisisiwa. Dilo tse dikgolo di tlile go robiwa le go tsengwa gape mo polanteng ya go phepafasa/go dirwa seretse. Morago seno se tla tsenngwa mo polanteng ya go dira tiro.

Go tla tsewa mmu o o fa godimo mo mafelong a go tlileng go agiwa mo go one. One o tla kokoanngwa mo lefelong le le kwa bokone jwa lefelo le TSF e bewang mo go lone. Lefelo leno le tlile go nna la bogolo jwa 15 000 m^2 (15 Ha). Mmu o fa godimo o tlile go kokoanngwa go fitlhela o nna bogodimmo jwa 3m. Lefelo le le kopelwang le tlile go nna bogolo jwa 45 000 m3 lotlhe.

Pusetso ya lefelo

Letamo 2 la TSF le go kopelwang gore lefelo la lone le busediwe ke karolo ya TSF Complex e e dirisiwang. Go akanngwa gore fa go sena go dirwa tiro ya go baakanya, lefelo leno le tla dirisiwa gape go latlhela dilo mo go lone e le karolo ya TSF e e dirisiwang mo nakong eno mo lefelong la tiro. Lefelo ka kakaretso la TSF le tlile go nna karolo ya leano la AMB ka kakaretso la Pusetso ya Lefelo le Leano la go Tswala.

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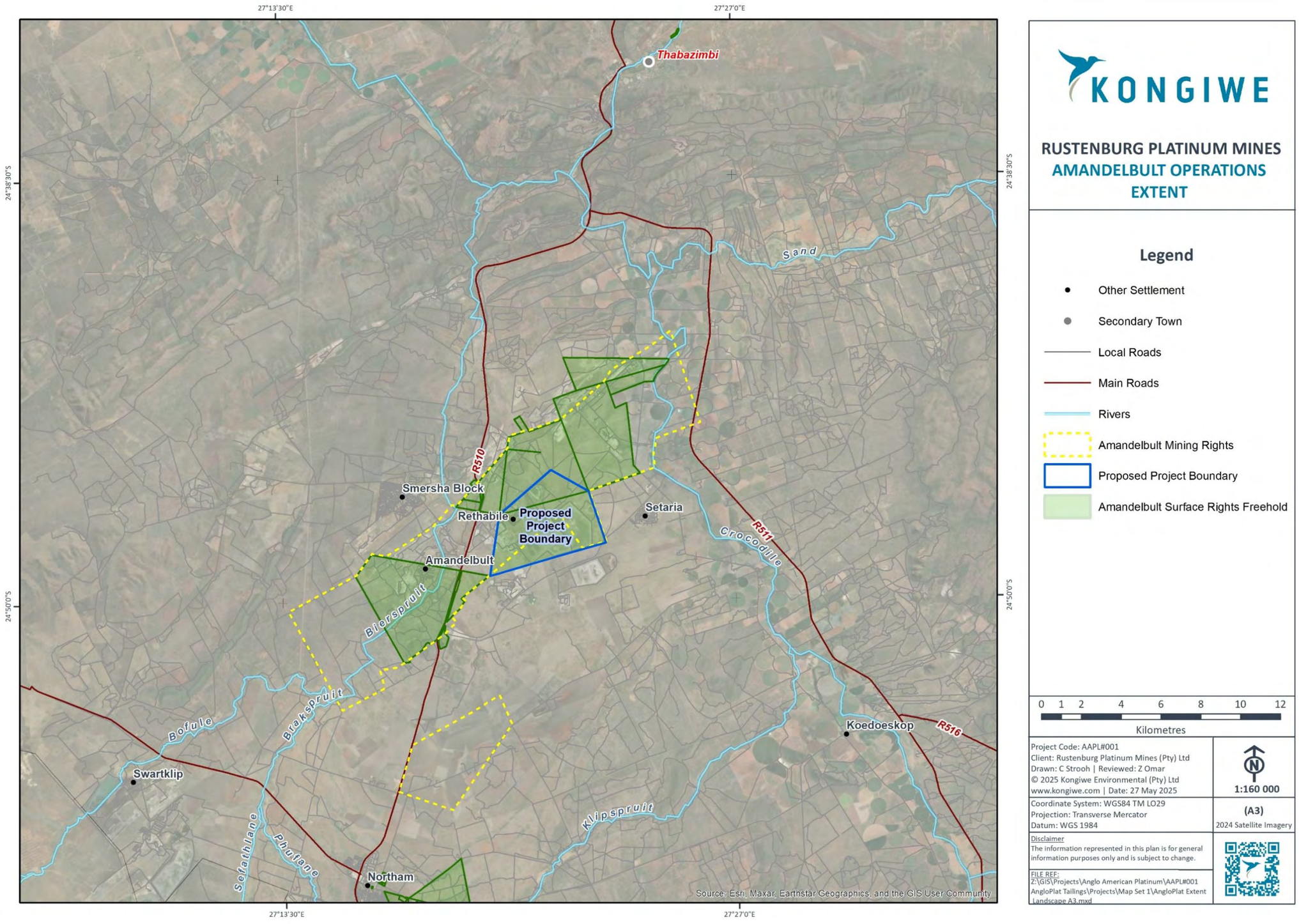

Setshwantsho 4: Lefelo le bogolo jwa Tiro ya Amandelbult.

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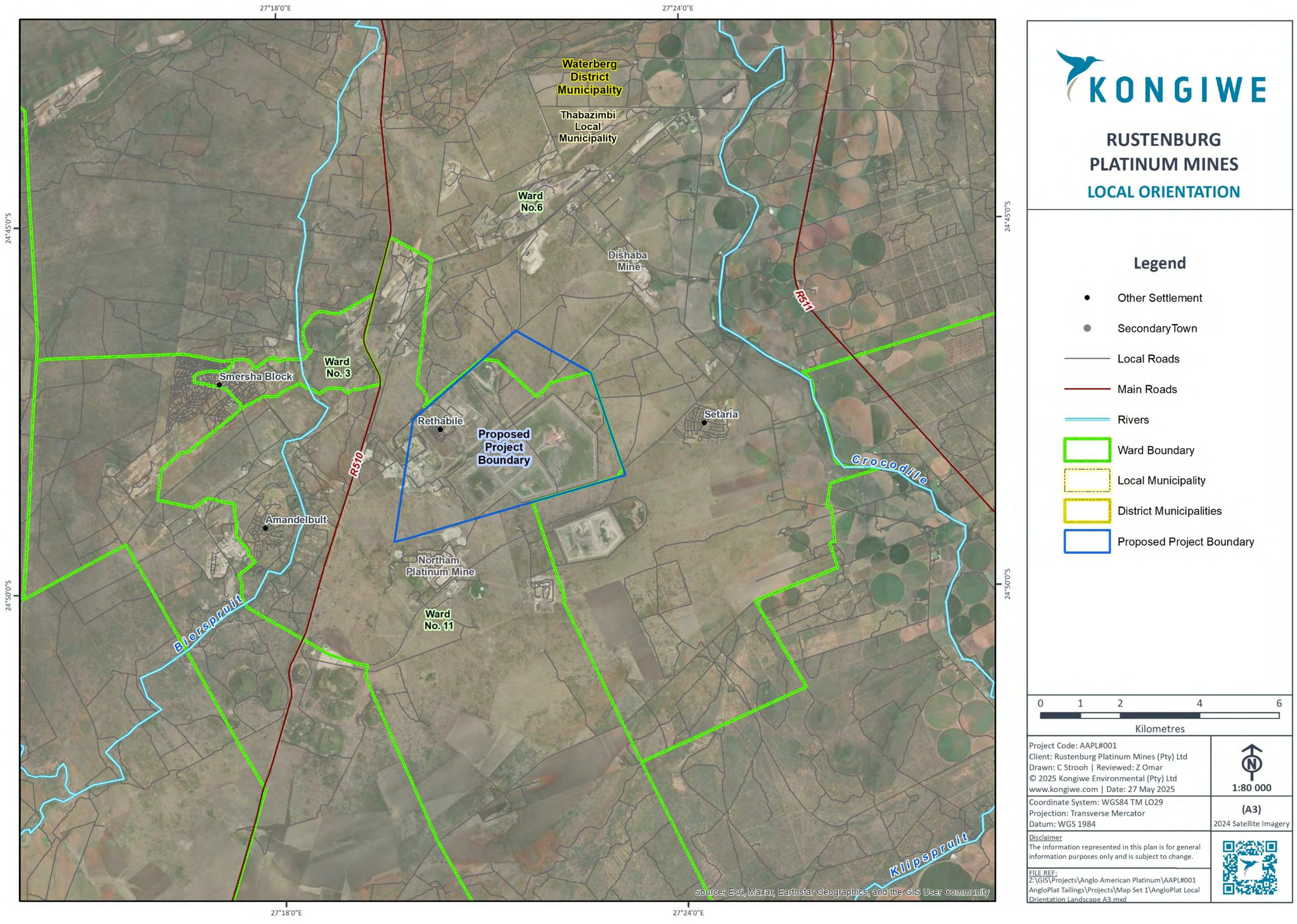

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 27 May 2025

1:80 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Map Set 1\AngloPlat Local Orientation Landscape A3.mxd

Setshwantsho 5: Tlhokomelo ya Lefelo ya Porojeke ya go Busediwa ga Lefelo la Lefatshe le go dira seo

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3. Thulaganyo ya Semolao

Go diriwa tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment [S&EIA]) e e sekakang go amiwa ga tikologo ke Porojeke e e Kopelwang e le karolo ya kopo ya Thebolelo ya go Dira Tiro mo Tikologong (Environmental Authorisation [EA]). S&EIA le dipatlisiso tse di kgethegileng tse di tshwanetseng go dirwa di tla tshegetsa dikopo tsa ditumelelo tse di batliwang. Dikopo tse di latelang di tla dirwa kwa Lefapheng la Metswedi ya Dimenerale le Maatla (Department of Mineral Resources and Energy [DMRE]) malebana le Porojeke e e Kopelwang:

- **Kopo ya EA** ya ditiro tse di kwadilweng e thankgolwang mo Dikitsisong tsa Papatso tsa GN R983, GN R984 le GN R985[1] e e phasaladitsweng malebana le Melawana ya EIA ya 2014 (e e tlhabolotsweng), tse di itsisiweng phatlalatsa go ya ka National Environmental Management Act, 1998 (Molao No. 107 wa 1998) (NEMA).
- **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e e rebolelang go dira ga ditiro tsa taolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanaatsele 2013 e e phasaladitsweng go ya ka National Environmental Management: Waste Act, 2 008 (Molao No. 59 2008) (o o fetotsweng) (NEM:WA).
- **Karolo 102 e e Tlhabolotsweng** malebana le Mineral and Petroleum Resources Development Act, 2002 (Molao 28 wa 2002) e tlile go romelelwa DMRE malebana le go tlhabolola Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moepong.

Mo godimo ga moo, go tlile go dirwa kopo e e latelang kwa Bolaoding jo go Tshwanelegang:

Kopo ya Laesense ya Tiriso ya Metsi (Water Use Licence Application [WULA]) malebana le Molao wa Naga wa Metsi (National Water Use), 1998 (Molao No. 36 wa 1998) (NWA) e tla romelwa kwa Lefapheng la Metsi le Kgelelolesewe (Department of Water and Sanitation [DWS]). Tse di lemogilweng ka EIA, go akaretsa le tse di lemogilweng ke baitseanape, di dirisiwa ke mokopi le bathati go bona pono e e lolameng ya kafa tikologo, batho le tlhago di ka nnang tsa amega ka teng mo go ka diragalang ka nako ya go go busediwa ga lefelo la lefatshe mo lefelong le le kopelwang. Dikgato tsa go tilwa kgotsa go fokotsa go amega ka tsela e e sa siamang di tlile go kopelwa, mme go tla tokafadiwa go amega ka tsela e e siamang.

[1] Di-Listing Notice tseno di fetotse ke GN R327, GN R325 le GN R324 ya 7 Moranang 2017 le GN R 517 ya 11 Seetebosigo 2021

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Ditiro tse di Kwadilweng

Go kopelwa ditiro tse di latelang go ya ka molao wa NEMA le NEM:WA jaaka go bontshiwa ke Lenaneothalo1.

Lenaneothalo1: Ditiro tse di reboletsweng go ya ka NEMA le NEM:WA

Leina la Tiro	Tebo go Tswa kwa Godimo ya Bogolo jwa Tiro (ha)	Tiro e e Kwadilweng	Kitsiso e e Maleba e e Kwadilweng	Thebolelo ya Taolo ya Dilatlhiwa
Seretse sa mo godimo ga lefatshe le diphaephe tsa Metsi a a Dirisiwang	Diphaephe tse disha tse di kopelwang di tlile go nna go feta 1000m ka boleele. Diphaephe tseno di tlile go bewa mo ditseleng tsa diphaphe tse di ntseng di bereka.	Go agiwa ga dikago le ditsela le tiro e e tsamaelanang le tsone tsa mo lefelong le le fetang 1 000 m ka boleele tsa go rwalwa ga metsi a a leswe, matlakala, metsi a a dirisitsweng, metsi a a latlhiwang, metsi a a busediwang, seretse se se latlhiwang sa ditiro tsa mo madirelong – (i) tsa bophara jwa mo teng jwa dimitara tse 36 kgotsa go feta, kgotsa (ii) e e kgonang go ntsha palo e e kwa godimo ya dilitara tse 120 motsotswana mongwe le mongwe kgotsa go feta; ntle le fa— (a) dikago le ditsela tseo ke tsa dikoloi tse di tsamaisang metsi a a leswe, matlakala, metsi a a dirisiwang, metsi a a leswe, metsi a a busediwang, seretse se se ntshiwang ke madirelo mo teng ka tsela e e diretsweng seo kgotsa la seporo; kgotsa (b) mo dikago tsa go nna jalo di tlileng go agiwa mo lefelong la setoropo.	GNR 983 – 10	
Diphaephe tse di Tsamaisang Metsi le dikago tse di tsamaisanang le tsone	Go agiwa le go dirisiwa ga seteišene sa go oketsa Metsi le dikago tse di tsamaelanang le sone ke lefelo le le fetang 100 m2 mme go mo sekgaleng sa dimitara di le 32 go tswa mo molatswaneng o o sa eleleng metsi ngwaga otlhe.	Go agiwa ga- (i) matamo kgotsa melapo, fa letamo kgotsa molapo, go akaretsa ditsela le lefelo le fa godimo ga metsi, di leng boleele jwa disekeremitara di le bo feta 100; kgotsa (ii) dikago le ditsela kgotsa dikago tse di mo lefelong la disekweremitara tse 100 kgotsa go feta; fa dikago tseo di agiwang- (a) mo melatswaneng; (b) fa pele ga molelwane o fa go sa tshwanelang go agiwa sepe gone; kgotsa (c) fa e le gore ga go na le molelwane o go sa tshwanelang go agiwa sepe gone, dimitara di sekae go tswa fa molatswaneng, go lekanngwa go tswa fa tshimologong ya molatswana	GNR 983 – 12	
Poloko ya Diesel le dithoto tse dingwe tse di Kotsi tse di tlhokegang mo ditirong tsa go busetsa lefelo la lefatshe le go baakanya.	Polokelo yotlhe fa e kopantswe ya dilo tse di kotsi e tlile go nna dimitara tsa dikhubiki di le 240.	Go agiwa le tiro e e amanang le yone ga mafelo le dikago le ditsela, tsa go bolokela, kgotsa go bolokela le go dirisa, dilo tse di kotsi, fa polokelo eo e diragalang mo dikontinenteng tsa sebaka sa dimitara tsa dikhubiki di le 80 kgotsa go feta fa se kopantswe mme se sa fete dimitara tsa dikhubiki di le 500.	GNR983 – 14	
Tiro e tlile go akaretsa go dirisiwa ga matheriale o o buseditsweng wa seretse sa manya, mme go tla dirisiwa go akarediwa ga tiro ya moepo. Mo godimo ga moo, go atolosiwa ga Tshwanelo ya go Epa mo go TSF yotlhe.	Lefelo lotlhe le pusetso lefelo la lefatshe le mafelo a a tsamaisanang le lone ke dihekethara di le 119.	Tiro epe fela gammogo le tiragatso ya tiro eo e e tlhokang phetogo kgotsa se sele go na le tshwanelo kgotsa tetla go ya ka karolo ya 102 ya Mineral and Petroleum Resources Development Act, gammogo le tiro epe fela e e maleba e e mo Listing Notice kgotsa mo go Listing Notice 3 ya 2014, e e tlhokegang go dira phetogo eo.	GNR983 – 21D	Setlhopha B, Tiro11
		Tiro epe fela gammogo le tiragatso ya tiro eo e e tlhokang tshwanelo ya go epa go ya ka karolo 22 ya Mineral and Petroleum Resources Development Act, gammogo le tiro epe fela	GNR 984 - 17	Setlhopha B, Tiro11

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Leina la Tiro	Tebo go Tswa kwa Godimo ya Bogolo jwa Tiro (ha)	Tiro e e Kwadilweng	Kitsiso e e Maleba e e Kwadilweng	Thebolelo ya Taolo ya Dilatlhiwa
		e e maleba e e mo Listing Notice, mo go Listing Notice 1 ya 2014, kgotsa Listing Notice 3 ya 2014, e e tlhokegang go dirisa tshwanelo ya go epa.		
Go rengwa ga dimela	Go tla tlhokega gore go rengwe dimela tsa tlhago tse di mo diheketareng tse di kwa tlase ga di le 20 gore go agiwe le go dira tiro ya kago e e kopelwang.	Go rengwa ga dimela mo lefelong ladiheketara di le 1 kgotsa go feta, mme e le kwa tlase ga diheketara di le 20 tsa dimela tsa tlhago, ntle le fa go rengwa ga dimela tseo tsa tlhago go tlhokelwa- (i) tiro eno e e dirwang mo mafelong a le mmalwa; kgotsa (ii) ditiro tsa paakanyo ya lefelo di dirwa go ya ka thulaganyo ya tlhokomelo.	GNR 983 - 27	
Go lelefadiwa le go okediwa ga bophara jwa tsela sephara ga tsela ya dikoloi tse di tsamaisang dithoto mo go yone e e tlhokegang gore go busediwe lefelo la lefatshe le ditiro tsa tiriso gape.	Tsela e e leng teng ga jaana ya go goga e tla lelefadiwa ka go feta kilomitara e le nngwe le go atolosiwa ka bokana ba dimitara di le 8 kgotsa 9.	Go okediwa ga bophara jwa tsela ka dimitara di feta tse 6, kgotsa go lelefadiwa ga tsela ka go feta khilomitara e le 1- (i) mo tsela e e leng teng e e dirisiwang e leng bophara jwa dimitara tse 135; kgotsa (ii) fa go sena tsela e e diretsweng tiro eno, fa tsela e e leng teng e leng bophara jo bo fetang dimetara di le 8; go sa akarediwe fa e nnang sephara kgotsa telele teng moo mo mafelong a setoropo.	GNR983 – 56	
Dikago tsa go dirwa ga tiro tse di tsamaelang le yone.	Kokoanyo ya PCD, le chrome le dikago tse dingwe tse di tsamaelanang le tsone di tla bontsha go tlhokega ga seno.	Go agiwa ga dikago kgotsa ditsela tsa go dirwa ga tiro efe fela kgotsa tiro e e tlhokang tetla kgotsa laesense kgotsa tetlelelo e e fetotsweng kgotsa laesense go ya ka molao wa naga kgotsa wa porofense o o laolang go tlhagisiwa kgotsa go ntshiwa ga digase, kgotlelo kgotsa matlakala, ntle le— (i) ditiro tse di tlhophiweng le tse di akarediwang mo Listing Notice 1 ya 2014; (ii) ditiro tse di akareditsweng mo lenaaneng la ditiro tsa taolo ya matlakala tse di phasaladitsweng go ya ka karolo 19 ya Taolo ya Naga ya Tikologo: Waste Act, 2008 (Molao No. 59 wa 2008) mo go tla rayang gore go tla dirisiwa molao wa National Enviromental Management: Waste Act, 2008; (iii) go agiwa ga mafelo kgotsa dikago go phepafatsa matlakala, metsi a a kgotletsweng, metsi a a leswe kgotsa kgelelole swe mo mafelo ao a ntshang bogolo jwa dimitara tsa dikhubiki di le 2 000 kgotsa kwa tlase; kgotsa (iv) fa go agiwa go amana ka tlhamalalo le mafelo a temothuo ya mo metsing kgotsa kago e mo go yone bogolo jwa metsi a a latlhiwang a se nang go feta dimitara tsa dikhubiki di le 50 m^3 ka letsatsi.	GNR 984 – 6	
Pusetso ya masalela a a bidiwang Letamo la TSF No 2 mo teng ga AMB TSF Complex	Bogolo jotlhe jwa Letamo la TSF No 2: 104 Ha	N/A	N/A	X - Setlhopha B, Tiro 11

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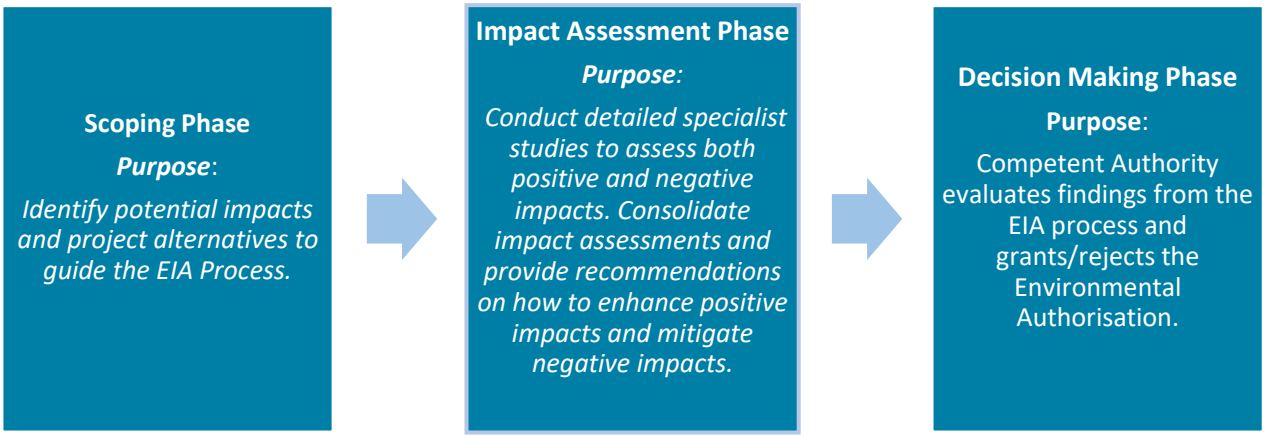
Tiro ya Tiro ka Kakaretso le Tshekatsheko ya go Amega ga Tikologo

Go ya ka se se letlelelwang ke Melawana ya EIA ya 2014, tiro ya S&EIA ya porojeke e e kopelwang e tlile go dirwa ka dikgato tse di latelang.



Setshwantsho 2: Tiro ya S&EIA le tatelano ya nako e e amanang le yone

Laesense ya Tiriso ya Metsi

Go tlile go dirwa WULA mabapi le ditiriso tsa metsi tse di amanang le Karolo 21 ya NWA. Tiro ya WULA e tlile go dirwa ka nako e le nngwe le tiro ya EA ya porojeke e e kopelwang.

Lenaneothalo2: Ditiro tsa NWA di tshwanetse go kopelwa

Nomoro ya Tiro	Tiriso ya Metsi
NWA	
21 (c) ya (i)	Go kgoreletsa kgotsa go faposa metsi a a elelang mo molatswaneng le go fetola tsela, dintshi, tsela kgotsa dipopego tsa molatswana.
21 (g)	Go latlhiwa ga dilatlhiwa ka mokgwa o o ka nnang wa ama molatswana ka tsela e e sa siamang.

Dithutopatlisiso tsa bomankge

Dithutopatlisiso tse di farologaneng tsa bomankge di tlile go dirwa e le karaolo ya tiro ya S&EIA/WULA go sekaseka go amega mo go ka nnang ga diragala ka baka la porojeke e e kopelwang. Dithutopatlisiso tsa bomankge tse di dirwang di akaretsa:

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- Mefutafuta ya ditshedi
- Metsi a a fa Godimo
- Metsi a a kafa tlase ga lefatshe
- Modumo
- Thuso ya Ditšhelete
- Ikonomi le loago
- Boswa le Boepamarope
- Boleng jwa mowa
- Megobe

4. Tiro ya go Tsaya Karolo ga Morafe

Tiro ya go tsaya karolo ga morafe e tlile go nna karolo ya S&EIA e e Kopantsweng le tiro ya WULA. Tiro ya go tsaya karolo ga morafe e naya banaleseabe tshono e e siameng ya go itsisewe ka porojeke e e kopelwang, go bua mathata a ba nang le one le go dira dikakantsho tsa go tokafatsa mesola ya porojeke. Setlhopha sa porojeke se tlile go akanyetsa mathata a a maleba le dikakantsho ka nako ya tiro ya S&EIA/WULA.

Go Nna Teng ga Pego ya Tiro ka Kakaretso go Sekasekiwa ke Morafe le go Tshwaela ka Yone

Draft Scoping Report (DSR) ya porojeke e e kopelwang e tlile go nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo **malatsing a le 30**, go simolola ka **Laboraro, 18 Seetebosigo 2025** go ya go **Labone, 17 Phukwi 2025.**

DSR e tlile go nna teng ka tsela e e latelang:

- Khopi ya ileketeroniki mo webosaeteng ya Kongiwe: https://kongiwe.com/projects/
- Khopi ya pampiri ya Draft Soping Report e tlile go nna teng kwa lefelong le le latelang la botlhe:

Lefelo	Aterese ya Lefelo	Motho yo o Ikgolaganngwang le Ene
Amandelbult Social Performance Office	Amandelbult Mine, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Social Performance Mosu– Labot: 08h00-16h00
Mmasepala wa Selegae wa Thabazimbi	4th Avenue, Thabazimbi, 387	Ms Kgaugelo Nkopane, Assistant Librarian Mosu – Labot: 8:30 am–4:30 pm

- Khopi ya pampiri ya tshobokanyo e e seng ya botegeneki ya DSR (BID) e tlile go nna teng kwa lefelong la botlhe le le latelang jaaka go bontshitswe mo lenaneothalong le le fa tlase:

Lefelo	Aterese ya Lefelo	Motho yo o Ikgolaganngwang le Ene
Smash Block Community (Thabang Children Centre)	Smashblock – Front-opposite Chromite Primary School Thabang Dropping Centre Main street Smashblock, Stan no 001,	Ms Gloria Vilakazi (Centre Manager) Mosu– Labot: 08h00-16h00

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Lefelo	Aterese ya Lefelo	Motho yo o Ikgolaganngwang le Ene
	Sekwane Street	
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine, Mlanje Sav, Behide Chrome-Plant R510 Thabazimbi Road, Amandelbult, 362	Mr Jerry Motshedi- Mosu– Labot: 08h00-16h00
Dishaba Mine Entrance (baagi ba Jabulani)	Amandelbult Mine- Go Lebagana le Kgoro ya Dishaba kwa Setsheng sa Polasi	Ms Lydia Sikhwari Sont– Matlh: 06h00-22h00
Kgoro ya motse wa Rethabile le Recreation Club	Amandelbult Mine- Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 362	Mr Jerry Motshedi- Mosu– Labot: 08h00-16h00
Setaria (Motse wa Northam Platinum)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Go Lebagana le Aamandelbult Complex)	Mr Kaitumela Letebele o tshwanetse go rulaganyetsa – Mosu– Labot: 08h00-16h00

- Dikhopi tsa tshobokanyo e e seng ya botegenike ya DSR e tlile go anamisediwa kwa banaleseabeng ba ba mo dathabeising mme e tla nna teng kwa diphuthegong.

Go nna teng ga EIA/EMPr le IWWMP gore e Sekasekiwe ke Morafe le go Tshwaela ka Yone

Ka nako ya kgato ya EIA ya porojeke eno, Draft Environmental Impact Assessment le Draft Environmental Management Programme (DEIA/EMPr) di tla nna teng gore di sekasekiwe ke morafe **malatsi a le 30**.

Fa tshedimosetso e e batliwang ya WULA e se na go konediwa, Integrated Water and Waste Management Plan (IWWMP), go tshegetsa tiro ya WULA, e tlile go nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo **malatsing a le 60**. Go lebeletswe gore IWWMP e tla nna teng ka nako ya kgato ya tshekatsheko ya go amega ga lefelo. Tshedimosetso malebana le go nna teng ga IWWMP le kafa banaleseabe ba ka nayang ditshwaelo tsa bone ka teng di tla bolelela banaleseabe botlhe.

Diphuthego tsa Banaleseabe

Banaleseabe ba lalediwa go tsaya karolo mo dipuisanong tsa mo inthaneteng le ka namana. Diphuthego tsa dipuisano di tlile go tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa dipolatefomo tse di tshwanang le Microsoft Teams le Open Day. Boikaelelo jwa diphuthego tseno ke go buisana ka porojeke e e kopelwang, tshedimosetso ya Scoping Report, EIA le IWWMP, go naya banaleseabe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke

Tsweetswee bona fa tlase (Lenaneothalo 3) go bona thulaganyo e e akantshiwang ya phuthego ya banaleseabe Kgato ya Tiro ka Kakaretso (Scoping Phase).

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Lenaneothalo 3: Matlha a a akantshiwang le mefuta ya go tsaya karolo ga morafe

Matlha a a akantshiwang	Mofuta wa Puisano
Kopano ya ka Namana: Open Day	
Mosupulogo, 23 Seetebosigo 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labobedi, 24 Seetebosigo 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Kopano ya mo Inthaneteng:	
Labotlhano, 27 Seetebosigo 2025	Microsoft Teams – Kopano ya mo inthaneteng

Taletso ya go tsaya karolo ya monaleseabe

Kongiwe Environmental e rulagantse dikgato tsa go tlhomamisa gore go rerisanngwa le banaleseabe botlhe ke tsela e e utlwalang ka go dirisa mefuta e e farologaneng ya bobegakgang, ditokomane le didirisiwa tsa mo inthaneteng. Mefuta e e akantshwiwang ya dipuisano tsa porojeke e e kopelwang di rulagantswe ka tsela e e latelang:

- Tlhaeletsano ka Mogala.
- Ditirelo tsa Melaetsa ka Selulafouno (SMS).
- Kwalelelano ka imeile:
    - Banaleseabe ba ba nang le imeile ba kopiwa go romela ditshwaelo tsa bone/dingongorego ka imeile; mme
    - Banaleseabe ba ka romela Ikwadiso ya bone le Foromo ya Tshwaelo ka imeile
- Dipuisano tsa mo inthaneteng:
    - Diphuthego tsa mo inthaneteng ka MS Teams.
- Dipuisano ka Namana:
    - Open Day.

Boikaelelo jwa mefuta ya dipuisano e e umakilweng fa godimo ke ya go kgothaletsa dipuisano le banaleseabe le go neela banaleseabe ditshono tsa go naya ditshwaelo tsa bone. Dintlha tsa phuthego ya dipuisano tsotlhe le banaleseabe di tla rulaganngwa le go kwalwa mo Pegelong ya Ditshwaelo le Dikarabo. Banaleseabe ba kgothalediwa go bontsha setlhopha sa puisano le banaleseabe mofuta o ba o ratang wa go buisana le bone, tsweetswee bona dintlha tsa go ikgolaganya le bone fa tlase.

Gore puisano le bone e nne e e akaretsang ke boikaelelo jwa banaleseabe go:

- Kwadisa kgotsa go tlhomamisa gore o kwadisitswe jaaka Motho yo o Nang le Kgatlhego le yo o Amegang (Interested and Affected Party [I&AP]);
- Go itsise ba bangwe gore o akanya gore ke mang yo o ka tswang a na le kgatlhego le/kgotsa a amiwa ke porojeke e e kopelwang;
- Tlhomamisa gore ditshwaelo di romelwa mo nakong e e letlelelwang e di tla amogelwang ke ba ofisi ya Dipuisano le Banaleseabe;
- Go aba tshedimosetso le/kgotsa kitso ka tikologo;

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- Go naya ditshwaelo ka porojeke e e kopelwang; le
- Go nna teng kwa diphuthegong tse di rulagantsweng ka nako ya tiro yotlhe ya go tsaya karolo le go kgona go bona tshedimosetso.

5. Ditshwaelo le Dingongorego

Motho ope yo o amiwang ke kgotsa yo o ka tswang a na le kgatlhego mo porojekeng e e kopelwang o kopiwa gore a ikwadise jaaka I&AP. Fa e le gore o na le ditshwaelo dife/dipotso, tsweetswee ikgolaganye le setlhopha sa dipuisano le banaleseabe.

Dintlha tsa go ikgolaganya:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Setlhopha sa rona se amogela go tsaya karolo ga gago mme selebile pele go bona o tsaya karolo mo tirong eno yotlhe

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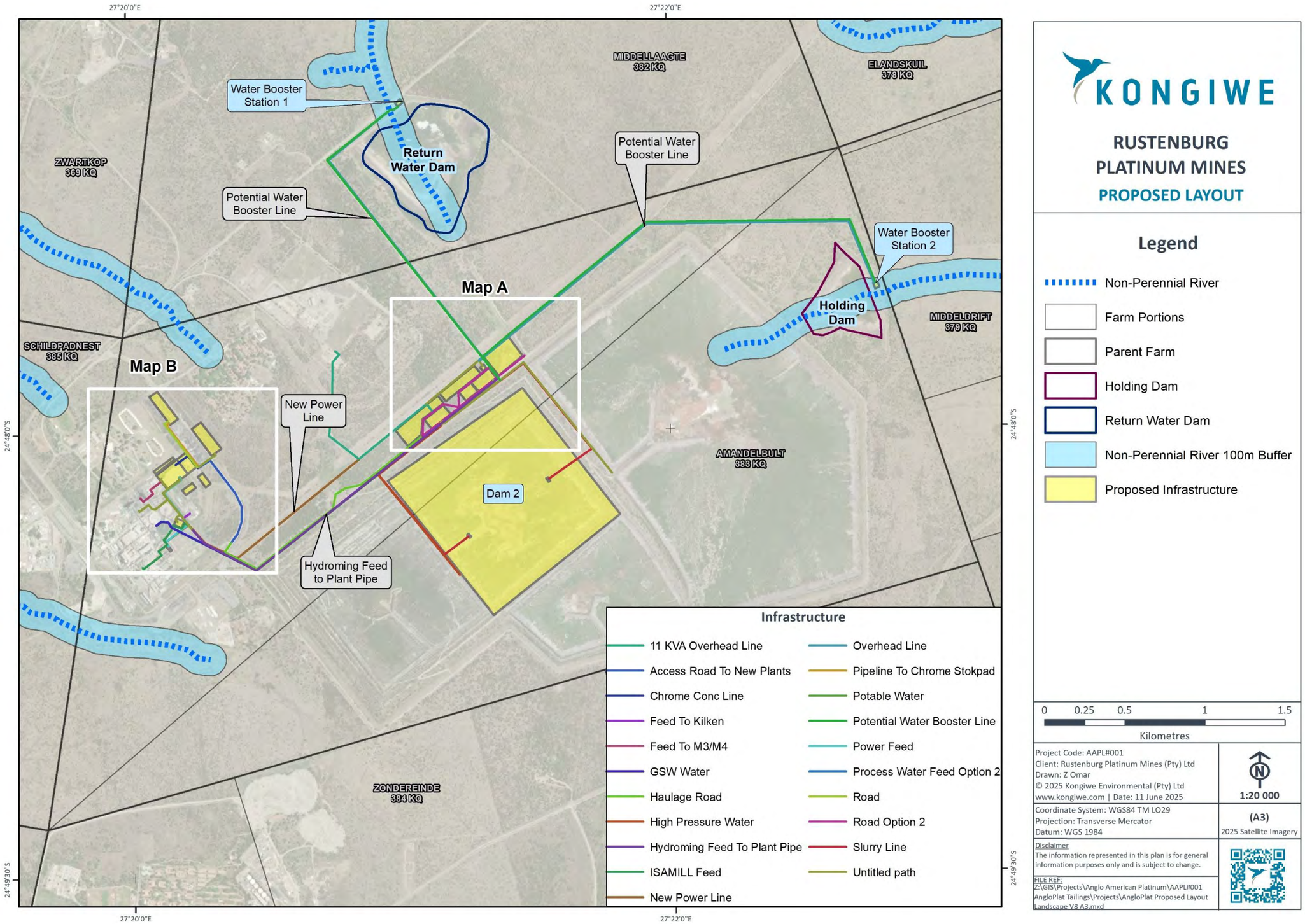

KONGIWE

RUSTENBURG PLATINUM MINES
PROPOSED LAYOUT

Legend

- Non-Perennial River
- Farm Portions
- Parent Farm
- Holding Dam
- Return Water Dam
- Non-Perennial River 100m Buffer
- Proposed Infrastructure

0 0.25 0.5 1 1.5
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 11 June 2025

1:20 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Proposed Layout Landscape V8 A3.mxd

Setshwantsho 6: Thulaganyo ya Porojeke e e Kopelwang

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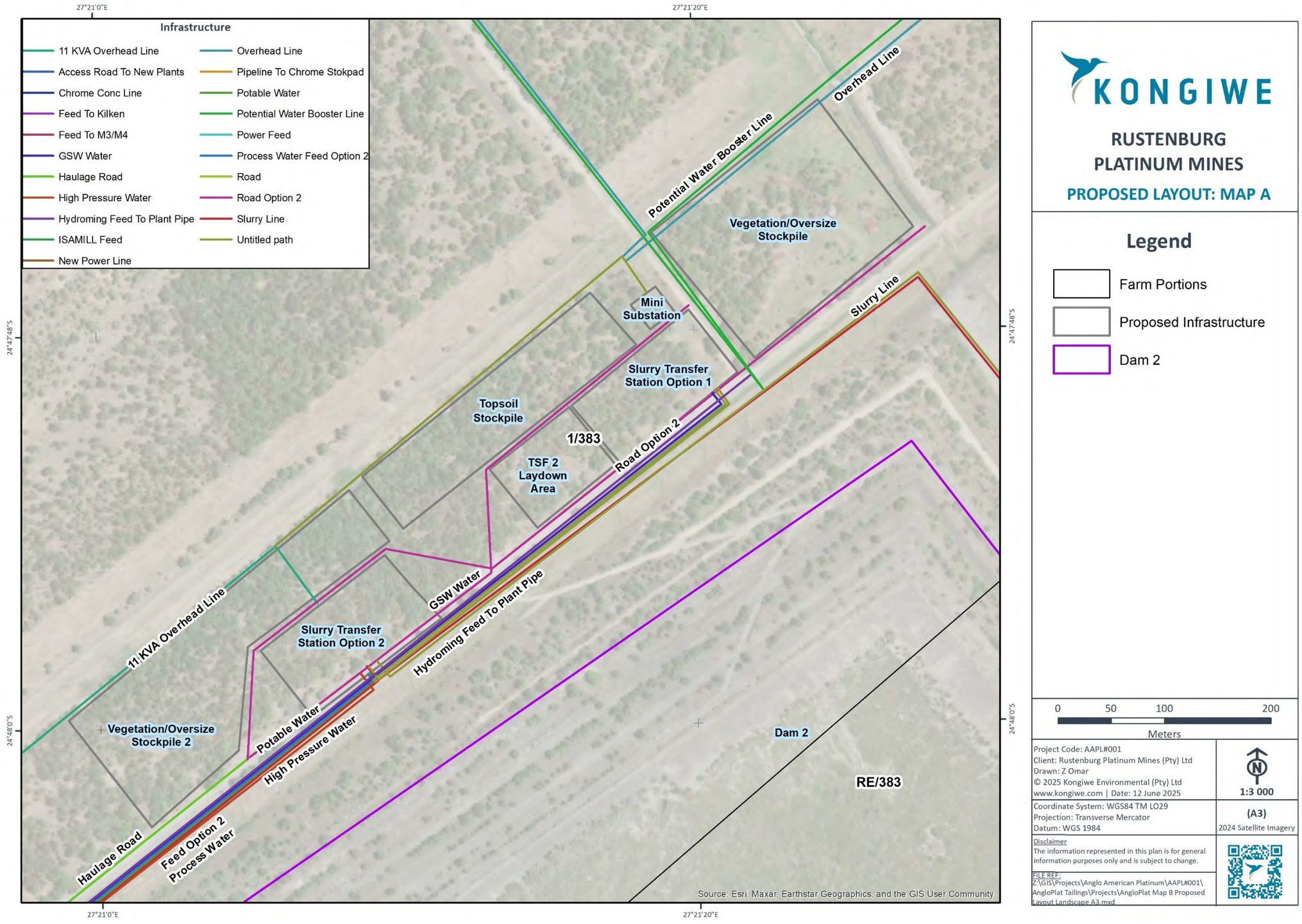

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT: MAP A

Legend

- Farm Portions
- Proposed Infrastructure
- Dam 2

0 50 100 200
Meters

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 12 June 2025

1:3 000

Coordinate System: WGS84 TM LO29
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(A3)
2024 Satellite Imagery

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FILE REF:
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Setshwantsho 7: Thulaganyo ya Porojeke e e Kopelwang Mmapa A

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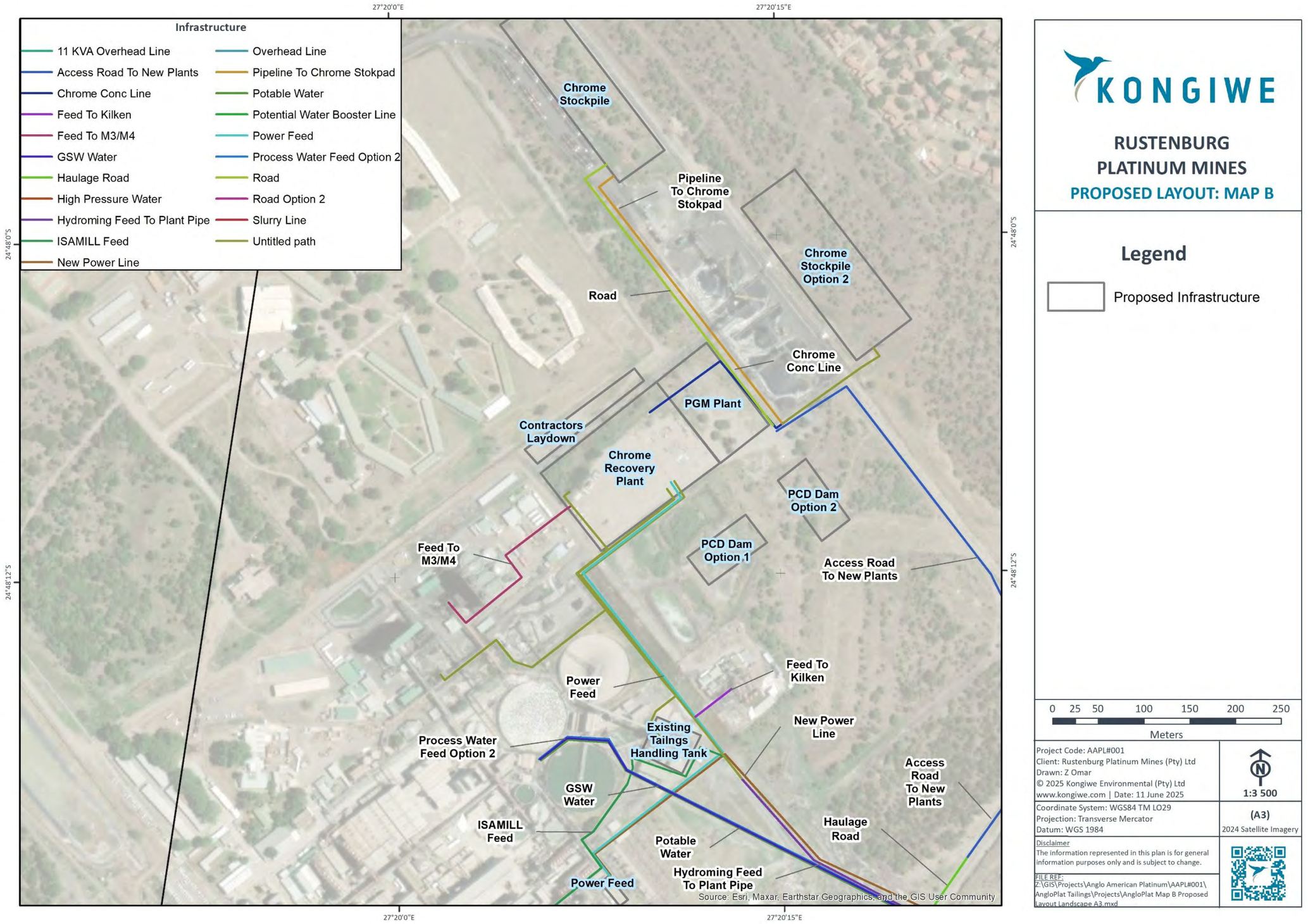

Setshwantsho 8: Thulaganyo ya Porojeke e e Kopelwang Mmapa B

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR

DWS reference number: To be confirmed

Stakeholder Registration and Comment Form

Please return a completed reply form to the Stakeholder Engagement Team:

Ms Vanessa Viljoen - Phone: (010) 140 1725 - Ms Thuli Phakathi - Phone: (010) 140 1726 or

E-mail: stakeholders@kongiwe.com

Postal Address: PostNet Suite no 163, Private Bag X21, Bryanston, 2021

Please provide your complete contact details:

Landowner	Property							
Land occupier	Property			Property owner				
Title		Mr	Mrs	Ms	Dr	Prof	Other	
First Name								
Surname								
Community/Residential Area								
Organisation								
Position in organisation								
Contact Details		Cell Phone				Tel		
Email address								
Postal address								
Please indicate your preferred method of communication		Email				SMS		

Meetings will be held on the following days, You will be informed of the relevant timeslots once registered.

Proposed dates	Method of Engagement
Face-to-Face Meeting: Open Day	
Monday, 23 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Tuesday, 24 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:	
Friday, 27 June 2025	Microsoft Teams – Virtual meeting

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Do you have any comments/concerns regarding the project? If so, please complete the section below or send your comments to the stakeholder engagement team.

Comments/Concerns/Suggestions:

Please provide contact details of any other stakeholders we should consult.							
Title	Mr	Mrs	Ms	Dr	Prof	Other	
First name							
Surname							
Organisation/ Property / Business							
Cell phone							
Email							
Title	Mr	Mrs	Ms	Dr	Prof	Other	
First name							
Surname							
Organisation/ Farm / Business							
Cell phone							
Email							

In terms of section 19 of the Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party or parties to whom the information is supplied.

Signature:		**Date:**	

Non-Technical Summary

for

Client Name: Rustenburg Platinum Mines Limited (Amandelbult Mine)

Project Number: AAPL#001

Project Name: The Reclamation and Processing of the Amandelbult TSF

Kongiwe Environmental (Pty) Ltd.
Registration Number 2016/135562/07
Directors: N Banks, GE Cornish-Bowden (COO), AM Lemon, GL Smith, BJ Thornton (CEO)
Telephone: +27 (10) 140 6508 Email: info@kongiwe.com
Registered Address: 150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa
Mailing Address: PostNet Suite No 163, Private Bag X21, Bryanston, 2021, South Africa
www.kongiwe.com

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1. Introduction

1.1 This Document

This Non-Technical Summary (NTS) provides an overview of the Environmental Impact Assessment (EIA) and Amendment process for the proposed Amandelbult Tailings Reclamation and Processing Project, situated in the Thabazimbi Local Municipal area of the Waterberg District Municipality, Limpopo Province. It has been prepared by Kongiwe Environmental (Pty) Ltd. The EIA was undertaken in compliance with the National Environmental Management Act (Act 107 of 1998), as amended, and the EIA Regulations, as amended. The Proposed Project is undertaking an application for Section 102 Amendment for the inclusion on the TSF, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) to be submitted to the DMPR in terms of amending the Mining Right and Mine Works Programme. The Department of Mineral, Petroleum Resources (DMPR) Reference number is LP 30/5/1/2/2/48 MR.

The NTS describes the project proposal, and the potential impacts the Project may have on the biophysical and socio-economic environments. It also addresses the measures that the Project will implement to reduce significant negative impacts and to enhance potential social benefits, and how environmental and social issues will be managed during the construction, operation and decommissioning phases. The NTS is a short document written in non-technical language that can be used to share the findings of the EIA and Amendment process to the public.

1.2 Non-Technical Summary

Kongiwe Environmental (Pty) Ltd (Kongiwe) has been appointed by Rustenburg Platinum Mines Limited Amandelbult Mine (AMB), as the independent Environmental Assessment Practitioner (EAP) tasked with conducting the Scoping and Environmental Impact Assessment (S&EIA) process which is aimed at critically evaluating the potential environmental and social impacts of the proposed Reclamation and Processing of Dam 2 of the Amandelbult Tailings Storage Facility Complex (hereafter the Proposed Project). Rustenburg Platinum Mines Limited is a wholly owned subsidiary of Valterra Platinum Limited (previously known as Anglo American Platinum).

The Application for Environmental Authorisation (EA) was submitted to the Department of Mineral and Petroleum Resources (DMPR), which is the Competent Authority (CA) for the Proposed Project, on 17 June 2025. The DMPR accepted the Application on 19 July 2025. The Final Scoping Report (FSR) was submitted on 28 July 2025.

1.3 Project Introduction and Background

The Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) is situated in the Thabazimbi Local Municipal area (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province and extends over some 20 km from east to west. It is located approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

The main activity at AMB is mining of both the Merensky and UG2 reefs using underground and open pit mining methods. The mine area is divided into western, central and eastern sections. The mine consists of three different operational areas including Tumela Mine, Dishaba Mine and the AMB Concentrator and associated tailings storage facility (TSF) complex located centrally within the mine.

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The AMB Concentrator itself consists of two (2) operational plants, namely UG2 1 and UG2 2, that treat mainly UG2 reef and one (1) non-operational plant, namely the Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon non-use of the Merensky Concentrator plant, UG2 Open cast and low-grade ore are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult TSF consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B, refer to Figure 1 below. Dams 3A and 3B are considered as “wet dams” with the current arisings being deposited mainly on 3B, but also on 3A from time to time. AMB is currently undertaking a Feasibility study, with the objective to explore and investigate the possibility of reprocessing historical tailing dam material from the Amandelbult TSF to recover Chrome and Platinum Group Metals (PGMs) Test work completed has indicated that Dam 2 is currently the priority dam in terms of viable ounces to be reclaimed.

AMB now proposes to reclaim and process the tailings from Dam No. 2. This would also allow for the reuse of this TSF footprint, once reclamation has ceased for future tailings deposition, negating the need for a green fields site. Reclamation activities will reduce rehabilitation and closure liabilities of the TSF complex. This project may be referred to as the Amandelbult TSF Reclamation and Processing Project.

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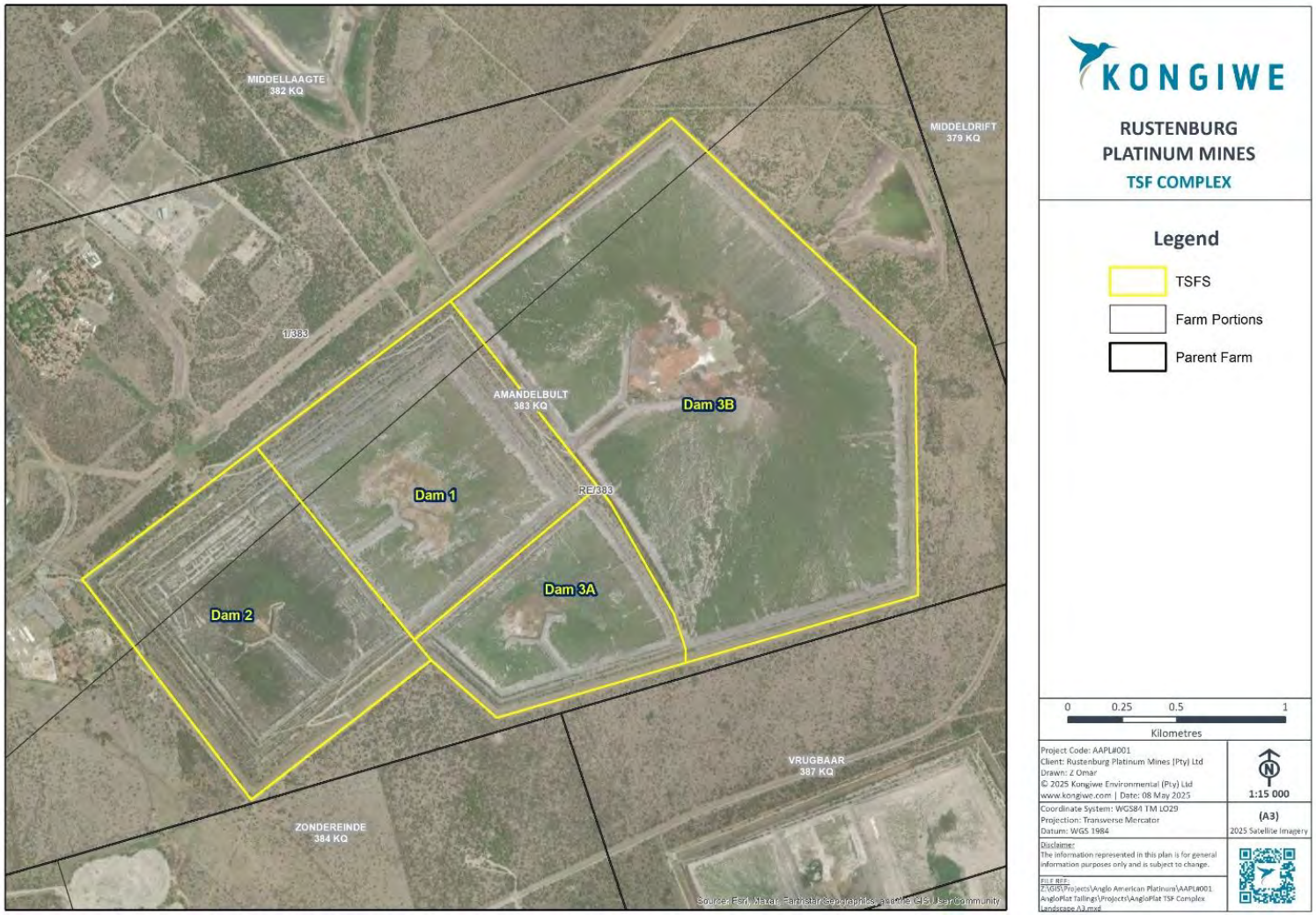

Figure 1: Amandelbult TSF Configuration

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1.4 Description of the Project Location

The Proposed Project is located on the Remaining extent and Portion 1 of the farm Amandelbult 383 KQ, and the Remaining Extent of the farm Middellaagte 382 KQ. The project is situated in Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province. See Table 1 below.

Table 1: Property Details

Application Area (ha)	The Proposed Reclamation site, the new proposed plant area and additional infrastructure as indicated in this report covers an area of approximately 104 Ha and project activities 18 Ha (Overall 122 Ha)
Magisterial District	Ward No: 6 and 11 of the Thabazimbi Local Municipality (TLM) within the Magisterial District of Waterberg.
Distance and Direction from Nearest Town	The site is located approximately 15 km North of Northam and 30 km Southwest of Thabazimbi.

1.5 Infrastructure for the Project

The following preferred project design, after alternatives were considered, and reflected in Figure 3 will be established for the reclamation and processing of the TSF Dam 2:

Barge Pump (1 and 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump.
- Concrete bund.
- Motor.
- Control centre.
- Access ladder.

High Pressure Water Tapped Off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station does a second screening out of residual vegetation, and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of infrastructures below on Table 2:

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Table 2: Infructructure Associated with the Slurry Transfer Station

The Slurry Transfer Station	
A vibrating screen	MCC
Set of cyclones	Transformers
Process water tank	Substations
Gland service water tank	Overhead crane
Compressor	Mini workshop
Firewater tank	Ablution facilities
Control room	Offices
Surge tank	Concrete and Steel structures
Instrumentation	Pumps
Piping	

TSF No.2 Laydown Area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000L)
- Fuel dispensing system
- Fuel filtration and Conditioning system
- Fuel monitoring devices
- Refuelling bays

Contractors Laydown Area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction.

PCDs: The project will utilise two existing PCDs, one situated centrally between the Amandelbult Central Services Department Offices and the AMB Concentrator, and another located in the Chrome Recovery Plant (CRP) area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. The area of the road will be approximately 1.1 Ha (11 000m^2).

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery the slurry will be sent to the upgraded PGM plant, which features an IsaMill and Jamesons Cells flotation circuit. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The process flow of tailings will either be to the chrome plant first for extraction of chrome whereafter the tailings stream will be directed to the PGM plant for extraction of PGMs. Depending on configuration to be finally determined, the flow might start first at the PGM plant whereafter it

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is redirected to the Chrome plant. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant. Material from TSF Dam 2 is hydraulically conveyed to the PGM Scavenger Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The scavenger plant incorporates re-recleaner cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the scavenger plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.
- TSF Services Plant - The TSF Services Plant is designed to deliver critical support services to the plant processing facility, ensuring seamless operational efficiency. Key services provided include the precise dosing of process chemicals such as depressants, frothers, and collectors, as well as the preparation and supply of flocculant for thickener operations. The facility also manages the supply of essential utilities, including makeup water, potable water GSW, compressed air, and instrument air, all of which are vital for maintaining process stability and equipment functionality.
- TSF Chrome Recovery Plant - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.
- TSF Tailings Thickening Plant - A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos / Bins: The material reclaimed from the TSF after its processing from the plant will be placed in the existing product silos/bins.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m^2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m^3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

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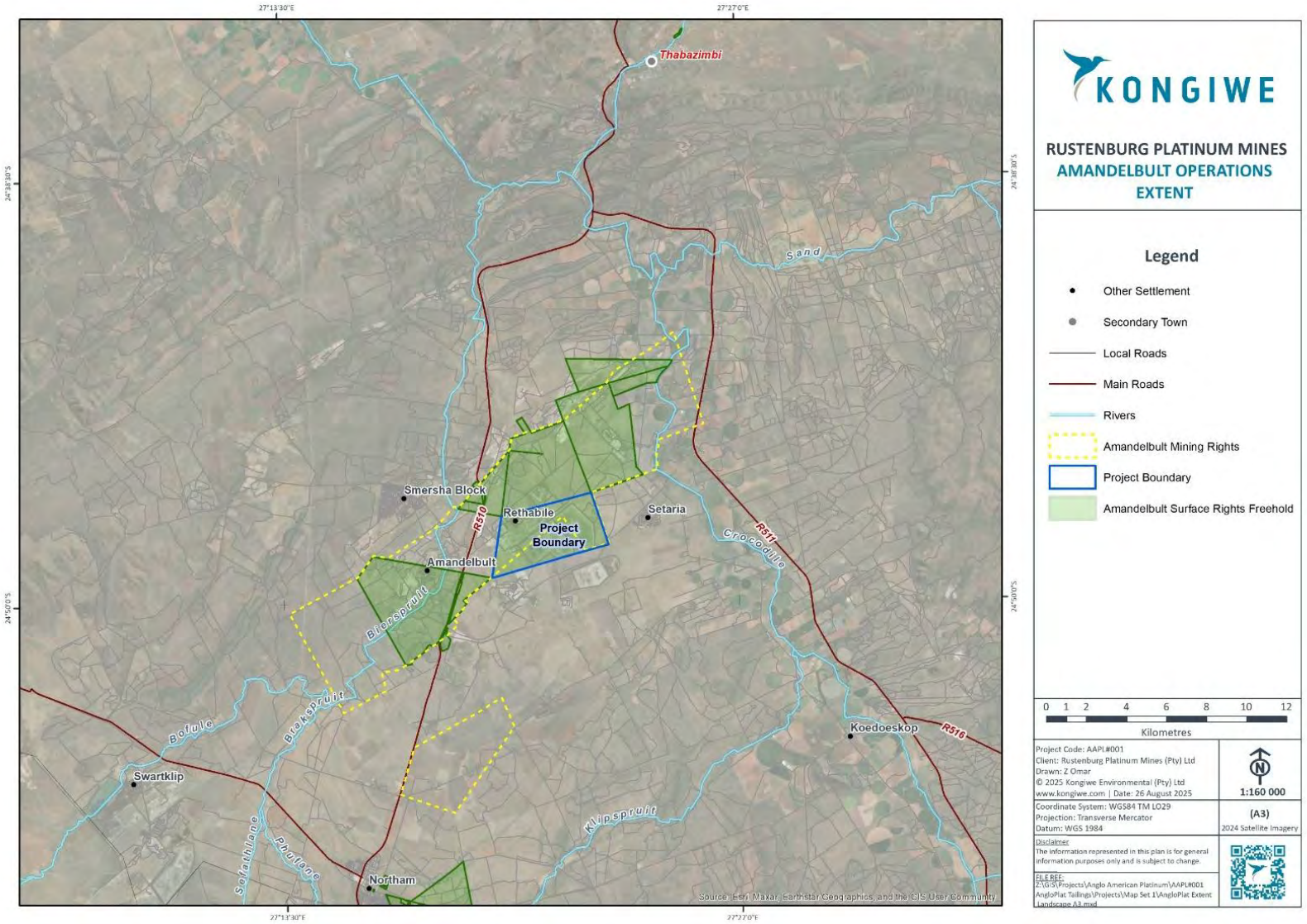

Figure 2: Project Location

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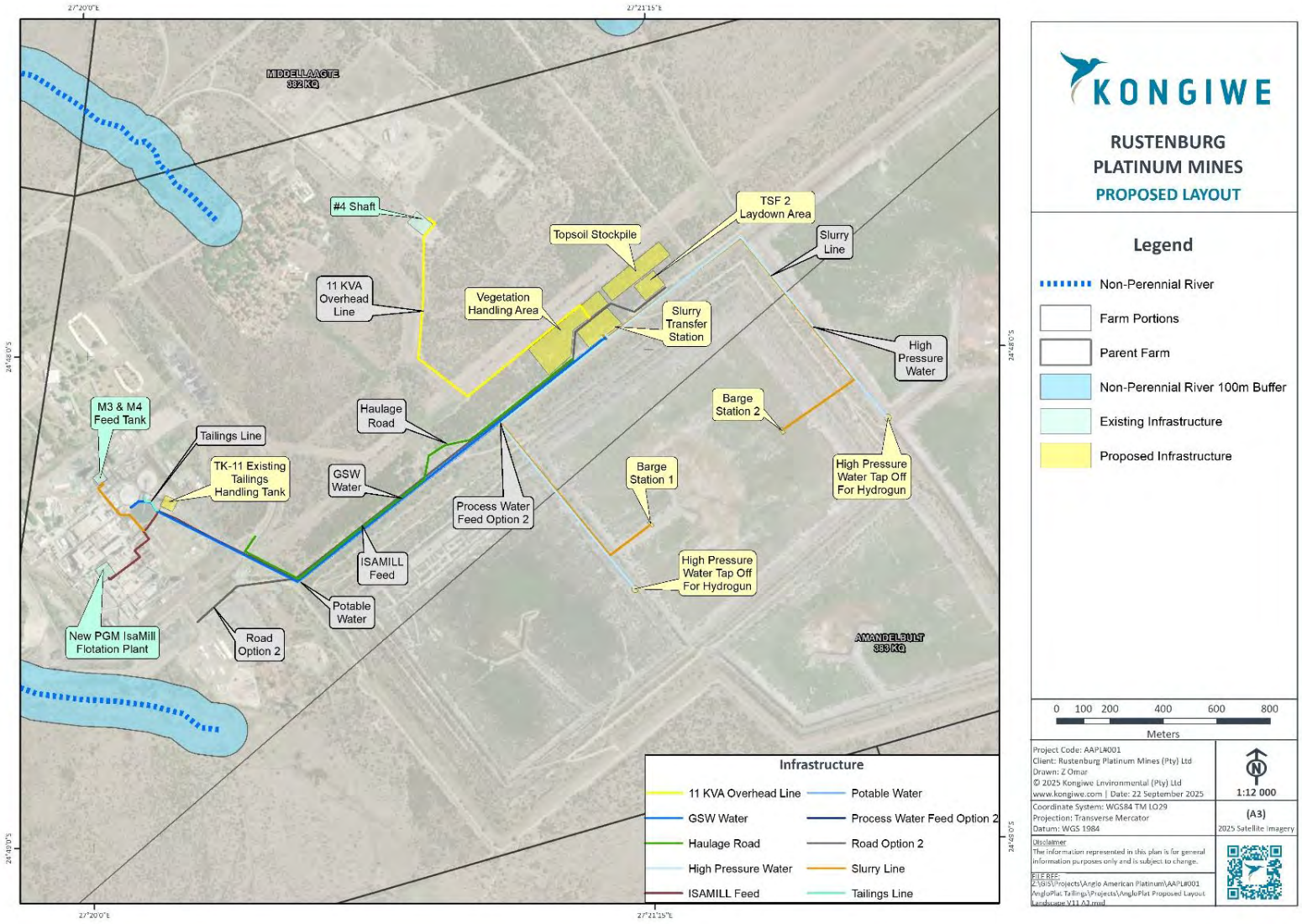

Figure 3: Project Infrastruture Map

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2. Method of Reclamation

AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

2.1 Mechanical Reclamation

This method involves the removal of dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining. An example of mechanical reclamation is indicated in Figure 4.

Figure 4: Example of a Truck and Shovel Reclamation

2.2 Hydraulic Reclamation

This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing. The barge pump will transport the slurry a short distance to the slurry transfer station, whereby the second screening of residual vegetation and oversized material will be removed, as discussed above. The vegetation will be removed from the screened area and transferred back to TSF for composting.

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Most of the screened-out vegetation will initially be removed and reworked on the TSF surface and placed in a dedicated area on top of the TSF 1 for further composting of material. Chipping and composting processes will be undertaken on TSF 1. The compost produced will have future use on the side slopes of the remaining TSF dams or other areas requiring composting for rehabilitation.

2.3 Rehabilitation

The property on which the Amandelbult TSF is situated currently belongs to Rustenburg Platinum Mine (RPM). Rehabilitation will be in line with AMB closure plans and EMPRs.

After the removal of the material from Dam 2, the footprint will be reused for future tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability. Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the area will be reused for redeposition of tailings.

2.4 Works schedule and lifecycle of the project

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2 year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18 years Life of Operation (LOO) where hydraulic and mechanical reclamation would take place. After the removal of the material from Dam 2, it is envisioned that the footprint will be reused for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB's overall Business plan and Rehabilitation strategy and Closure Plan.

Figure 5: Example of Hydraulic Reclamation

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3. Concerns raised by I&APs during the Scoping Phase

The following concerns were raised during the public consultation undertaken during the Scoping Phase:

- Socio-economic: The project should provide opportunities for skill acquisition, personal growth, job opportunities and people who must be considered for recruitment (workers and SMMEs). First preference should be given to people who reside in Thabazimbi area and nearby areas.
- Air Quality: Ensure that control measures are in place to mitigate the potential impact on air quality in the surrounding areas, due to increase in dust emissions during the activities.
- Water Quality: Evaluate potential impacts on local water sources, including surface water bodies and groundwater, assessing risks of contamination and measures to control water contamination.
- Noise and Vibration: Monitoring of impacts and developing of control measures to minimize disturbances resulting from noise and vibration.
- Waste Management: Monitoring of liquid and solid waste generated during the activities, including tailings deposition. Proper containment and disposal to prevent environmental contamination must be ensured.
- Biological Environment: The Project can have an impact on local flora and fauna due to changes in land use, potential habitat destruction and contamination from mining activities. It is important to identify and mitigate potential threats to biodiversity.
- Cumulative Effects: Ensure that cumulative effects of the proposed activity and future activities are approved and controlled.
- Mitigation Measures: Ensure mitigation measures to prevent water, air and land pollution throughout the development are in place, and continuous monitoring is done.
- Health and safety: Ensure that health and safety measures are in place throughout the reclamation process.
- Future Land use: Consideration of future land use.
- Ensure all interested and affected parties involved are considered in the application.

4. Key Baseline Conditions at the project area and surrounds

4.1 Climate

The project area falls within the Dwaalboom Thornveld vegetation, B climate type (dry climate types). The area is characterised with summer- rainfalls, dry winters and fairly request frost occurrence in winter. The Amandelbult TSF falls within the B climate type (dry climate types) which is classified as a Koppen climate zone, whereby average monthly temperature is greater than 18°C and evaporation exceeds precipitation on the average. This climate type extends northward and southward from the equator to approximately 20-35 degrees of latitude. The average temperatures within the area are greater than 18ºC. More than 80% of rainfall is measured during this period.

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4.2 Topography

The topography of the area can be described as relatively flat, with a gentle decrease in elevation towards the easterly direction of the Amandelbult Mine and has been changed with the development of the TSF in the area. The elevation ranges between 920 m and 980 m. The Amandelbult Mine is divided by the R510 road which connects Rustenburg and Thabazimbi, as well as a Transnet railway line, running parallel with the road. There are two watercourses near the Amandelbult Mine, the Bierspruit and the Crocodile River. The Bierspruit is located towards the West of the Amandelbult Mine and flows in a northerly direction, feeding into the Crocodile River. The Crocodile River is situated towards to east of the Amandelbult Mine and flows in a north-westerly direction.

4.3 Geology

The Amandelbult Mine is located within the north-west limb of the Bushveld Complex. The upper Critical Zone of the Bushveld Complex hosts the largest concentration of PGMs in the world. Although the Merensky Reef is generally regarded as a uniform reef type, large variations occur in reef thickness, reef composition, as well as the position of the mineralisation. The UG2 Reef is developed some 20 to 400 meters below the better known Merensky Reef.

The mining area is comprised of mafic and ultra-mafic rocks, with three reefs present beneath the mining area, which are the Merensky reef, Upper Group Chromite layer no.2 (UG2) and the Lower Pseudo Reef (P1).

4.4 Soil and Agricultural Potential

The majority of the proposed site is classified on the screening tool indicates that the 50 m buffer of the Proposed Project area falls within the **'Low to High'** agricultural sensitivity.

The baseline soil findings, current land uses and the calculated land potential dispute the agricultural theme tool, in areas demarcated with **"High"** land capability sensitivities and further concur to an extent with the agricultural theme tool on areas demarcated with "**Very Low to Low"** and "**Low-Moderate to Moderate."** No high potential soils or active crop production were identified within the 50 m buffer of the Proposed Project area.

4.5 Biodiversity

The habitat units for the project area can be seen delineated in Figure 6. Three (3) main habitat types were identified across the Amandelbult Reclamation and Processing of the TSF and include:

- Disturbed Bushveld.
- Water Resources (Wetlands and Artificial Wetlands).
- Modified.

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The sensitivities associated with each theme are detailed in Table 3, where they are marked as either disputed or validated. A summative explanation for each result is provided as relevant. The specialist assigned sensitivity ratings are based largely on the Site Ecological Importance (SEI) process refer to Figure 6, and consideration is given to any observed or likely presence of Species of Conservation Concern (SCC) or protected species.

Table 3: Summary of the Screening Tool vs Specialist Assigned Sensitivity

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Very Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
		Water Resources	Medium	Disputed – Even though disturbed, the ecological integrity, importance and functioning of these areas play a crucial role as a water resource system locally and regionally, and an important habitat for various fauna and flora.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna SCC may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No SCCs observed or expected.

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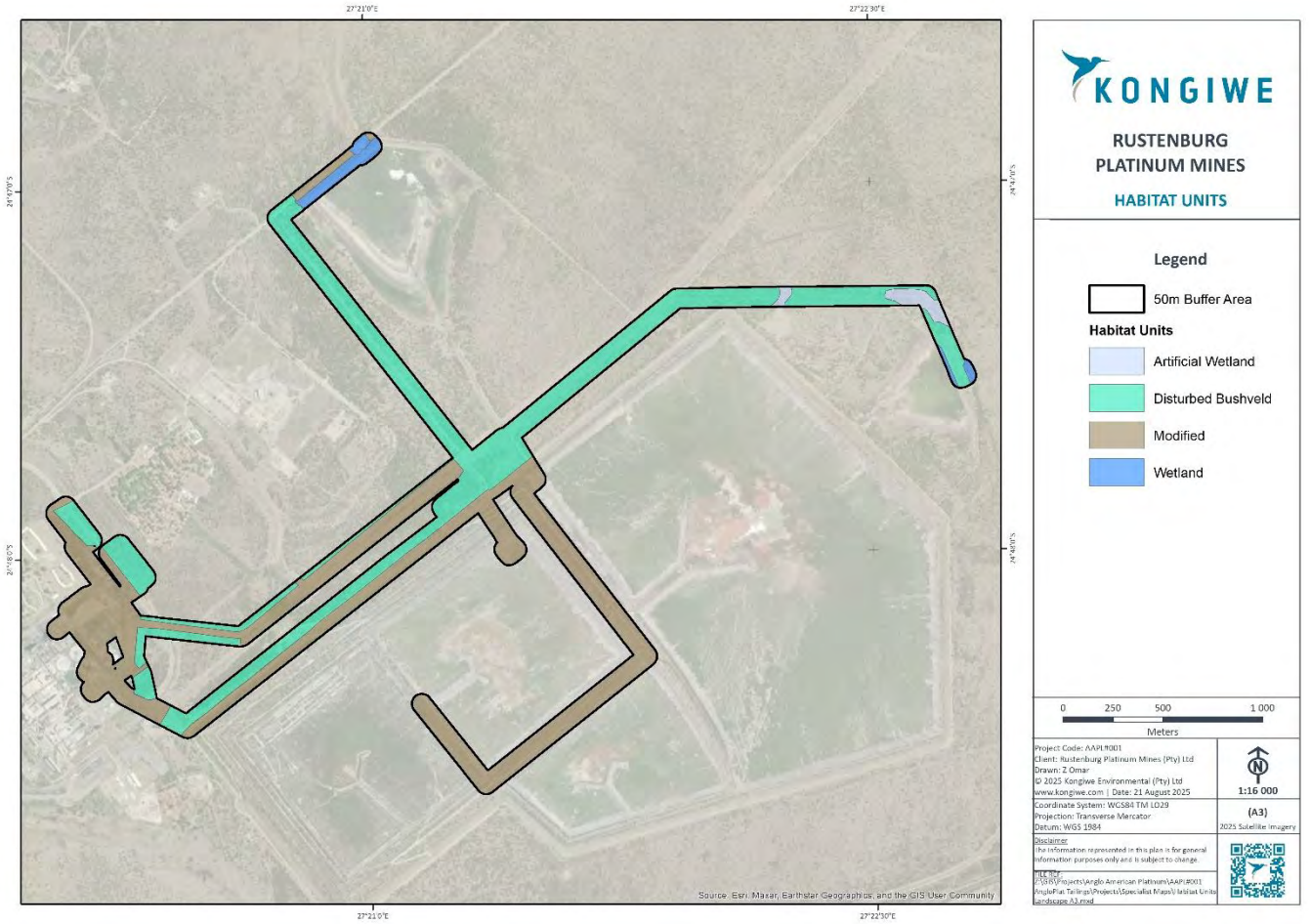

Figure 6: Habitats Identified within the Proposed Amandelbult Project Area

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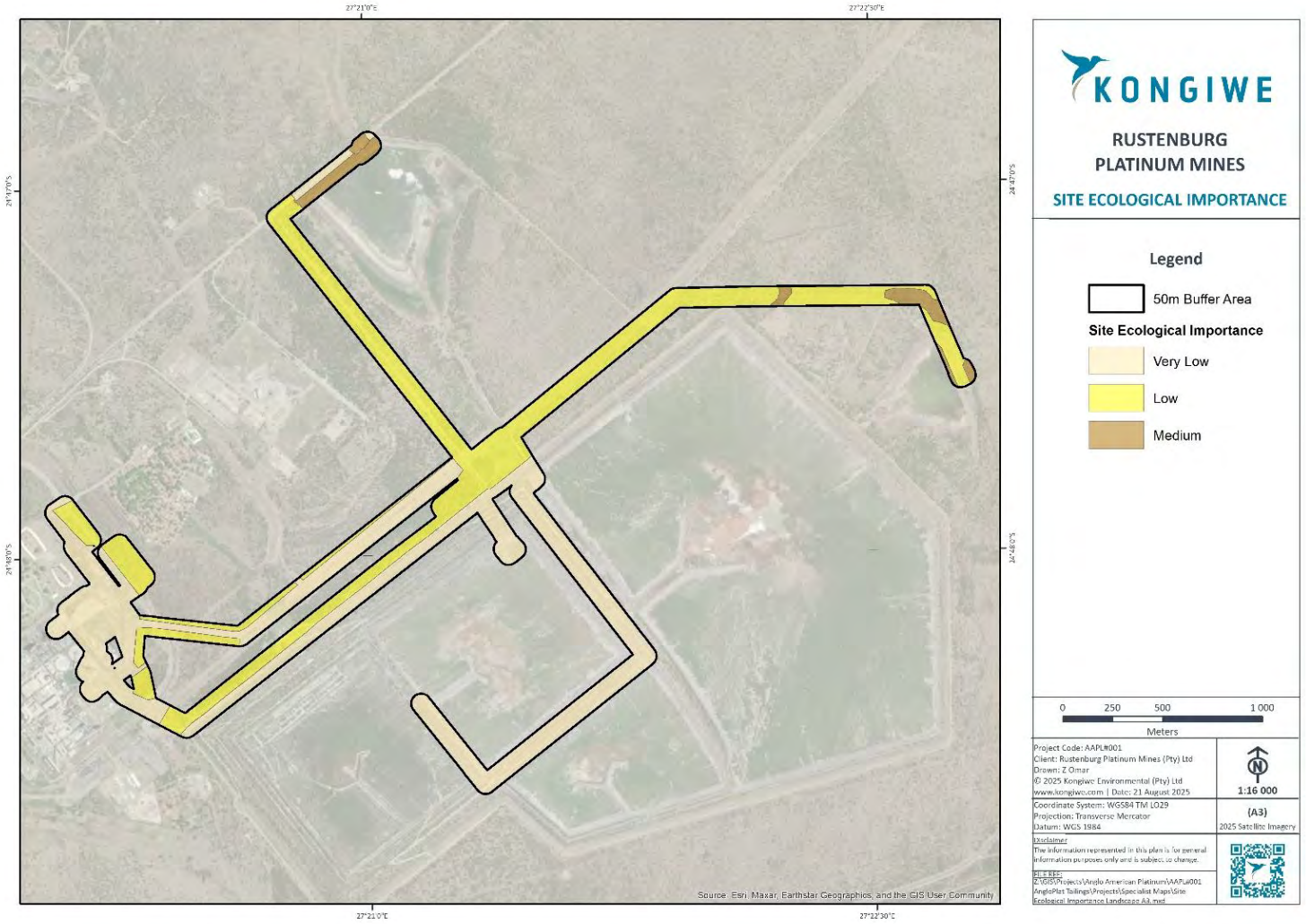

Figure 7: Map Illustrating the Site Ecological Importance for the Project Area of Influence (PAOI)

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4.6 Wetlands

The Proposed Project falls outside wetlands and artificial wet areas within the proposed area, including artificial depressions, dams and drainage features.

The proposed project falls outside of the 500-meter buffer around any identified wetlands as identified were identified in Figure 8. These are grouped into a single Hydrogeomorphic (HGM) unit due to their similar function and state. Additionally, several artificial wet areas were observed within the PAOI, including artificial depressions, dams, and drainage features. The proposed TSF infrastructure does not intersect the artificial depressions, and the Hydrogeomorphic (HGM) unit and dams are situated more than 500 m away from the development footprint. the proposed development. All other identified features are effectively avoided by the development area. The specialist assigned sensitivity ratings presented herein consider the presence of features, their size and the ecological characteristics of the wetlands. The sensitivities associated with each theme are detailed in Table 4, where they are marked as either disputed or validated.

Table 4: Summary of the Screening Tool vs Specialist Assigned Sensitivities

Feature	Screening Tool Theme	Screening Tool	Specialist Finding	Tool Validated or Disputed by Specialist - Reasoning
HGM 1	Aquatic Biodiversity Theme	Low	Very High	Disputed – Natural wetlands were identified which provide moderate levels of ecological benefit. These are however entirely avoided by the preferred option.
15 m Buffer	Aquatic Biodiversity Theme	Low	Moderate	Disputed – While the buffer areas do not necessarily represent freshwater features, their conservation is imperative to limiting impact to the wetlands as they form the periphery of the wetlands thereby having spatial connectivity to the wetlands. The sensitivity of the buffers is therefore determined by the landscape and the sensitivity of the features they encompass. These are however entirely avoided by the preferred option.
Artificial Wet Areas, Drainage Feature, Stormwater Channel	Aquatic Biodiversity Theme	Low	Low	Validated – These are artificial features which do not have natural ecological sensitivity and would cease to exist if the artificial hydrological inputs are stopped and if the landscape was returned to its pre-disturbed state. Furthermore, while wetland vegetation was observed within the artificial wet areas, these areas are not considered to have functionality as a fully-fledged natural wetland. These are however entirely avoided by the preferred option.

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Feature	Screening Tool Theme	Screening Tool	Specialist Finding	Tool Validated or Disputed by Specialist - Reasoning
Remaining Area	Aquatic Biodiversity Theme	Low	Low	Validated – No natural surface water features were identified within these areas. These are however entirely avoided by the preferred option.

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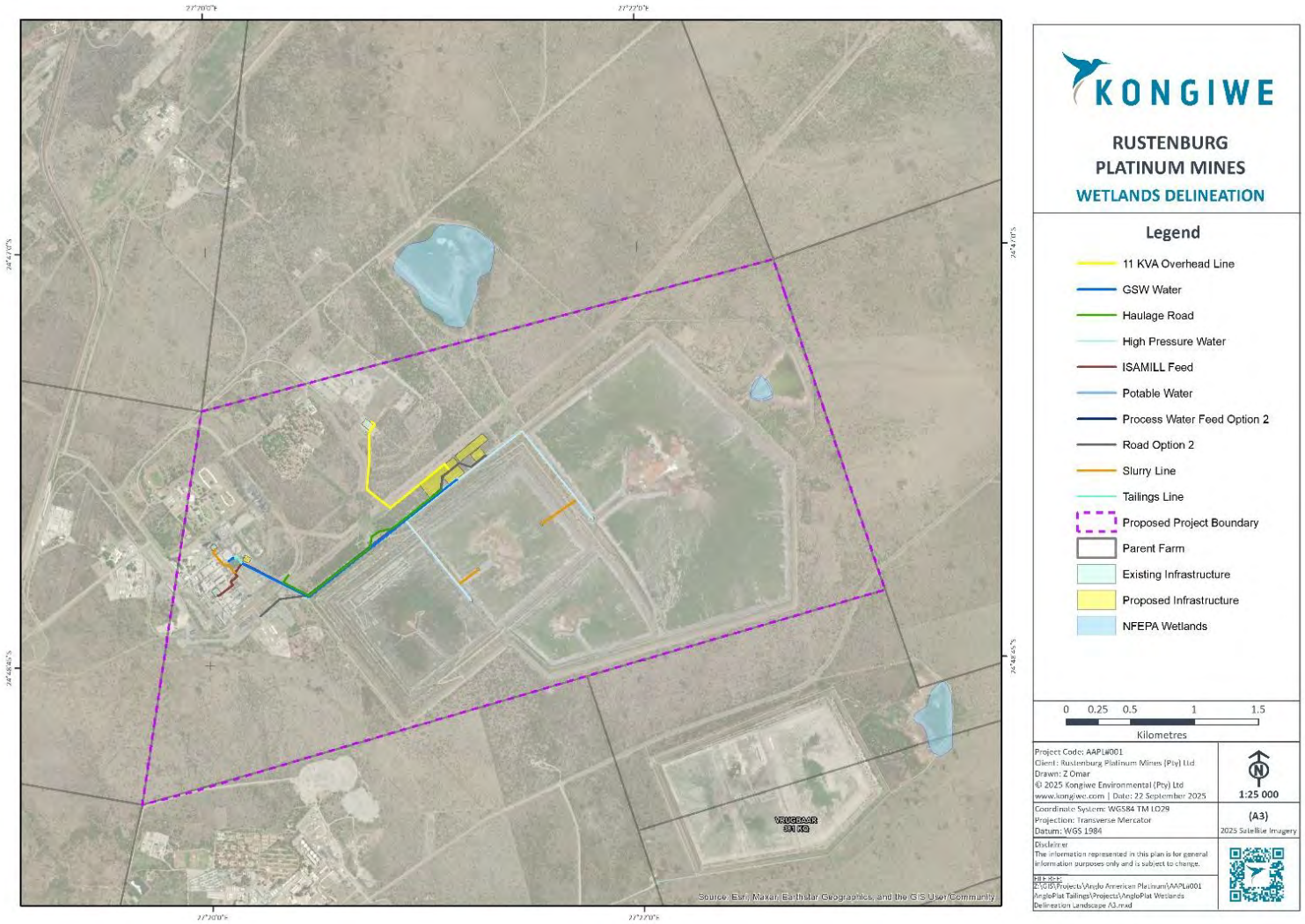

Figure 8: Delineation of Wetland Features within the Project Area of Influence

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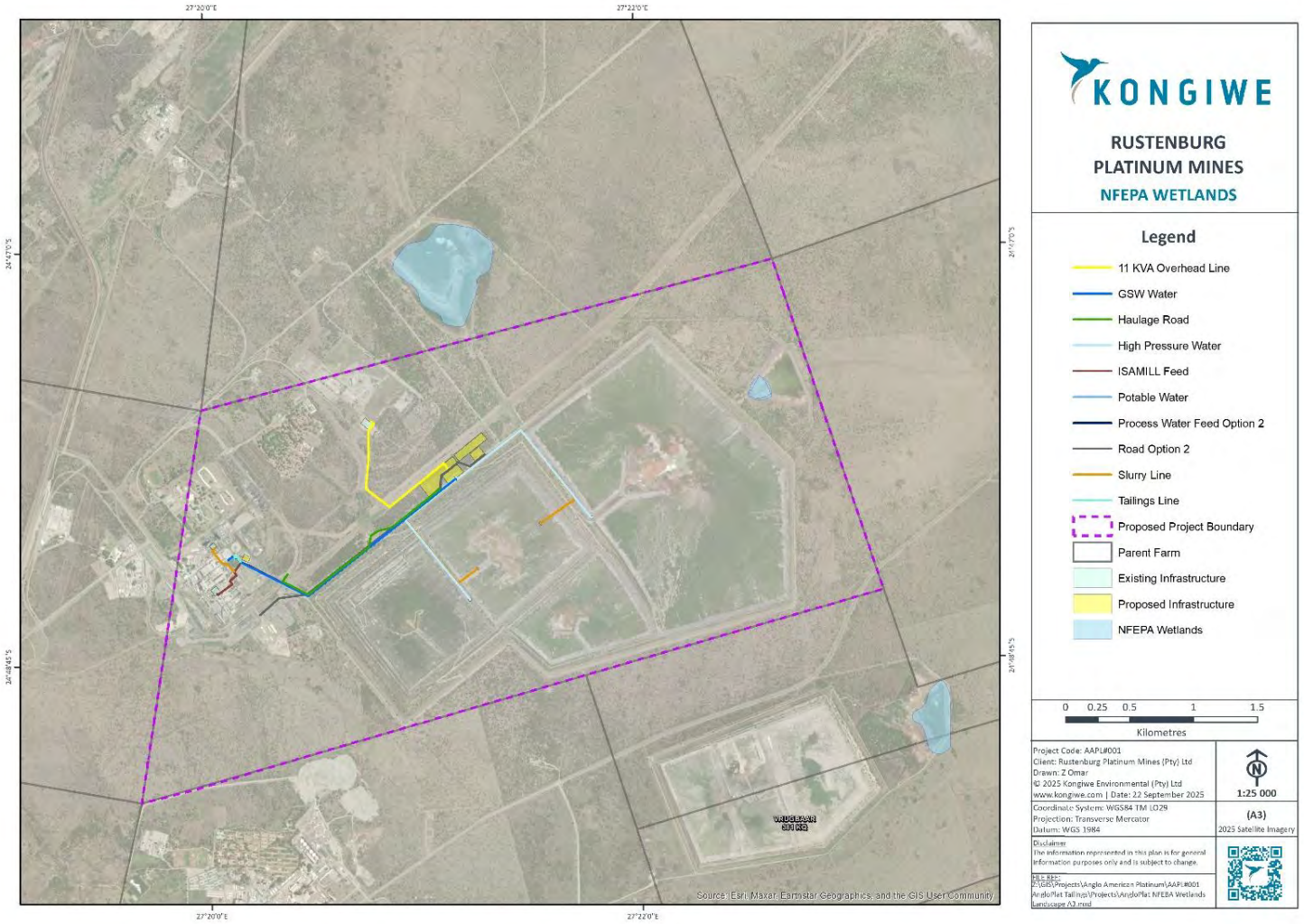

Figure 9: NFEPA Wetlands Map

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4.7 Surface water within contained structures on site

The Proposed Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit). The western part of the mine falls within the A24F catchment area and drains mainly northward and westward towards the non-perennial Bierspruit. The Middellaagtespruit is a tributary of the Bierspruit near the TSF area. The eastern part of the mine falls within the A24C catchment and drains mainly north-eastwards and eastwards via a few small ephemeral streams towards the perennial Crocodile River. The sampling locations are indicated and summarised in Table 5.

Table 5: Description of the Locations of the Surface Water Quality Monitoring Points within Infrastructure on Site

Monitoring Location	Description of Location	Latitude*	Longitude*
AMD J (AMC 02)	Return Water Dam	-24.78177	27.35029
AMD U (AMC 01)	Holding Dam	-24.79265	27.37930
AMD T1 (AMC t1)	Holdings trench	-24.79565	27.35788
AMD T2 (AMC 03)	Trench from plant to Stormwater Dam	-24.80627	27.33068
CRP Stormwater Dam	CRP Stormwater Dam	-24.80382	27.33265
Kilken Turf Dam	Kilken Turf Dam	-24.80348	27.33614

The following provides a summary of the water quality in contained structures on site, reused in a closed loop system:

- pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit.
- Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit.
- Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water.
- Sodium and chloride exceeded the limits at all of the monitoring points during most months.
- Elevated levels of nitrate were recorded at most of the monitoring points.
- Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points.
- E.coli was elevated at all monitoring points.

In summary, the water quality of the dirty water circuit at AMB can be described as having a neutral to alkaline pH, being very saline and hard, as well as having elevated nitrate, heavy metals and E. coli.

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4.8 Groundwater

Some of the boreholes tested by Water Hunters were included in the 2025 Hydrocensus. All the Hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the Hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m. The depth of the groundwater table varied between 0.52 m and 11.98 m below surface.

The Hydrocensus survey included accessible areas within a 2.5 km radius from TSF 2 and concentrated on identifying existing boreholes to enhance the knowledge of the groundwater movement and groundwater use. Sixteen (16) boreholes were identified, all on AMB properties.

All 16 boreholes are used or were historically used for groundwater monitoring purposes. Some of the boreholes around the RWD were drilled to serve as scavenger boreholes, but to date they were only used for groundwater monitoring purposes.

Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole. The height of the borehole collar was subtracted from the measured water level to define a water level below surface (measured in m bgl). Groundwater samples were also collected, where possible.

Groundwater level measurements were possible from 15 of the 16 boreholes. It is shown that groundwater levels in the region varies, and this is possibly associated with the mining activities, recharge from the TSFs and mine dams, or open fractured aquifer systems. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line). The boreholes adjacent to the Return Water Dam (RWD)and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.

Based on the water quality results the following conclusions were drawn (SANS 241:2015 comparison):

- **Health Effects:**
  - **Iron** – An elevated iron concentration was measured for borehole EMPR15 (upgradient BH), with an Iron concentration of 4.33 milligrams per litre (mg/L), versus the maximum allowable concentration of 2 mg/L. This borehole is on the northern perimeter (upgradient) of TSF 2 and TSF 3A. The Total Iron concentration at EMPR 08 (downgradient) was 0.034mg/L and the Total Iron concentration was below the detection limit for the toe drain sample (downgradient).
  - The concentration of dissolved Iron in potentially related to the historic mining activities and is dependent on the occurrence of other heavy metals, such as manganese, and the pH of the water.
  - **Manganese** – Manganese is a relatively abundant element, constituting approximately 0.1% of the earth's crust. Borehole EMPR15 measured a Manganese concentration that exceeds the health impact limit – 0.66 mg/L versus the maximum allowable concentration of 0.4 mg/L. Manganese tends to precipitate

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out of solution to form a black hydrated oxide which is responsible for staining problems. The Manganese concentration at the other two sampled sites exceeds the aesthetic limit (0.1 mg/L), but was still below the health impact limit of 0.4 mg/L.

- **Sulphate** – Sulphate forms salts with various cations such as potassium, sodium, calcium, magnesium, barium, lead and ammonium (DWAF, 1996). Sulphate is a common constituent of water and arises from the dissolution of mineral sulphates in soil and rock. Since most sulphates are soluble in water it tends to accumulate to progressively increasing concentrations. Contamination by sulphate is to be expected in waters contaminated by mining activities, due to the oxidation of sulphides in the ore and waste.
- The Sulphate concentration was elevated for all three sampled sites, with the concentrations varying between 634 mg/L and 689 mg/L for the boreholes, and 941mg/L for the toe drain sample. The health limit is set at 500 mg/L.

- **Aesthetic / Operational Effects:**
  - **Sodium** – Sodium is abundant in the environment and usually occurs as sodium chloride, but sometimes as sodium sulphate, bicarbonate or even nitrate (DWAF, 1996). Sodium is highly soluble in water and does not precipitate when water evaporates, unless saturation occurs. Borehole EMPR15 (438 mg/L) and toe drain 27 (486 mg/L) present elevated Sodium concentrations that exceed the aesthetic limit (200 mg/L) for drinking water. With the reuse or recycling of water, the sodium concentration will tend to increase with each cycle or addition of sodium to the water. For this reason, sodium concentrations are elevated in runoffs or leachates.
  - **Chloride** – Elevated chloride concentrations were measured at all sampled sites with the measured concentrations varying between 513 and 969 mg/L. The chlorides of sodium, potassium, calcium and magnesium are all highly soluble in water. Once in solution chloride tends to accumulate.
  - Ammonium – The chemistry of ammonia is very complex, especially where transition metals are present in water, and while ammonia itself is of relatively low toxicity, this is not necessarily the case for some of its organometallic complexes (DWAF, 1996). Taste and odour complaints are likely to occur if the ammonia concentration exceeds 1.5 mg/L. High concentrations of ammonia can also give rise to nitrite, which is potentially toxic, especially to infants (DWAF, 1996). Water collected from toe drain 27 presented an elevated Ammonium concentration (4.7 mg/L) that exceeds the aesthetic limits for drinking water with the aesthetic limit set at 1.5 mg/L.
  - The SANS 241 guideline limits for EC and TDS were exceeded for all sampled sites. EC level varied between 287 and 422 mS/m. TDS varied between 2039 and 3114 mg/L.
  - **Total Hardness** – Very hard total hardness values were measured at all three sampled sites. Water hardness is influenced by the presence of calcium and magnesium salts. Other metals such as strontium, iron, aluminium, zinc and manganese may occasionally contribute to the hardness of water, but the calcium and magnesium hardness usually predominates. The Total Hardness values vary between 1454 mg/L and 1755 mg/L.

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- **Turbidity** – The turbidity value was elevated for all sampled sites. The boreholes are not in use and the sampling possibly disturbed the silt inside the borehole cavity. The water from toe drain 27 is associated with consistent water flow, with possible suspended matter in the water. Toe drain 27 presents a much lower Turbidity value.

The numerical modelling is based on the following assumptions:

- Assumed values will be used to characterise the specific yield of the shallow weathered aquifer as well as the rate of recharge.
- Although faults and geological structures were intersected in the underground workings north of TSF 2, there is currently no information available that suggests that any of these extend to surface or to underneath the Amandelbult TSFs. This is of specific reference to the fault zones associated with the Middellaagte graben that extends to the TSF3A footprint.
- There is currently also no field measured data that suggests enhanced aquifer conditions for the projected faults positions. For the purpose of this assessment, it is therefore assumed that no significant faults or intrusions are present underneath the TSFs, that could act as preferential flow paths to groundwater.
- Only the faults associated with the Middellaagte graben are considered in this study. These are located northeast of TSF 2 and do not transect the TSF2 footprint area.
- It is however recommended that the hydraulic characteristics of the fault zones associated with the Middellaagte graben are investigated and confirmed.
- It is assumed that current underground and opencast mining activities will not affect groundwater levels during the reclamation of TSF 2. The current dataset suggests that the zone of impact on groundwater levels, because of mining, does not extend to the Amandelbult TSFs. It is further assumed that future mining activities that will move towards the TSFs will also not affect groundwater levels since the depth of mining will exceed 1300 m below surface. This is due to the vertical separation between the shallow aquifers underneath the TSFs and the underground workings.
- The source characterisation used for the project was inferred from the existing dataset. As leach test data was not made available for the tailings material, the source term was inferred from the groundwater and dirty water monitoring dataset.
- The Precautionary Principle was followed in the absence of specific geochemical information.
- Only advective transport of contaminants was simulated. While it is acknowledged that attenuation will take place in the soils, there is currently insufficient information available to quantify the extent to which this takes place. As such, simulations are based on the Precautionary Principle and take the worst-case scenario into consideration.
- The plan-view extent of the numerical model is based on natural groundwater barriers including water divides, as well as rivers and streams. It is assumed that the vertical extent of potential impacts associated with the TSF will not extend deeper than 100 m below surface.

No risk of decant was identified for this project.

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4.9 Air Quality

The main objective of the air quality impact assessment is to determine the significance of impacts on the receiving environment and sensitive receptors given emissions generated by activities proposed as part of the project and recommend suitable management and mitigation measures.

An emissions inventory lists all sources that would generate pollutants of concern such as construction activities, processing emissions, vehicle-entrained dust emissions, Tailings emissions, and Emissions from materials handling operations. PM stands for Particulate Matter, which is a mix of tiny solid particles and liquid droplets suspended in the air. These particles vary in size, origin, and chemical makeup. PM10 represents larger particles that generally irritate the nose and throat and PM2.5represents fine particles that can enter the lungs. The activities and the associated emissions are outlined below together with potential mitigation measures. Because the Amandelbult project area lies within the declared Waterberg-Bojanala Priority Area (WBPA) where particulate matter is one of the major pollutants of concern all aspects of the reclamation project should be mitigated to keep emissions to a minimum. The location of the modelled discrete receptors with their elevation and coordinates presented in Table 6 below:

Table 6: UTM Coordinates and Elevation of Modelled Receptors

Modelled Receptor	Description	UTM Coordinates	Elevation (m)
1	Closest school west-north-west of Amandelbult TSF Dams 1, 2, 3A and 3B	534478.00 m E 7257436.00 m S	970.69
2	Closest house south-west of Amandelbult TSF Dams 1, 2, 3A and 3B	534230.00 m E 7254419.00 m S	985.38
3	Closest house east of Amandelbult TSF Amandelbult TSF Dams 1, 2, 3A and 3B	540207.00 m E 7257386.00 m S	949.91

A comparison of maximum modelled concentrations at the discrete receptors for the three modelled scenarios is presented in Table 7. The modelled concentrations show that the greatest impact of the reclamation process on sensitive receptors will be experienced to the northwest of the Amandelbult TSF Dams 1, 2, 3A and 3B at the Rethabile Primary School and surrounding residential area. The importance of mitigation is also clearly illustrated. This is even more important considering that the mine and its TSF Dams are located in the Waterberg-Bojanala Priority Area where particulate matter concentrations are generally raised.

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Table 7: Comparison of Maximum Modelled Concentrations at the Three Discrete Receptors for the Three Modelled Scenarios

Averaging Time	Discrete Receptor	Maximum Modelled Concentration (µg/m3)		
		Status Quo Scenario	Worst-Case Reclamation Scenario	Mitigated Scenario
PM10 24 hours (99th percentile)	1	22.6	66.8	44.9c
	2	14.5	21.8	16.9c
	3	6.4	16.3	6.5c
PM2.5 24 hours (99th percentile)	1	9.4	10.1c	9.2
	2	5.7	6.0c	5.1
	3	2.5	2.4	2.3c

Three scenarios were simulated – a status quo scenario showing the current emissions from all of the Amandelbult TSF Dams before the start of the reclamation process; a worst-case scenario; and a mitigated scenario. The dispersion of particulate matter was modelled up to a distance of 5 km from a central point. The Maps below represented isopleths/lines of the status quo modelling results are given in Figure 10 to Figure 17 below:

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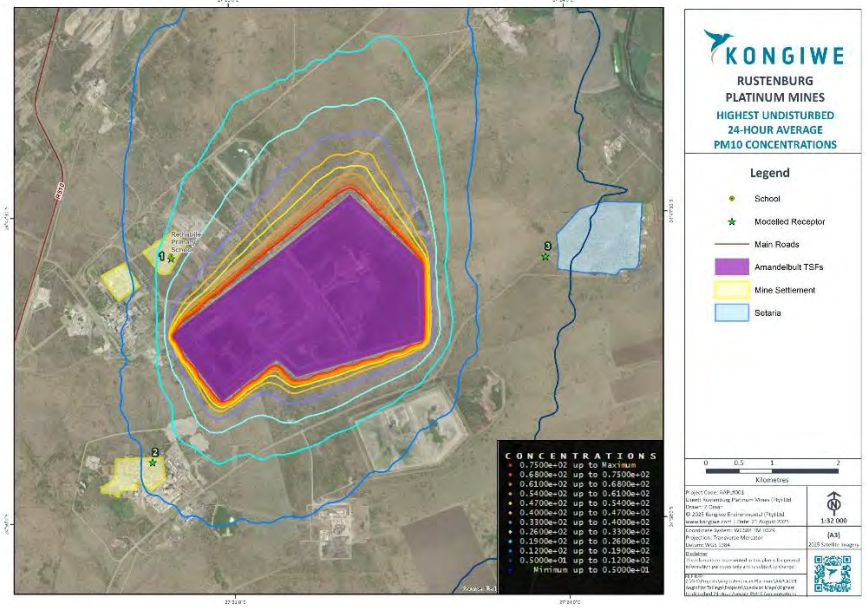

Figure 10: Modelled prediction of highest 24-hour average PM10 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

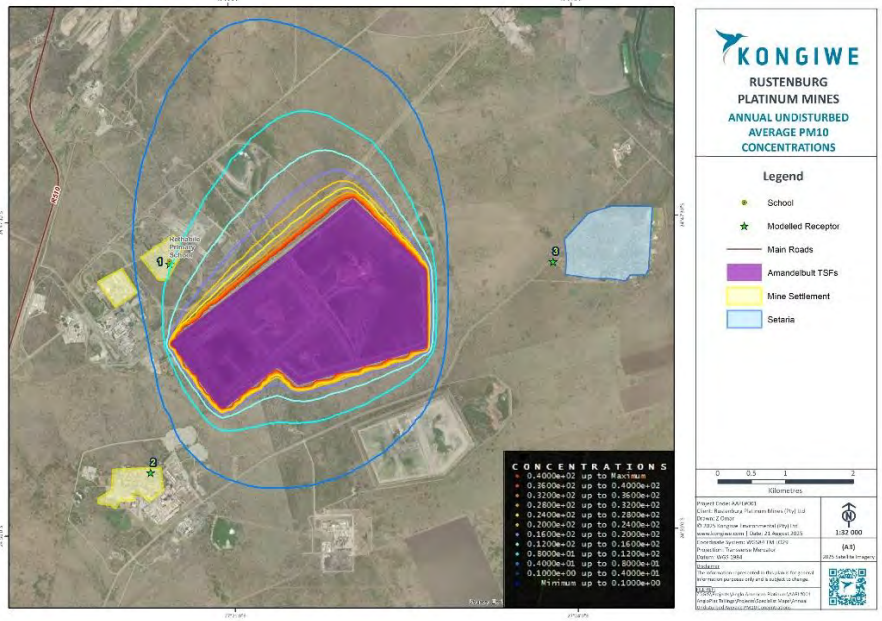

Figure 11: Modelled prediction of the annual average PM10 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

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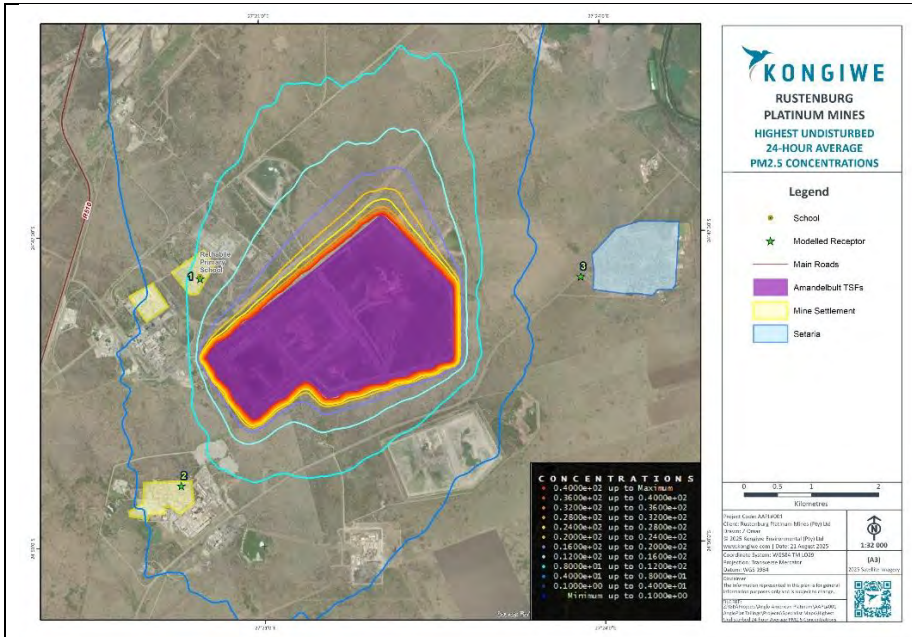

Figure 12: Modelled prediction of the highest 24-hour average PM2.5 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

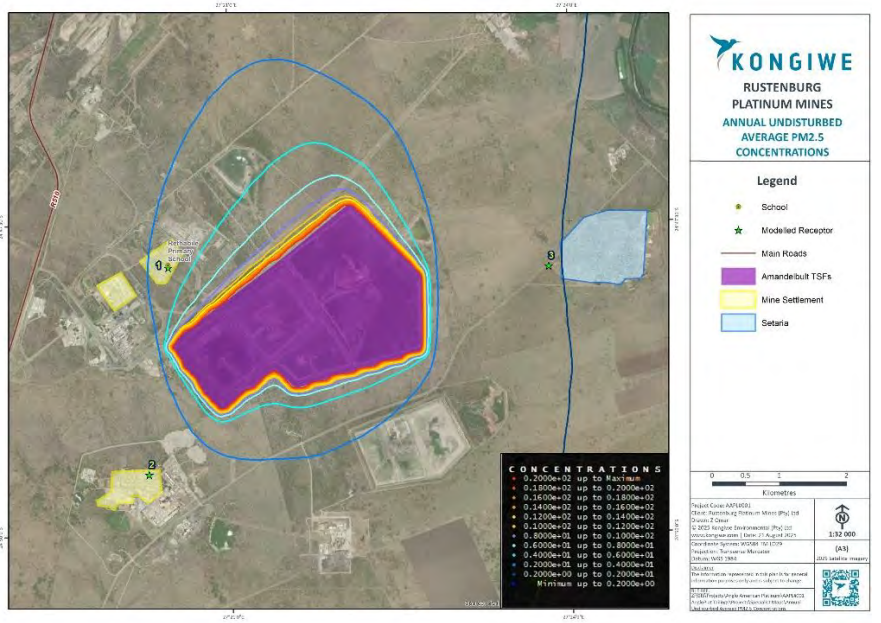

Figure 13: Modelled prediction of annual average PM2.5 concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

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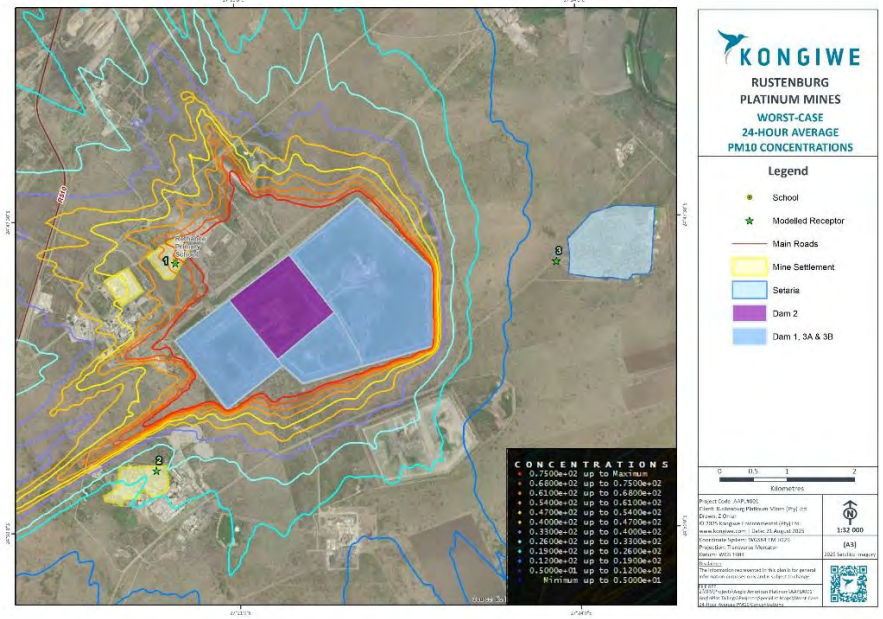

Figure 14: Modelled prediction of the worst-case 24-hour average PM10 concentrations resulting from reclamation at Amandelbult TSF Dam 2.

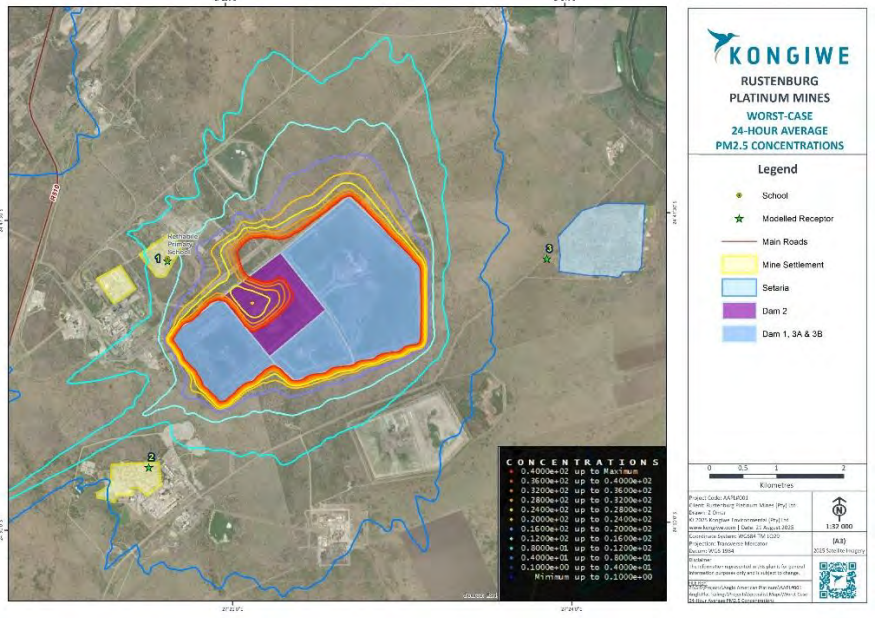

Figure 15: Modelled prediction of the worst-case 24-hour average PM2.5 concentrations resulting from reclamation at Amandelbult TSF Dam 2.

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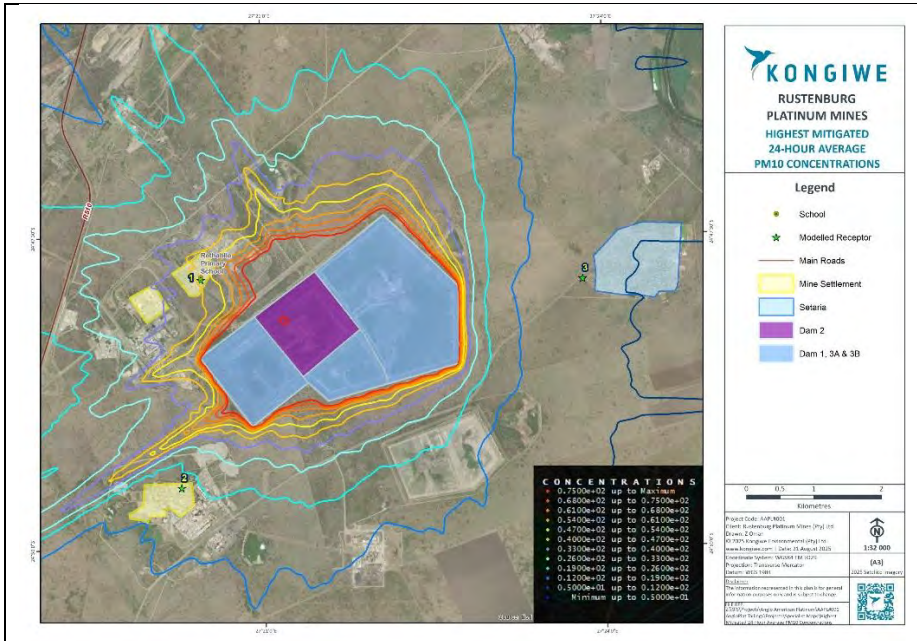

Figure 16: Modelled prediction of the highest 24-hour average PM10 concentrations resulting from the mitigated reclamation scenario.

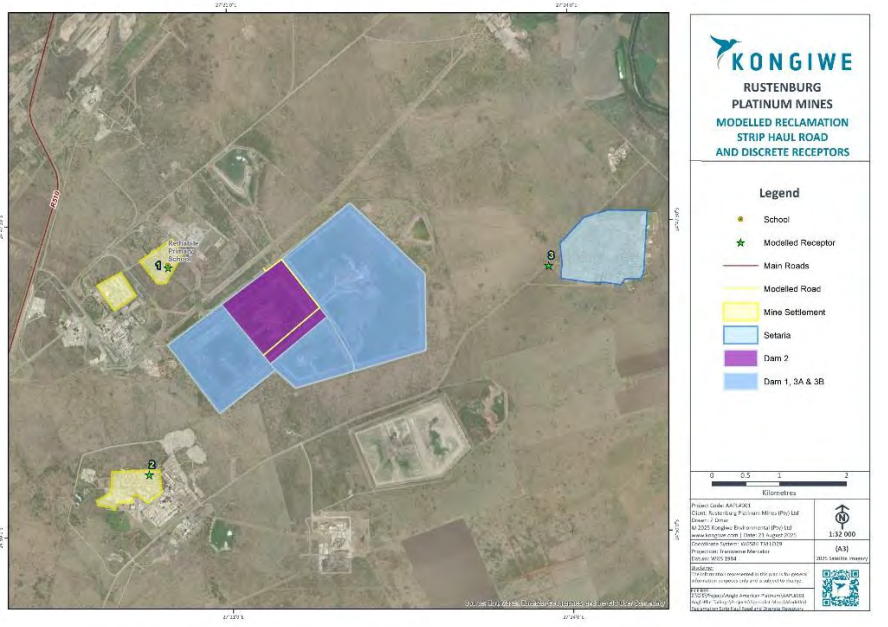

Figure 17: Modelled reclamation strip haul road and discrete receptor

4.10 Noise

Natural sounds are a part of the environmental noise surrounding humans. Ambient sound levels are significantly affected by the area where the sound measurement location is situated. When the sound measurement location is situated within an urban area, close to industrial plants or areas with a constant sound source (ocean, rivers, etc.), seasons and even increased wind speeds have an insignificant to massive impact on ambient sound levels.

The Proposed Project site is in an area with a mixed-use development character. The major noise sources in the area include vehicular traffic on the national and provincial roads in the areas, noises from the local communities and mining related noises.

Considering the average fast-weighted sound level data collected in the area, average:

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- Daytime fast-weighted sound levels ranged from 32 to more than 70 dBA, with average sound levels being 47.3 dBA. This is typical of a rural to suburban noise district, setting a zone sound level of 45 dBA for the daytime period; and
- Night-time fast-weighted sound levels ranged from 37 to 56 dBA, with average sound levels being 45.1 dBA. This is typical of an urban noise district, setting a zone sound level of 45 dBA for the night-time period.
- Considering the requirements of the Noise Control Regulations (NCR) activities relating to the Proposed Project should not change the existing ambient sound levels with more than 7 dBA, nor exceed the WHO and IFC noise limits. Recommended upper noise limits therefore would be:
- 55 dBA (as recommended by the IFC, which is less than 7 dBA from the average ambient sound levels measured in the area) for daytime residential use; and
- 48 dBA (as recommended by the IFC) for night-time residential use (3 dBA is added as the existing sound levels already exceed 45 dBA).

The mine should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period and 60 dBA at night for a 70 dBA day-night noise limit).

4.10.1 Evaluation of Alternatives

Alternative 1: No-go Option

The ambient sound levels will remain as is and the area would keep the existing noise character.

Alternative 2: Proposed Approval of the Mining Project

The proposed development will raise the noise levels at the closest potential NSR, with the highest impact relating to NSR staying within 500 m from the project activities. Noises created by the project could be audible up to 2,000 m from the project area. Members of the local community may consider the increased noise levels to be annoying and even disturbing at night (with the beeping from reverse alarms frequently reported by receptors to be highly annoying). The residential community are however also directly linked to the operation, which would also foster a more positive attitude towards to future noise levels.

The project however will greatly assist in the economic growth and development challenges South Africa is facing by optimising the extraction of the mineral resource. This will assist in providing additional employment and business opportunities for the local communities. Considering only noise, people in the area not directly affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project. A noise model was developed to illustrate the potential existing noise level contours, with the locations of the various noise sources conceptualised. The projected existing noise levels are illustrated in Figure 18 and defined per Noise-sensitive Receptor (NSR) for the daytime period. These noise levels were used to estimate potential cumulative noise levels for Scenarios 2 and 3; and Figure 19 as well as defined per Noise-sensitive Receptor (NSR) for the night-time period. The noise levels were used to estimate potential cumulative noise levels for Scenarios 2 and 3 which are Projected noise rating levels are illustrated in Figure 20 and defined for the daytime period; and Figure 21 and defined for the night-time period.

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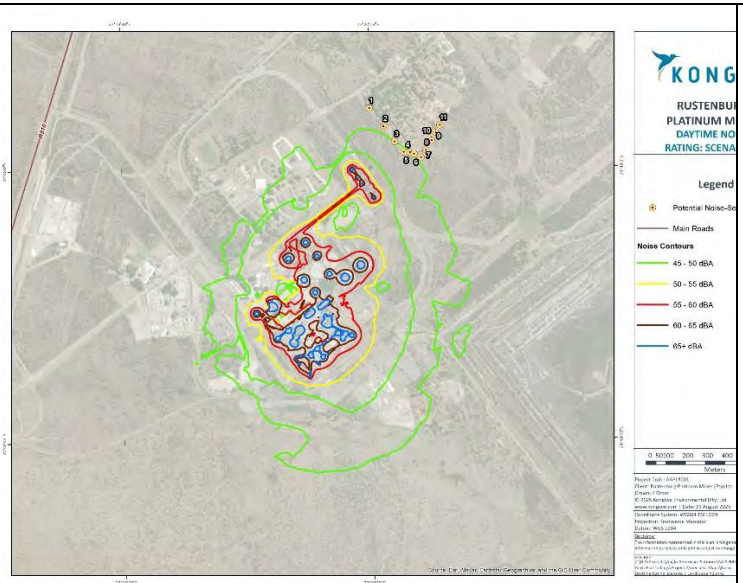

Figure 18: Projected daytime noise rating levels relating to the existing operational activities (scenario 1)

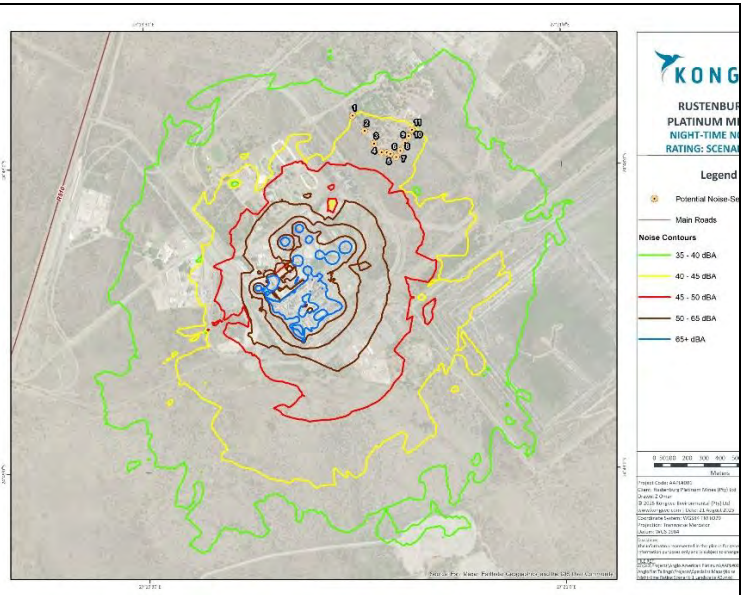

Figure 19: Projected night-time noise rating levels relating to the existing operational activities (scenario 1)

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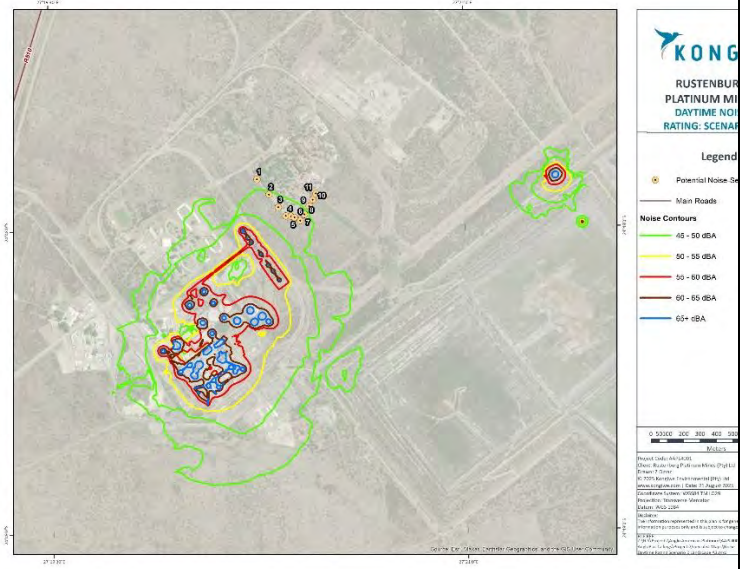

Figure 20: Projected cumulative daytime noise rating levels conceptual operational activities (scenario 2)

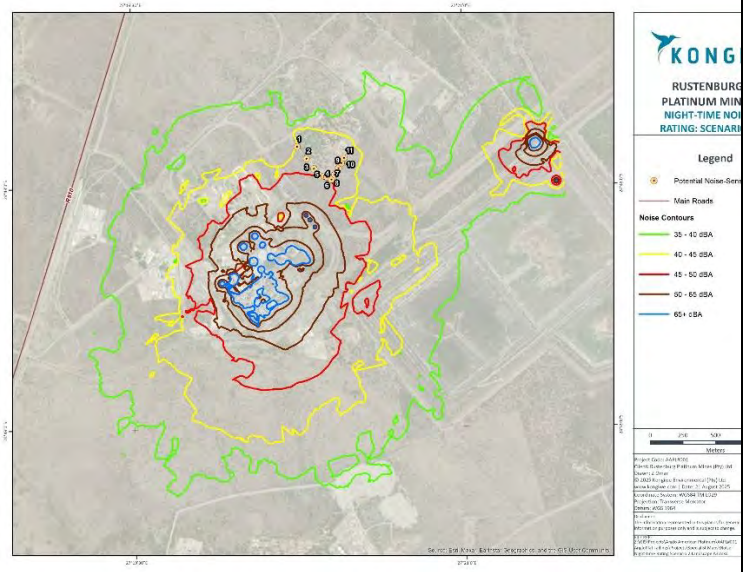

Figure 21: Projected cumulative night-time noise rating levels conceptual operational activities (scenario 2)

4.11 Cultural and Heritage Aspects

As no heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as **MEDIUM NEGATIVE** before and **LOW NEGATIVE** after mitigation if a chance finds procedure is followed.

Based on the SAHRIS Palaeontological Sensitivity Legend depicted in Figure 22, the approximate location of the study area—outlined in red—falls within the grey zone, indicating an insignificant or zero level of palaeontological sensitivity. According to the Palaeontological Sensitivity of study area is **Low**. No further studies will be needed.

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Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 22: SAHRIS Palaeontological Sensitivity Legend

4.12 Socio-economic

The project will have positive impacts on local employment during the construction and operational phases. Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.

Do to the Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years. These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures (

Table 8).

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Table 8: Summary of Socio-Economic Impacts

Impact Description	Before Mitigation Significance	After Mitigation Significance	Cumulative Impact
Construction Phase			
Employment and Income	Low+	Medium +	No
Informal influx of job-seekers	Low-	Low -	Yes
Nuisance factors	Low -	Low -	Yes
Operational Phase			
Employment and Income	Medium +	Medium +	No
Informal influx of job-seekers	Medium -	Medium -	Yes
Nuisance factors	Medium -	Medium -	Yes
Community health and safety	Medium-	Medium -	Yes
Impact on adjacent farmers	Low -	Low -	Yes
Post- Closure			
Unlocking of land	Medium +	Medium +	No
Cessation of employment	Medium -	Medium -	No

Employment opportunities created by the Project during the construction and operational Phase period include:

- Direct employment provided on the Project itself,
  - AMB plans to use its existing personnel on the project. This means that the project will create limited additional employment for the local community but will provide job security for the current personnel.

- Indirect employment through the procurement of inputs/supplies
  - AMB to source where possible from local suppliers, HDSAs and Small, Medium and Micro sized Enterprises (SMMEs).

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- Preference should be given to capable subcontractors who are based within the local municipal area.
- Communicate the local employment strategy clearly to the local communities adjacent to the mine.

Induced employment generated through an overall increase in income due to higher income levels of direct employees and suppliers.

5. Specialist Studies and Impact Assessment

The Table 9 below outlines all the specialist studies triggered and undertaken for the Amandelbult Tailings Storage Facility Reclamation and Processing Project, each of which assessed potential impacts across the Construction, Operational, and Decommissioning phases, and proposed corresponding mitigation measures detailed in the section that follows.

Table 9 : Specialist Studies undertaken for EIA Phase

Specialist Studies Undertaken	
Terrestrial Biodiversity Impact Assessment	Surface water Impact Assessment
Wetland Impact Assessment	Groundwater Impact Assessment
Soil and Agricultural Compliance Impact Assessment	Air Quality Impact Assessment
Heritage & Palaeontological Impact Assessment	Noise Impact Assessment
Social Impact Assessment	

6. Impact Rating

Table 10 below represents a summary of the significance of impacts identified during the project lifetime for each environmental aspect. Impacts are expected to occur predominantly during the construction and operation phases, and to a lesser extent during decommissioning and closure.

Table 10: Risk Matrix of Assessed Project Impacts

Impact	Rating Pre-Mitigation	Construction	Operation	Decommissioning	Rating Post-Mitigation	Construction	Operation	Decommissioning
Positive (+)	Major (high)				Major (high)			
Positive (+)	Moderate (medium)	• Wetlands	• Socio-economic (Employment and income). • Wetlands	• Socio-Economic (Unlocking of land).	Moderate (medium)	• Socio-economic (Employment and income). • Wetlands	• Wetlands	• Socio-Economic (Unlocking of land)

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Impact	Rating Pre-Mitigation	Construction	Operation	Decommissioning	Rating Post-Mitigation	Construction	Operation	Decommissioning
				• Wetlands				• Wetlands
Positive (+)	**Minor (low) +**	• Socio-economic (Employment and income).		• Soil and Agriculture.	**Minor (low) +**	• Soil and Agriculture. • Surface water. • Groundwater.	• Soil and Agriculture • Noise (Worst-case night-time operational activities). • Groundwater.	• Soil and Agriculture • Terrestrial biodiversity is anticipated to be "low". • Heritage. • Surface water. • Groundwater.
No Impact	**No Impact**				**No Impact**			
Negative (-)	**Minor (low) -**	• Terrestrial biodiversity is anticipated to be "low". • Socio-Economic (Informal influx of Job-seekers & Nuisance Factors). • Groundwater.	• Terrestrial biodiversity is anticipated to be "low". • Socio-Economic (Impact on adjacent farmers). • Noise (Future daytime & Night-time Activities). • Noise Worst-case daytime operational activities).	• Terrestrial biodiversity is anticipated to be "low".	**Minor (low) -**	• Socio-Economic (Informal influx of Job-seekers & Nuisance Factors) • Terrestrial biodiversity is anticipated to be "low". •	• Socio-Economic (Impact on adjacent farmers). • Terrestrial biodiversity is anticipated to be "low". • Noise (Future daytime & Night-time Activities). • Noise Worst-case daytime operational activities).	•

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Impact	Rating Pre-Mitigation	Construction	Operation	Decommissioning	Rating Post-Mitigation	Construction	Operation	Decommissioning
			• Groundwater.					
Negative (-)	**Moderate (medium)**	• Air Quality. • Soil and Agriculture. • Heritage. • Surface water.	• Air Quality. • Soil and Agriculture. • Socio-Economic (Informal influx of Job-seekers, Community health and safety & Nuisance Factors). • Noise (Worst-case night-time operational activities).	• Socio- Economic (Cessation of employment). • Groundwater. • Air Quality	**Moderate (medium)**	• Air Quality	• Socio-Economic (Informal influx of Job-seekers, Community health and safety & Nuisance Factors). • Surface water. • Air Quality	• Socio- Economic (Cessation of employment). • Air Quality • Groundwater.
Negative (-)	**Major (high)**		• Surface water. • Groundwater.		**Major (high)**			

7. Mitigation Summary

The focus of mitigation measures is to reduce the significance of the likely impacts associated with the entire process from construction to rehab/closure. Refer to Table 11.

Table 11: Mitigation Measures

Field	Main Impacts	Mitigation Measure
Terrestrial Biodiversity	• Environmental and Groundwater Pollution	• Keep the surface & subsurface water and storm water that may run off from the dumps away from the low laying areas, such as wetlands, as well as the surrounding

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Field	Main Impacts	Mitigation Measure
	• Introduction of alien and invasive species, especially plants • Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	areas, from leaving the project area in an uncontrolled manner. • Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. • Storm Water run off & Discharge Water Quality monitoring needs to be implemented. • No cleaning of vehicles, machines and equipment near water resources. • No servicing of machines, vehicles and equipment outside of designated laydown areas. • All contractors must have spill kits available and be trained in the correct use thereof. • Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics. • Provide all personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. The training must include. All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this.
Wetlands	• Hydrological alterations changing the natural water flow patterns; • Habitat disturbance and fragmentation can disrupt and fragment wetland habitats; and • Oil and water pollution can lead to erosion and a change in water quality.	• Follow best practices for installation, dismantling and removing equipment to prevent spills. • Implement temporary drainage and stormwater systems to manage surface runoff effectively in a manner that reduces the erosion potential and subsequent sedimentation. • Ensure that all disturbed areas are stabilised before the onset of rainy seasons. • Conduct regular monitoring and removal of invasive species.
Surface water	• Erosion and wash off of exposed soils leading to siltation in downgradient	• Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around

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Field	Main Impacts	Mitigation Measure
	watercourses.	exposed working areas; and • The SWMP must be implemented as a first step during the construction phase.
Groundwater	• Quantity impacts are not expected during Construction. • Disturbance of the mine dump or exposure of the ground surface may enable water and air to infiltrate the tailings material, particularly following rainfall. • Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces. • Additional quality impacts are suspected to be low during Construction.	• Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time. • Continue with the groundwater monitoring program at AMB before reclamation starts. • Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. • Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.
Air Quality	• Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	• Spray-on surface treatments on the haul roads to reduce dust generation. • Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. • Restriction of the stripped band to the minimum width practical. • Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. • Keeping the area of mechanical reclamation to a minimum.
Social	• Impact on employment and income;	• Consider formal training of unskilled workers mobilised during the construction

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Field	Main Impacts	Mitigation Measure
	• Positive contribution to social funds; • Impact on community health and safety; • Potential influx of people to the project area; and • Increase in nuisance factors.	phase; • Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and SMMEs. Preference should be given to capable subcontractors who based within the local municipal area; • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels. • As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; • Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements; • Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints. • Strict adherence to the mitigation measures of the traffic and air quality impact reports. • A grievance management mechanism should be in place to receive incident related queries.
Heritage	• Destruction of cultural heritage resources • Undiscovered cultural heritage resources	• During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken. It is recommended that the AMB chance find procedure should be utilised and implemented, this is appended as Appendix D8 on the EIA report. The following is important to follow in this procedure:

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Field	Main Impacts	Mitigation Measure
		• A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. • An appropriately qualified heritage practitioner / archaeologist must be identified to be called upon in the event that any possible heritage resources or artefacts are identified. • Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted. • The qualified heritage practitioner / archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource.
Noise	• Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors and pumps during the operational phase	• AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. • AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas.
Soil and Agriculture	• Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility	• Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas. • Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilised to avoid impacts on adjacent areas

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8. Overall Conclusions

An impact assessment has been undertaken using qualified specialists, which has incorporated extensive consultation with and participation of interested and affected parties. Applying the hierarchical approach to impact management, alternatives were firstly considered to avoid negative impacts, but where avoidance was not possible, to better mitigate and manage negative impacts. Where impacts were found to be potentially significant, various mitigation measures to manage and monitor the impacts of the project have been proposed. As a final option, offset strategies should be investigated, if feasible. The preferred alternative avoided multiple sensitive areas such as wetlands, and reduced the level of waste management off the TSF to insignificant. In addition, these is no need for the construction of Pollution Control Dams, as current infrastructure is to be used and no additional storage and ore management facilities will be constructed.

The findings of the impact assessment have shown that the Project would conclusively result in certain negative impacts during the operational phase to the environment, however, none of the specialist studies objected to the project. It must also be noted that all impacts identified can be mitigated and minimised by making use of the suggested mitigation measures.

Moreover, the scientific specialist mitigations measures have been included into this EIA and EMP report to reduce the significance of all the identified negative impacts. Most of the negative impacts from the Proposed Project can be reduced through the implementation of mitigation measures. Based on the information contained in this report, it is the opinion of the EAP that the negative environmental impacts resulting from the Project can be mitigated to within acceptable limits and that the project should be authorised. This opinion holds provided all the recommendations proposed in the specialist studies and the EIA and EMP report as well as legislative requirements are implemented and adhered to.

9. Glossary of Certain Terms

Environmental Assessment Practitioner (EAP): An EAP is someone who co-ordinates, manages and integrates the various components of environmental assessment throughout the planning process; has received an appropriate interdisciplinary training covering both the natural and human environment; has experience in environmental management, environmental assessment and related studies; and demonstrates core competencies that are considered essential to the environmental assessment profession.

Environmental Impact Assessment (EIA): EIA is a tool used to assess the significant effects of a project or development proposal on the environment. EIAs make sure that project decision makers think about the likely effects on the environment at the earliest possible time and aim to avoid, reduce or offset those effects. This ensures that proposals are understood properly before decisions are made.

Environmental Management Programme (EMPr): The EMPr is a detailed plan for the implementation of the mitigation measures to minimise negative environmental impacts during the project life-cycle.

Scoping Report: The SR describes the proposed project and identifies the possible impacts of the proposed development.

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Tailings Storage Facility (TSF): A TSF is typically an earth-fill embankment dam used to store byproducts of mining operations after separating the ore from the rock. Tailings can be liquid, solid, or a slurry of fine particles.

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Ditlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa le Karolo 102 e Fetotsweng ya Amandelbult Tailings Storage Facility Letamo 2 Porojeke ya Pusetso ya Lefatshe le Tiriso ya Lone mo Mmasepaleng wa Selegae wa Thabazimbi, Porofense ya Limpopo.

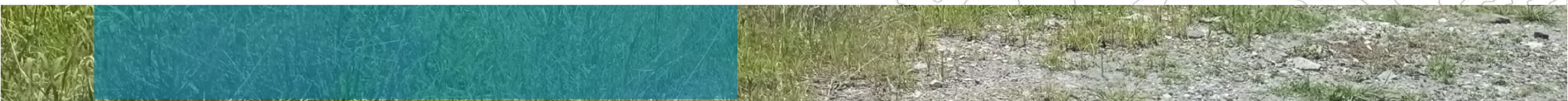
Tokumente ya Tshobokanyo eno e e seng ya Botegeniki

Modirakopo: Rustenburg Platinum Mines Limited (Amandelbult Mine)

Nomoro ya Porojeke: AAPL#001

Leina la Porojeke: The Reclamation and Processing of the Amandelbult TSF

Kongiwe Environmental (Pty) Ltd.
Nomorokwadiso 2016/135562/07
Bakaedi: N Banks, GE Cornish-Bowden (COO), AM Lemon, GL Smith, BJ Thornton (CEO)
Mogala: +27 (10) 140 6508 Imeile: info@kongiwe.com
Aterese e e Kwadisitsweng: 150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa
Aterese ya Poso: PostNet Suite No 163, Private Bag X21, Bryanston, 2021, South Africa
www.kongiwe.com



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1. Matseno

1.1 Tokomane Eno

Tshobokanyo eno e e seng ya botegeniki (Non-Technical Summary) e neela dintlha kakaretso tsa Tlhatlhobo ya Ditlamorago tsa mo Tikologong (EIA) le tirego ye Fetotsweng ya Porojeke e e tshitsinngwang ya Pusetso ya lefelo ya Masaledi ya Amandelbult, e e fitlhelwang mo lefelong e leng mo Mmasepaleng wa Selegae wa Thabazimbi wa Mmasepala wa Kgaolo ya Waterberg, Porofenseng ya Limpopo. E rulagantswe ke Kongiwe Environmental (Pty) Ltd. Go dirilwe EIA ka go tsamaisana le Molao wa Bosetšhaba wa Taolo ya Tikologo (Molao 107 wa 1998), ka moo o baakantsweng ka teng, le Melawana ya EIA, ka moo e baakantsweng ka teng. Porojeke e e Tshitsinngwang e dira kopo ya Fetolo ya Karolo 102 ya gore e akarediwe mo TSF, malebana le Molao wa Tlhabololo ya Metswedithuso ya Diminerale le Peteroliamo, 2002 (Molao wa bo28 wa 2002) o o tlileng go romelwa kwa DMPR malebana le go baakanya Lenaneo la Tshwanelo ya Go epa le Ditiro tsa Go epa. Nomorotshupetso ya Lefapha la Metswedithuso ya Diminerale le Peteroliamo (DMPR) ke LP 30/5/1/2/2/48 MR.

NTS e tlhalosa tshitsinyo ya porojeke, le ditlamorago tse di ka nnang teng tse Porojeke e ka nnang le tsone mo maemong a thutatshelo le loago le ikonomi mo tikologong. Gape e rarabolola le ditekanyo tse Porojeke e tla di tsenyang tirisong go fokotsa ditlamorago tse dikgolong tse di sa siamang le go oketsa ditshiamelo tse di ka nnang teng tsa dipoelo tse di ka nnang teng tsa loago, le tsela e mathata a tikologo a loago a tla laolwang ka teng ka nako ya kago, ka nako ya tiro le konosetso. NTS ke tokomane e khutshwane e e kwadilweng ka puo e e seng ya botegeniki e e ka dirisiwang go abelana diphitlhelelo tsa tirego ya EIA le ya Thulaganyo ya Tlhabololo le botlhe mo setšhabeng.

1.2 Tshobokanyo ka Puo e seng ya Botegeniki

Kongiwe Environmental (Pty) Ltd (Kongiwe) e thapilwe ke Moepo wa Rustenburg Platinum Mines Limited Amandelbult Mine (AMB), jaaka Modiredi yo o Ikemetseng wa Tlhatlhobo ya Tikologo (EAP) yo tiro ya gagwe e leng go dira tirego ya Tshekatsheko le Tlhatlhobo ya Ditlamorago tsa mo Tikologong (S&EIA) maikaelelo a yone e leng go sekaseka mo go tseneletseng ditlamorago tse di ka nnang teng mo tikologong le mo bathong tsa Pusetso ya lefelo e e tshitsinngwang le Go dira Paakanyo ya Letamo 2 la Lefelo la Polokelo ya Masaledi la Amandelbult (go tloga fano e tla nna Porojeke e e Tshitsinngwang). Rustenburg Platinum Mines Limited ke lekala la Valterra Platinum Limited (e e neng e itsege mo nakong e e fetileng jaaka Anglo American Platinum) ka botlalo.

Kopo ya Tetlelelo ya go Dira tiro e e ka amang tikologo (EA) e rometswe kwa Lefapheng la Diminerale le Peteroliamo (DMPR), le e leng Bothati jo bo Nang le Bokgoni jo bo Maleba (CA) jwa Porojeke e e Tshitsintsweng, ka la 17 Seetebosigo 2025. DMPR e amogetse Kopo ka la 19 Phukwi 2025. Pegelo ya Bofelo ya Tshekatsheko (FSR) e rometswe ka la 28 Phukwi 2025.

1.3 Kitsiso ya Porojeke le Lemorago

Moepo wa Rustenburg Platinum Mines Limited Amandelbult (AMB) o fitlhelwa mo lefelong la Mmasepala wa Selegae wa Thabazimbi (TLM) wa Mmasepala wa Kgaolo ya Waterberg (WDM) mo Porofenseng ya Limpopo mme o aname sekgala se se fetang 20 km go tswa botlhaba go ya bophirima. O fitlhelwa bokana ka 250 km mo bokone-bophirima jwa Johannesburg, 15 km mo borwa jwa Northam le 30 km mo borwa-bophirima jwa Thabazimbi mo karolong e e mo bokone ya Platinum Belt.

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Tirokgolo kwa AMB ke go epiwa ga dirifi ka bobedi tsa Merensky le UG2 go dirisiwa mekgwa ya go epa mo tlase ga lefatshe le ya dikhuti tse di seng ko teng thata. Lefelo la moepo le arogantswe ka dikarolo tsa bophirima, bogareng le tsa botlhaba. Moepo o na le mafelo a le mararo a a farologaneng a go epa go akaretsa Moepo wa Tumela, Moepo wa Dishaba le Polante ya AMB e e aroganyang manya le masaledi le lefelo le le amanang la polokelo ya masaledi (TSF) le le fitlhelwang mo gare ga moepo.

Polante ya AMB e e aroganyang manya le masaledi ka boyone e na le dipolante tse pedi (2) tse di mo tirisong, tse e leng UG2 1 le UG2 2, tse di aroganyang manya le masaledi segolo thata mo rifing ya UG2 le polante e le nngwe (1) e e sa direng, e leng Polante ya Merensky Concentrator. Polante eno e ne e aroganya manya le masaledi mo nakong e e fetileng mo motswakong wa Merensky & rifi ya mo tlase ga lefatshe ya UG2, rifi ya khuti e e seng kwa teng thata ya UG2 le matheriale wa maemotlase wa letlapa le le se nang mosola. Ka ntlha ya go sa dirisiwe ga polante ya Merensky Concentrator, Manya a a tswang mo khuting e e seng kwa teng ya UG2 le manya a maemotlase jaanong a aroganngwa le masaledi ka go dirisa dipolante tsa UG2 1 le UG2 2. Mo godimo ga dipolante tse pedi tse di mo tirisong, AMB Concentrator e dirisa Polante ya Chrome (CRP) e e ntshang Chrome mo seretseng sa UG2 se se ntshitsweng ke Dipolante tsa UG2 1 le 2 tsa AMB Concentrator.

TSF ya Amandelbult e na le dikarolwana tse 4, Letamo 1, Letamo 2, Letamo 3A le Letamo 3B, leba Setshwantsho 1 fa tlase. Matamo 3A le 3B a tsewa jaaka “matamo a a dulang a na le metsi” ka dikoketsego mo kelelong tse di tshelwang segolo thata mo 3B, mme gape le mo 3A gangwe le gape. Ga jaana AMB e dira thutopatlisiso ya Tshekatsheko ya Porojeke e e Tshitsinngwang, ka maikaelelo a go sekaseka le go batlisisa kgonagalo ya go aroganya gape matheriale o o mo letamong la masalaedi la mo nakong e e fetileng mo TSF ya Amandelbult go ntsha Dimetale tsa Setlhopha sa Chrome le Polatinamo (di-PGM). Tiro ya teko e e dirilweng e bontshitse gore Letamo 2 ga jaanong ke letamo la setlapele malebana le diaonse tse di tlileng go busetswa mannong.

Jaanong AMB e tshitsinya go busetsa mannong le go aroganya manya mo masaleding a a tswang mo Letamo 2 2. Seno se ka letlelela gape le tirisogape ya lefelo leno la TSF, fa pusetso ya lefelo e setse e weditswe gore go tshelwe masaledi a mo isagong, mo go kganelang tlhokego ya lefelo le le nang le dijalo. Ditiro tsa pusetso ya lefelo di tla fokotsa maikarabelo a tsosoloso le tswalelo ya lefelo la TSF. Porojeke eno e ka bidiwa Porojeke ya Pusetso ya lefelo le Karoganyo ya TSF ya Amandelbult.

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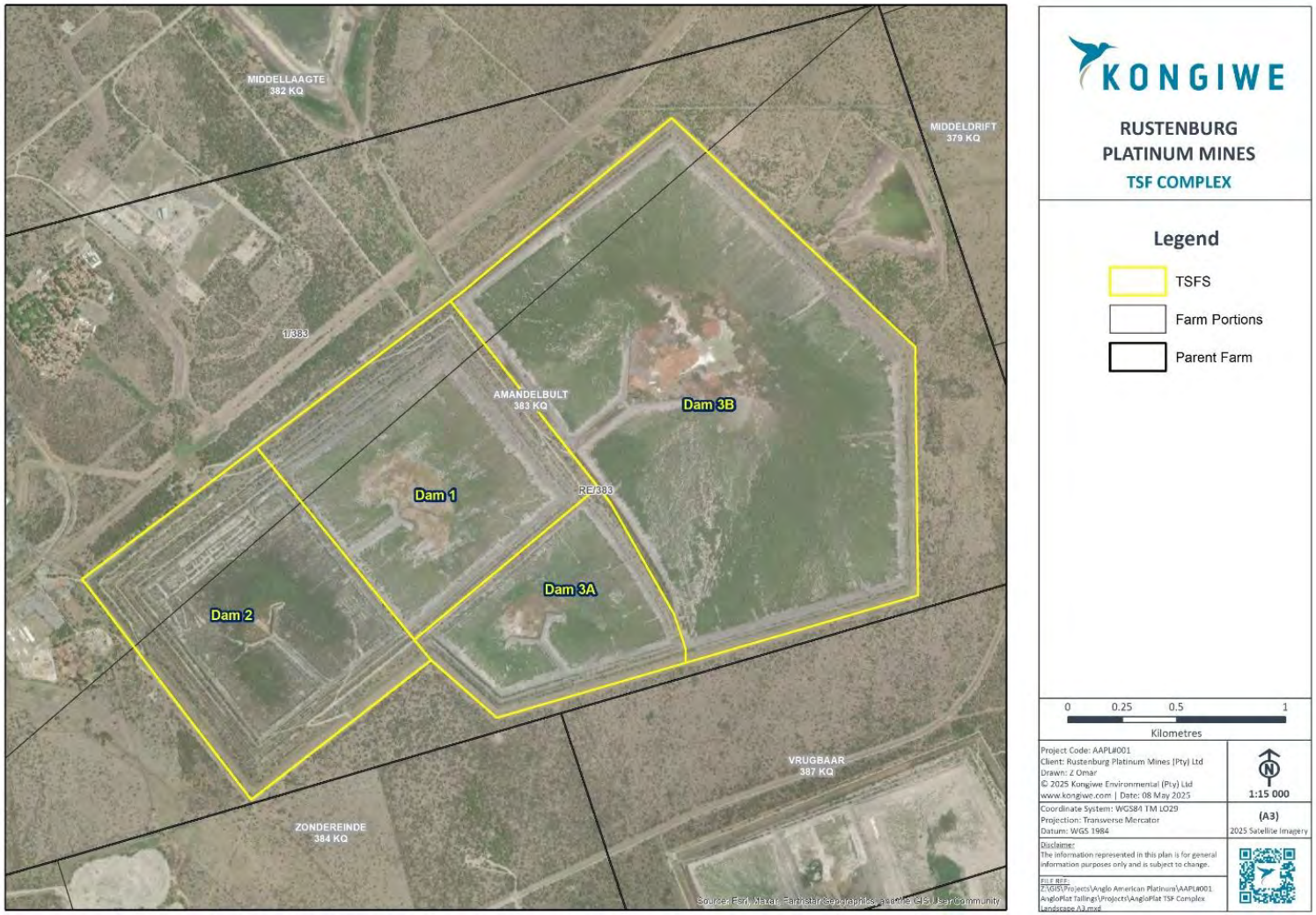

Setshwantsho 1: Thulaganyo ya TSF ya Amandelbult

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1.4 Tlhaloso ya Lefelo la Porojeke

Porojeke e e Tshitsintsweng e fitlhelwa mo lefelong le le setseng le Karolwana 1 ya polase ya Amandelbult 383 KQ, le Lefelo le le setseng la polase ya Middellaagte 382 KQ. Porojeke e fitlhelwa mo Ward 6 le 11 tsa Mmasepala wa Selegae wa Thabazimbi (TLM) mo Porofenseng ya Limpopo. Leba Lenaneo 1 fa tlase.

Lenaneo 1: Dintlha tsa Lefelo

Lefelo la Kopo (ha)	Lefelo le le Tshitsinngwang la Pusetso ya lefelo, lefelo le lentšha le le tshitsinngwang la polante le mafaratlhatlha a tlaleletso jaaka go kailwe mo pegelong eno le mo boalong jwa bokana ka 104 Ha mme ditiro tsa porojeke tsone ke 18 Ha (Ka kakaretso ke 122 Ha)
Kgaolo ya Magiseterata	Ward 6 le 11 ya Mmasepala wa Selegae wa Thabazimbi (TLM) mo Kgaolong ya Magiseterata sa Waterberg.
Sekgala le Dikaelo go tswa mo Toropong e e Gaufi thata	Lefelo le fitlhelwa bokana ka 15 km mo Bokone jwa Northam le 30 km Borwa-bophirima jwa Thabazimbi.

1.5 Mafaratlhatlha a Porojeke

Mokgwa o o ratilweng o o latelang wa porojeke, morago ga gore go akanyediwe dintlha tse dingwe, le o o tlhagisitsweng mo Setshwantsho 3 o tla direlwa mo pusetso ya lefelo le karoganyo ya manya ya Letamo 2 la TSF:

Pompo ya Mokoro (1 le 2): Go dirisiwa Pompo ya Mokoro go tsamaisa seretse se se diregileng go tswa mo la bo2 la TSF go ya kwa seteišeneng sa phetiso ya sereste. Pompo ya Mokoro e tla bewa mo godimo ga TSF le go sutasuta mo lefelong le le kwa tlase thata. Pompo ya Mokoro e tla nna le:

- Pompo ya sepintlele.
- Lebotanakganedi la konkereiti.
- Motor.
- Lefelotaolo.
- Llere e go tsenwang ka yone.

Metsi a a Tswang ka Kgatelelo e e kwa Godimo ka go Dirisa Thepe: Metsi a kgatelelo e e kwa godimo a a tswang mo thepeng le go isiwa kwa dipeiping tseno, tse di tlosang matheriale wa masaledi mo TSF, o o fetogang go nna motswako wa seretse sa metsi le dikarolwana tse di tshesane tsa diminirale. Fa seretse setse se siamisitswe, se isiwa kwa Seteišene 1 sa Seketswana se se Kokobalang le Seteišene sa 2 sa Seketswana se se Kokobalang. Diteišene tseno di dira jaaka dikarologare tsa dipompo, di tsweledisa kelelo le kgatelelo e e tlhomameng fa seretse se fetisiwa mo diphaiphing.

Seteišene sa Phetiso ya Seretse: Seteišene sa phetiso ya seretse se amogela seretse se se tswang mo pompong ya mokoro. Seteišene sa phetiso ya seretse se dira tshekatsheko ya bobedi mo dijalong tsa masaledi, le matheriale o mogolo thata o o tswang mo seretseng. Seteišene sa phetiso ya seretse se tlatsa tanka e e laolang kelelo ka tlhomamo e e tshelang masaledi mo PGM/Polante ya Chrome gore go aroganngwe manya mo go one. Seteišene sa koketsomaatla ya seretse se se

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fitlhelwang mo karolong e e mo tlase ya TSF se tla nna mo lefelong la bokana ka 12 000 m2 (1,2 Ha). Mo godimo ga moo metsi a tla isiwa kwa dipeiping tse di ntshang metsi ka maatla go tswa mo seteišeneng seno sa phetiso. Seteišene sa Phetiso ya Seretse se na le mafaratlhatlha a a fa tlase mo Lenaneo 2:

Lenaneo 2: Mafaratlhatlha a a Golaganngwang le Seteišene sa Phetiso ya Seretse

Seteišene sa Phetiso ya Seretse	
Motšhini o o roromang wa karoganyo ya dimatheriale	MCC
Set of cyclones	Ditransefoma
Tanka ya metsi a a dirisiwang mo go epeng	Diteišenepotlana
Tanka ya metsi a tirelo ya go tswalela gore go se tsene dikgotledi	Khereini e e kwa Godimo
Motšhini o o oketsang kgatelelo ya gase (khompresa)	Wekešopo-potlana
Tanka ya metsi a a timang molelo	Mafelo a botlhapelo
Phapositaolo	Diofisi
Tanka e e laolang kelelo ka tlhomamo	Dikago tsa konkereiti le tshipi
Didiriswa	Dipompo
Diphaiphi	

Lefelopolokelo la Nakwana la bo2 la TSF: Lefelopolokelo la nakwana la bo2 le tla nna gaufi le TSF le go dirisiwa go somarela le go tshela leokwane gape mo metšhining e megolwane (Metšhini e Serolwana). Seno se tla nna le selekano sa bogolo jwa 8 000m2 (0,8 Ha). Polokelo ya disele e tla nna le ditlhaloso tse di latelang:

- Ditanka tsa polokelo (bokana ka 23 000L)
- Mokgwatsamaiso wa tshelo ya leokwane
- Mokgwatsamaiso wa tlhotlho ya leokwane le taolo ya mowa
- Didiriswa tsa taolo le tatediso ya leokwane
- Mafelo a go tshelwang leokwane mo go one

Lefelopolokelo la Nakwana la Borakonteraka: Lefelo leno le tla dirisiwa ke borakonteraka go tsenya matheriale, didiriswa le dirori le jaaka lefelokgokaganyo ka nako ya kago.

Di-PCD: Porojeke e tla dirisa di-PCD tse pedi tse di leng teng, e le nngwe e fitlhelwa mo bogareng fa gare ga Diofisi tsa Lefapha la Ditirelo tsa Amandelbult le AMB Concentrator, mme e nngwe e fitlhelwa mo lefelong la Polante ya Chrome (CRP) le le gaufi le diofisi tsa botsamaisi tsa AMB CRP.

Tsela ya Mmu / Tselanakwana ya Dirori tse Dikgolo: Tselanakwana e e setseng e le teng ya dirori tse dikgolo e tla tlhabololwa gore go nne le kgonagalo ya go tsamaya fa gare ga lefelo la TSF le lefelo la polante. Tselanakwana ya ga jaana e e leng teng ya dirori tse dikgolo e tla leelefadiwa ka bokana ka 1,2 Km mme e tla bulwa bokana ka 8-9 m. Boalo jwa tsela bo tla nna bokana ka 1.1 Ha (11 000m^2).

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PGM le Polante ya Chrome: Porojeke e tla dirisa gape mafaratlhatlha a a ntseng a le teng, segolo bogolo Polante ya Chrome ya M3 & M4 le dikago tse di leng teng tsa Polante ya PGM, tse di tla nnang mo lefelong la Merensky. Mo PGM seretse se se ntshitsweng se tla romelwa kwa polanteng e e tlhabolotsweng ya PGM, e e tsenyeletsang IsaMill le sekete ya Kokobatso ya Disele tsa Jamesons. IsaMill e dira tshilo e e silang mo go tseneletseng go golola di-PGM mo matherialeng o o gaufi o o se nang mosola. Morago seretse se se sitsweng mo go tseneletseng se tsena mo diseleng tsa Jameson, moo dire tse di bakang tsibogo ya sekhemikale le dipudula tsa mowa di dirisiwang go aroganya ka go tlhopha di-PGM go tswa mo matherialeng otlhe. Go kgobokanngwa serepopota se se salang sa PGM gore go silwe go ya pele kwa lefelong le lengwe kwa ntle. Kelelo ya masaledi e tla ya pele kwa polanteng ya Chrome gore go ntshiwe Chrome mme morago ga moo masalaedi a tla romelwa kwa polanteng ya PGM gore go ntshiwe di-PGM. Go ikaegile ka thulaganyo e e tla tlhomamisiwang kwa bofelong, kelelo e ka simolola la ntlha kwa polanteng ya PGM mme morago ga moo ya isiwa kwa polanteng ya Chrome. Masaledi a a tswang mo tiregong eno ya go busetsa mannong a isiwa kwa polanteng ya toiso, koo seretse se baakanngwang le go loisiwa gore se nne le bopopota jo bo maleba gore se tshelwe mo Letamo 3B la TSF, go latelwa diporokholo tse di tlwaelegileng tsa go se dira popota. Polante e e leng teng e tla nna le:

- Polante ya Phetolo ya Diretala tsa PGM tsa TSF. Matheriale o o tswang mo Letamo 2 la TSF o isiwa ka tiriso ya metsi kwa Polanteng ya Skhafenja ya PGM, moo go ntshiwang Platinum Group Metals (di-PGM) ka katlego. Polante ya skhafenja e tsenyeletsa disele tse di phepafatsang gape, tse di leng botlhokwa mo go oketseng pusetso ya PGM ka go dira serepopota sa maemogodimo sa PGM. Serepopota seno se feta mo karoganyong ya go ya pele mo polanteng ya skhafenja, mme go feleletsa go dirile setlhagisiwa se se minolotsweng metsi, se se itsegeng jaaka kuku e e tlhotlhilweng. Kuku e e tlhotlhilweng e a kokoanngwa, go dira seretala sa botlhokwa sa Polante ya Ntsho ya PGM, ka jalo go nolofatsa go dira ka katlego ka matheriale le go aroganngwa ga di-PGM tse di ntshitsweng gape. Morago masaledi a a tswang mo tiregong eno ya pusetso di isiwa kwa polanteng ya toiso, koo seretse se baakanngwang le go loisiwa go nna le bopopota jo bo maleba gore se tshelwe mo Letamo 3B, go latela diporotokholo tsa gale tsa toiso.
- Polante ya Ditirelo ya TSF – Polante ya Ditirelo ya TSF e diretswe go rebola ditirelo tsa botlhokwa tsa tshegetso kwa lefelong la polante la karoganyo, go netefatsa gore go nna le katlego mo tirong ya go epa. Ditirelo tsa botlhokwa tse di rebolwang di akaretsa go dousiwa ga dikhemikale tse di jaaka tse di kganelang diminerale go kokobala ka nako ya karoganyo, tse di tlhamang dipudula mo seretseng, le tse di letlelelang diminerale go kokobala go ya kwa godimo, gammogo le paakanyetso le tlamelo ya sekgobokanyi mo ditirong tsa toiso. Lefelo leno gape le laola tlamelo ya didiriswa tsa botlhokwa, go akaretsa metsi a kemisetso, metsi a a nowang a GSW, mowa o o pinyeleditsweng, le mowa o o pinyeleditsweng mme o le phepa, mme tsotlhe tsa tsone di botlhokwa mo go tsweletseng tlhomamo le mo tirisegong ya didiriswa.
- Polante ya Pusetso ya Chrome ya TSF – Logato leno le simolola sekete ya karoganyo ya Chrome kwa mogatleng wa sekete ya PGM. Sekete e dira mokgwatsamaiso wa go aroganya Chrome o o diretsweng go oketsa nonofo ya pusetso le boleng jwa setlhagisiwa. Tirego e simolola ka paakanyetso ya seretala, koo matheriale o siamisiwang go fitlhelela bogolo jo bontsi jwa sere le dipharologantsho tsa sekhemikale tsa karoganyo. Mokgwatsamaiso wa karoganyo o akaretsa motseletsele wa dikgato tse di magwata thata, tse di phepa thata, le dikgato tse di phepafatsang gape ka nako ya karoganyo, tse di leng botlhokwa mo go fitlheleleng serepopota sa maemogodimo sa Chrome. Disele tsa Thebo le disele tsa kholomo di tla dirisiwa mo tiregong ya karoganyo, di tla kopanngwa ka maikaelelo a go oketsa katlego ya pusetso ya Chrome. Tiriso ya dikgobokanyi tsa diokosaete e netefatsa karoganyo e e nonofileng ya diminerale tsa Chrome mo molatswaneng wa masaledi, tota le mo maemong a a nang le dikgwetlho. Disele tse di magwata di tsepamisa mo pusetsong-kgoboko, fa disele tse di phepa le tse di phepafaditsweng gape di tswelela go baakanya matheriale o o buseditsweng mannong.

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- Polante ya Toiso ya Masaledi ya TSF – Polante ya go loisa masaledi ke lefelo le le diretsweng go fokotsa selekano sa metsi mo masaleding (matheriale wa matlakala o o dirilweng mo karoganyong ya diminerale) go oketsa pusetso ya metsi le go baakanyetsa gore masaledi a latlhiwe ka pabalesego. Ka go loisa masaledi, polante e oketsa nonofo ya tirisogape ya metsi le go tokafatsa tlhomamo ya TSF.

Disaelo / Meteme ya PGM ya TSF: Matheriale o o buseditsweng mannong go tswa mo TSF morago ga go aroganngwa ga yone mo polanteng o tla tsenngwa mo metemeng/disaelo tse di leng teng tsa setlhagisiwa.

Mekoa ya Mmugodimo: Mmugodimo o tla tlosiwa mo mafelong a kago e tlileng go dirwa mo go one. One o tla kokoanngwa mo lefelong le le mo bokone la Lefelopolokelo la Nakwana la TSF. Lefelo leno le tla nna le selekano sa 15 000 m^2 (1,5 Ha). Mmugodimo o tla kokoanngwa go nna bogodimo jwa 3m. Lefelo le le tshitsinngwang le tla nna le palogotlhe ya bolumu ya 45 000 m^3.

Go Tshelwa ga Masaledi: Seno se tla dirwa ka go dirisa sekete e e leng teng ya masaledi. Masaledi a a tswang mo Seloising sa TSF a tla isiwa kwa tankeng ya TK-11 mme a tla isiwa kwa TSF 3B ka go dirisa dipeipi tse di leng teng.

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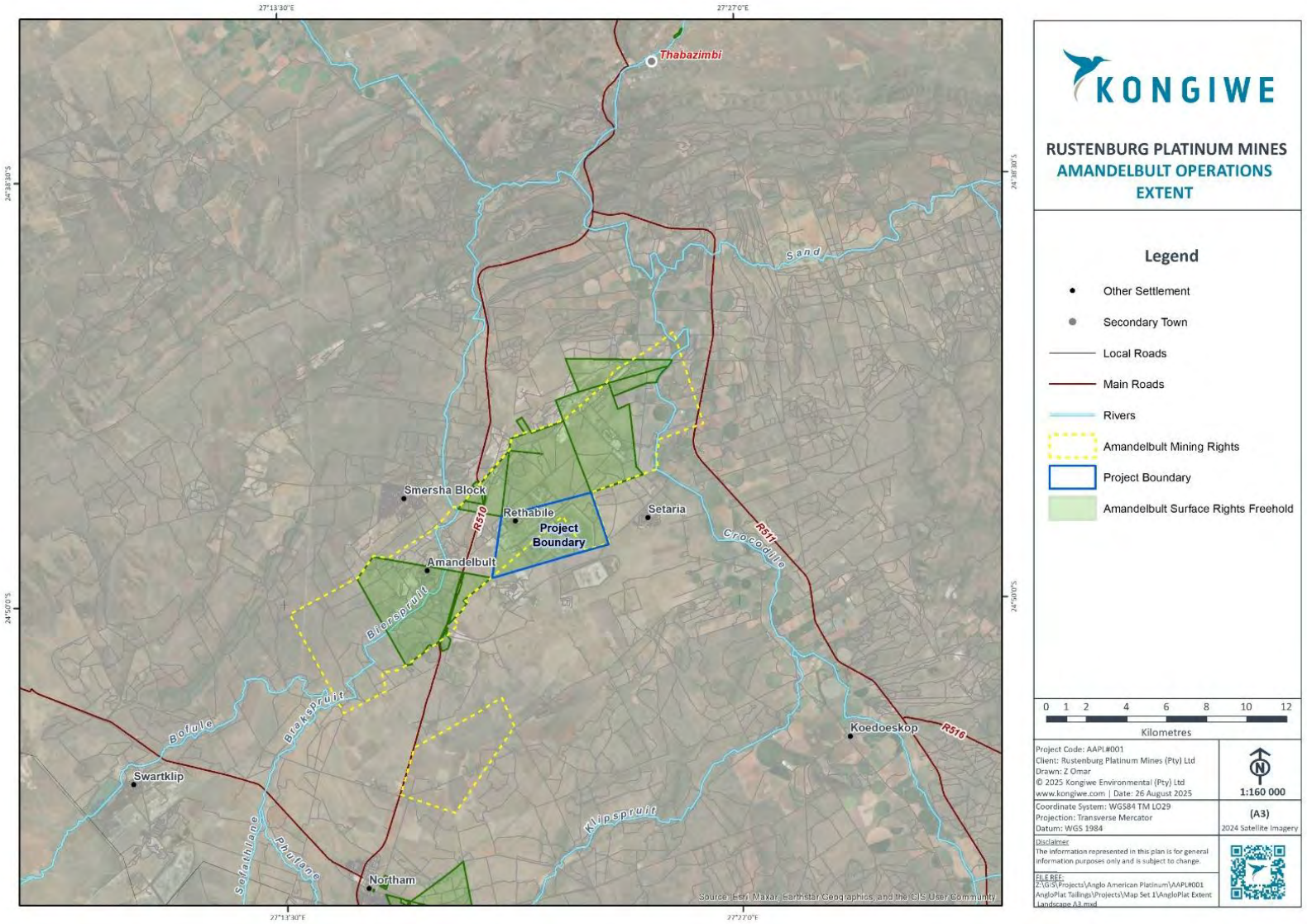

Setshwantsho 2: Lefelo la Porojeke

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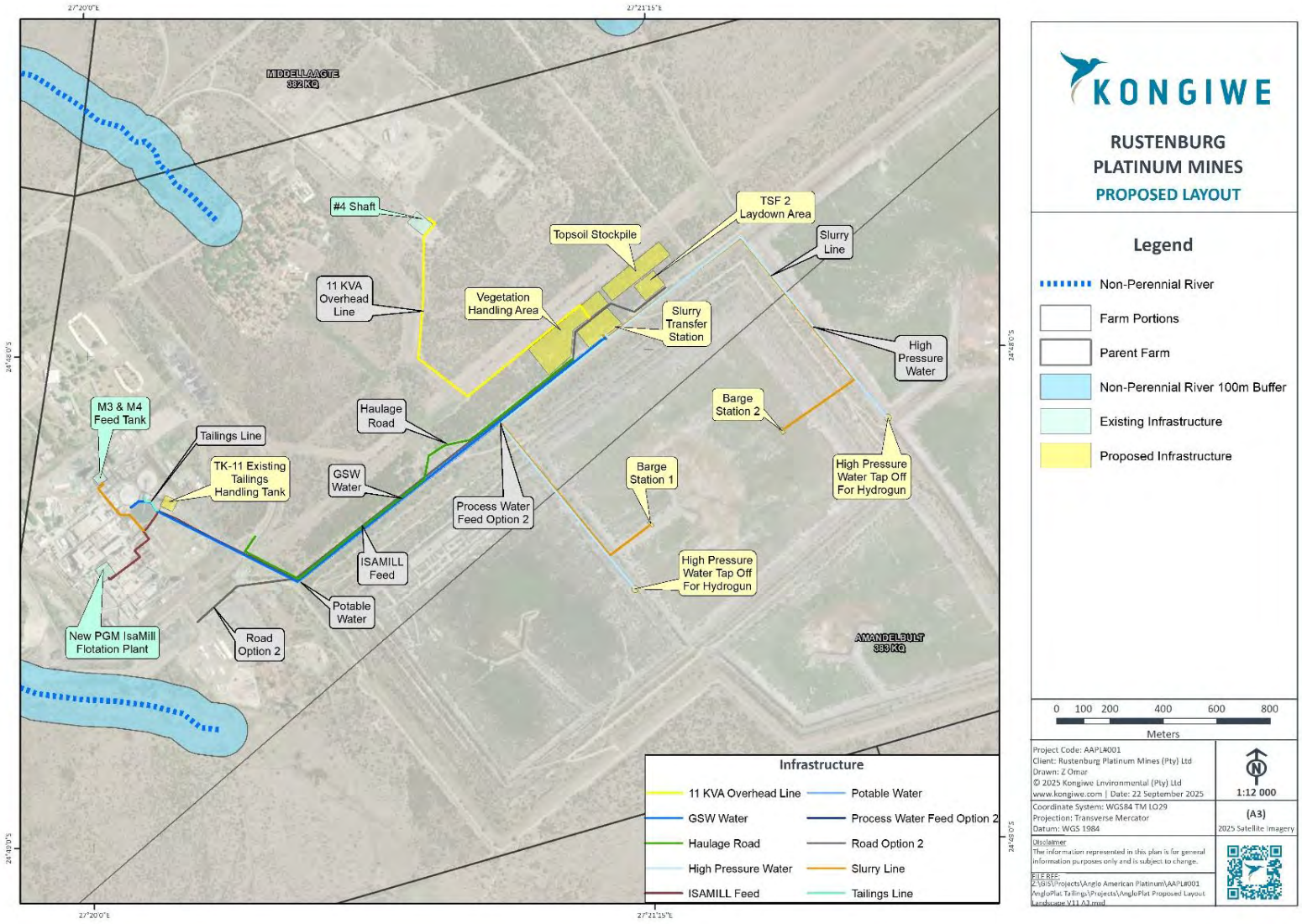

Setshwantsho 3: Mmepe wa Mafaratlhatlha

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2. Mokgwa wa Pusetso ya lefelo

AMB e tshitsinya go dirisa kopanyo ya mekgwa ka bobedi ya pusetso ya lefelo e leng ka tiriso ya metšhini le tiriso ya metsi mo lefelong ka nako ya ditiro tse di tshitsinngwang tsa pusetso ya lefelo. Mekgwa eno e tla tsenngwa tirisong ka go ikemela kgotsa ka go latelana go tsamaisana le sejule ya pusetso ya lefelo.

2.1 Pusetso ya lefelo ka tiriso ya Metšhini

Mokgwa ono o akaretsa go tlosiwa ga matheriale o o omeletseng wa masaledi go tswa mo Lefelong la Polokelo ya Masaledi (TSF) Letamo la bo2 ka go dirisa mokgwa wa motheo wa go epa. Matheriale o tla rorelwa kwa lefelong le le tlhophilweng le le mo teng ga TSF 2 go direla mabaka a tswakanyo, go kopanya dikarolwana tse di magwata le tse di tshesane. Fa o setse o tswakantswe, matheriale o tla epiwa ka go dirisa metsi. Sekai sa pusetso le lefelong ka tiriso ya metšhini se kailwe mo Setshwantsho 4.

Setshwantsho 4: Sekai sa Pusetso ya lefelo ka Mokgwa wa Motheo wa Go epa

2.2 Pusetso ya lefelo ka tiriso ya Metsi

Mokgwatiriso o dirisa diphaphi tse di ntshang metsi ka maatla a magolo go isa jete ya metsi a a dirisang kgatelelo e e kwa godimo go epa matheriale o o sa kopanngwang wa masaledi mo teng ga TSF. Metsi a a tswang mo diphaiphi tse di ntshang metsi ka maatla a magolo a kopana le masaledi mme di bopa seretse se se nang le selekano se se kwa godimo sa direpopota. Diphaphei tse di ntshang metsi ka maatla a magolo di tla nna mo godimo ga TSF go latela tswelelo ya pusetso ya lefelo.

Mabotanakganedi a a mo perimithareng a TSF a somarelwa go dira jaaka dikgoreletsi, go netefatsa gore seretse se nna se ntse se le mo lefelong le le tlhophilweng. Seretse se se baakantsweng se a itsheka mo meseleng e e diretsweng seo mo lefelong le le nang le direpodi le go tshelwang masaledi go lone, e e kaelang kelelo go ela kwa lefelong la kgobokanyo (sampo) le le kwa tlasetlase la lefelo le le mo tirisong la go epa. Mo kgobokanyong eno, go dirisiwa pompo ya mokoro go ntsha le go fetisa seretse gore se boe se aroganngwe. Pompo ya mokoro e tla tsamaisa seretse sekgala se se khutshwane go ya kwa seteišeneng sa phetiso ya seretse, koo go tla dirwang tshekatsheko ya bobedi ya dijalo tse di setseng le go tlosiwa ga matheriale wa bogolo jo bo feteletseng, jaaka go tlhalositswe fa godimo. Dijalo di tla tlosiwa mo lefelong le le sekasekiwang le go busediwa kwa TSF go dira motshotelo.

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Bontsi jwa dijalo tse di sekasekilweng di tla tlosiwa kwa tshimologong mme di tla berekiwa gape mo bogodimong jwa TSF le go tsenngwa mo lefelong le le tlhophilweng le le mo godimo ga TSF 1 go dira motshotelo go ya pele wa matheriale. Ditirego tsa go thuba le tsa go dira motshotelo di tla dirwa mo TSF 1. Motshotelo o o dirilweng o tla nna le tiriso ya mo isagong mo dithulamong tse di mo matlhakoreng a matamo a a setseng a TSF kgotsa mafelo a mangwe a a tlhokang motshotelo mo tiregong ya tsosoloso.

2.3 Tsosoloso

Lefelo le dikago tse TSF ya Amandelbult le fitlhelwang mo go lone ga jaana ke la Moepo wa Polatinamo wa Rustenburg (RPM). Tsosoloso e tla nna go tsamaisana le dithulaganyetso tsa tswalo tsa AMB le di-EMPR.

Morago ga go tlosiwa ga matheriale mo Letamo 2, go tla dirisiwa lefelo gape go tshela masaledi mo isagong jaaka karolo ya tiro ya TSF e e dirwang ga jaana mo lefelong. Selekano sa kakaretso sa lefelo la TSF se tla bopa karolo ya AMB togamaano ka kakaretso ya Tsosoloso le Thulaganyetso ya Tswalo. Ka go aroganya gape matheriale o o tswang mo matamong a masaledi, AMB e ka samagana ka bobedi le taolo ya matshosetsi le koketso ya tlhagisokuno, ka jalo e tsamaisana le pabalesego le go nna le dipoelo. Go ya pele, seno se tla fokotsa mathata a go ikarabela mme se tla nna le kgonagalo ya go bula lefelotlaleletso la go tshelwa ga masaledi mo isagong, kwa ntle ga go atologela kwa mafelong a go iseng go dirwe sepe mo go one.

Fa TSF e buseditswe mannong, e arogantswe, mme konosetso ya mafelo moo go tlhokegang teng e dirilwe, lefelo le tla dirisiwa gape go boa le tshela masaledi.

2.4 Sejule ya ditiro le tshekotshelo ya porojeke

Boleele jwa nako e e solofetsweng ya botshelo jwa porojeke ke bokana ka dingwaga tse 20. Go solofelwa gore go tla nna le kago ya dingwaga tse 2 le paka ya go fitlhelela bokgoni jo bo tletseng e e ka akaretsang go tsenngwa ga mafaratlhatlha le paakanyo ya lefelo. Seno se tla letlelesega mo dingwageng tse 18 tsa Botshelo jwa Moepo (LOO) koo go tla diregang pusetso ya lefelo ka tiriso ya metsi le ka tiriso ya metšhini. Morago ga go tlosiwa ga matheriale mo Letamo 2, go solofelwa gore lefelo le tla dirisiwa gape go nna le le tshelang masaledi jaaka karolo ya TSF e e dirang ga jaana mo lefelong. Selekano sa kakaretso sa TSF e tla nna karolo ya thulaganyetso ka kakaretso ya tiro ya AMB le Leano la Tsosoloso le Leano la Tswalelo.

Setshwantsho 5: Sekai sa Pusetso ya Lefelo ka tiriso ya Metsi

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3. Matshwenyego a a tlhagisitsweng ke di-I&AP ka nako ya Logato la Tshekatsheko

Go tlhagisitswe matshwenyego a a latelang ka nako ya therisano le setšhaba e e dirilweng ka nako ya Tshekatsheko:

- Loago le ikonomi: Porojeke e tshwanetse go neela ditšhono tsa go neelwa dikgono, kgolo ya sebele, ditšhono tsa ditiro le batho ba ba tshwanetseng go akanyediwa go thapiwa (badiri le di-SMME). Kakanyetso ya ntlha e tshwanetse go neelwa batho ba ba dulang mo lefelong la Thabazimbi le mafelo a a mabapi.
- Boleng kwa Mowa: Netefatsa gore go na le mekgwatiriso ya taolo go fokotsa ditlamorago tse di ka nnang teng mo boleng jwa mowa mo mafelong a a gaufi, ka ntlha ya koketsego ya dikgololo tsa lerole ka nako ya ditiro.
- Boleng jwa Metsi: Lekola ditlamorago tse di ka nnang teng mo metsweding ya selegae ya metsi, go akaretsa metsi a a mo godimo ga lefatshe le moo a ikgobokantseng teng, go tlhatlhoba matshosetsi a kgotlelego le mekgwatiriso ya go laola kgotlelego ya metsi.
- Modumo le Thoromo: Go baya leitlho mo ditlamoragong le go dira mekgwatiriso ya taolo go fokotsa dikgoreletsi tse di nnang teng ka ntlha ya modumo le thoromo.
- Taolo ya matlakala: Go baya leitlho mo matlakaleng a e leng seedi le a a popota a a nnileng teng ka nako ya ditiro, go akaretsa go tshelwa ga masaledi. Go tshwanetse ga netefadiwa gore go na le taolo le tatlho e e maleba go thibela kgotlelego ya tikologo.
- Ditshedi tsotlhe tse di tshelang mo lefelong le le rileng: Porojeke e ka nna le ditlamorago mo dijalong le diphologo tsa selegae ka ntlha ya diphetogo mo tirisong ya lefatshe, tshenyo le kgotlelego e e ka nnang teng ya legaebonno go tswa mo ditirong tsa moepo. Go botlhokwa go supa le go fokotsa matshosetsi a a ka nnang teng mo diphologolong le dijalo tse di farologaneng.
- Ditlamorago tse di oketsegileng: Netefatsa gore ditlamorago tse di oketsegileng tsa tiro e e tshitsinngwang le ditiro tsa mo isagong di letleletswe le gore di a laolwa.
- Mekgwatiriso ya Phokotso: Netefatsa gore go na le mekgwatiriso ya phokotso go thibela kgotlelego ya metsi, mowa le lefatshe mo nakong yotlhe ya kago, mme peoleitlho e e tsweletseng e a dirwa.
- Pholo le pabalesego: Netefatsa gore mekgwatiriso ya pholo le pabalesego di teng mo tiregong yotlhe ya pusetso ya lefelo.
- Tiriso ya mo Isagong ya Lefatshe: Kakanyetso ya tiriso ya mo isagong ya lefatshe.
- Netefatsa gore go akanyediwa batho le ditheo tsotlhe di nang le kgatlhego le tse di amegang mo kopong.

4. Maemo a Botlhokwa a Motheo a kwa lefelong la porojeke le mafelo a a mabapi

4.1 Tlelaemete

Lefelo la porojeke le wela mo dijalong tse di mo Dwaalboom Thornveld, mofuta B wa tlelaemete (mefuta ya tlelaemete e e omileng). Lefelo le farologantshiwa ka dipula tsa selemo, mariga a a omileng le tiragalo ya segagane ka mariga. TSF ya Amandelbult e wela mo mofuta B wa tlelaemete (mefuta ya tlelaemete e e omileng) o o farologanngwang jaaka lefelo la tlelaemete ya Koppen, moo e leng gore thempereitšha ya bogareng ya kgwedi le kgwedi e feta 18°C mme mowafalo o feta pula

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mo bogareng. Mofuta ono wa tlelaemete o anamela go ela kwa bokone le go ela kwa bophirima go tloga mo ekhweitha go ya go didikerii tse di bokana ka 20-35 tsa latitšhuti. Dithempereitšha tsa magareng mo lefelong di kwa godimo ga 18ºC. Go lekanngwa pula e e fetang 80% mo pakeng eno.

4.2 Dipopego tsa lefatshe

Dipopego tsa lefatshe la mo lefelong di ka tlhalosiwa jaaka tsa lefatshe le le se nang dithaba le dithota, ka phokotsego e e bonojana mo bogodimong go ela kwa botlhaba jwa Moepo wa Amandelbult mme di fetogile ka ntlha ya tlhabololo ya TSF mo lefelong. Bogodimo bo fa gare ga 920 m le 980 m. Moepo wa Amandelbult o aroganngwa ke tsela ya R510 e e golaganyang Rustenburg le Thabazimbi, gammogo le seporo sa Transnet, se se tsamayang se bapile le tsela. Go na le meedi e mebedi gaufi le Moepo wa Amandelbult, Bierspruit le Noka ya Crocodile. Bierspruit e fitlhelwa go ela kwa Bophirima jwa Moepo wa Amandelbult mme e elela go ya kwa bokone, e tshela mo Nokeng ya Crocodile. Noka ya Crocodile e fitlhelwa go ela kwa botlhaba jwa Moepo wa Amandelbult mme e elela go ya kwa bokone-bophirima.

4.3 Jioloji

Moepo wa Amandelbult o fitlhelwa mo karolwaneng e e mo bokone-bophirima jwa Bushveld Complex. Llagagodimo ya Lefatshe e e kwa godingwana ya Bushveld Complex e na le selekano se se kwa godimodimo sa di-PGM mo lefatsheng. Le mororo Rifi ya Merensky e tsewa ka kakaretso jaaka mofuta o o tshwanang wa rifi, go direga diphaapano tse dikgolo mo bokimeng kwa rifi, kagego ya rifi, gammogo le seemo sa go tlhagisiwa ga diminerale. Rifi ya UG2 e dirilwe dimetara dingwe tse 20 go ya go 400 fa tlase e e itsegeng botoka jaaka Rifi ya Merensky.

Lefelo la go epa le na le matlapa a a nang le dilekano tsa makenisiamo le tshipi le a a nang le dilekano tse di kwa godimodimo tsa makenisiamo le tshipo, ka dirifi tse tharo tse di leng teng ka fa tlase ga lefelo la go epa, tse e leng rifi ya Merensky, llaga e e Chrome ya Setlhopha se se kwa Godingwana sa *Upper Group Chromite* ya bo2 (UG2) le Seka-rifi se se kwa Tlasenyana sa *Lower Pseudo Reef* (P1).

4.4 Bokgoni jwa Mmu le Temothuo

Bontsi jwa lefelo le le tshitsinngwang bo kgaogantswe ka ditlhopha, mo sedirisweng sa tshekatsheko bo supa gore bafa ya 50 m ya lefelo le Porojeke e e Tshitsinngwang e welang mo go lone mo koafalong ya temothuo le kwa **'Tlase go ya kwa Godimo'**.

Diphitlhelelo tsa motheo tsa mmu, tiriso ya ga jaana ya lefatshe le bokgoni jo bo baletsweng jwa lefatshe di ganetsa sediriswa sa setlhogo sa temothuo, mo mafelong a a arogantsweng jaaka a a nang le dikoafalo tsa bokgoni jwa lefatshe tse di kwa **"Godimo"** mme di dumelana go ya pele le sediriswa sa setlhogo sa temothuo mo mafelong a a arogantsweng jaaka a a "**Kwa tlase thata go ya go Kwa tlase"** le a a "**Kwa tlase-Bogareng go ya go Bogareng."** Ga go a lemogiwa mebu epe e e nang le bokgoni jo bo kwa godimo kgotsa a a tlhagisang dijalo mo bafeng ya 50 m ya lefelo la Porojeke e e Tshitsinngwang.

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4.5 Diphologolo le dijalo tse di Farologaneng

Diyuniti tsa magaebonno a lefelo la porojeke di ka bonwa di tlhalositswe sentle mo Setshwantsho 6. Go supilwe mefutamegolo e le meraro (3) ya magaebonno go ralala Pusetso ya lefelo le Karoganyo ya Amandelbult ya TSF mme a akaretsa:

- Sekgwa se se Kgoreletsegileng.
- Metswedithuso ya Metsi (Mafatshe a a Boraga le Mafatshe a a Boraga a Maitirelo).
- A a fetotsweng.

Dikoafalo tse di golaganngwang le setlhogo sengwe le sengwe di tlhalositswe ka botlalo mo Lenaneo 3, moo di tshwailweng ka gore di ganeditswe kgotsa di netefaditswe. Tlhaloso e e sobokantsweng ya dipholo dingwe le dingwe e neetswe jaaka e e maleba. Ditekano tsa koafalo tse di filweng ke moitseanape di ikaegile segolo thata ka tirego ya Botlhokwa ya Ikholoji ya Lefelo (SEI) leba Setshwantsho 6, mme go akanyediwa go nna teng go go lemogilweng kgotsa go go kgonegang ga Ditshedi tse go Tshwenyegelwang Tshomarelo ya tsone (SCC) kgotsa ditshedi tse di sireleditsweng.

Lenaneo 3: Tshobokanyo ya Sediriswa sa Tshekatsheko vs Koafalo e e Kailweng ke Moitseanape

Setlhogo sa Sediriswa sa Tshekatsheko	Sediriswa sa Tshekatsheko	Legaetlhago	Moitseanape	Sediriswa se Netefaditswe kgotsa se Ganeditswe ke Moitseanape - Mabaka
Setlhogo sa Lefatshe	Kwa tlase thata	Le fetotswe	Kwa tlase thata	Se ganeditswe – Mafelo ano a fetotswe mme a setse ka dijalo tse dinnyane kgotsa ga a sala ka dijalo dipe tsa tlhago.
		Sekgwa se se Kgoreletsegileng	Kwa tlase	Se netefaditswe – Legaetlhago le kgoreletsegile ka ntlha ya ditiro tsa mo malobeng kgotsa tsa ga jaana tse di tlhotlheleditsweng ke batho mme ka jalo le latlhegetswe ke tiro ya go nna lefelo le ditshedi tsotlhe di dulang mmogo mo go lone. Le sa ntse le dira jaaka kgolagano ya go phasalala ga dijalo le diphologolo.
		Metswedi ya Metsi	Magareng	Se ganeditswe – Le fa a kgoreletsegile, bokgoni jwa go boela mannong ga lefelo le ditshedi tsotlhe di dulang mmogo mo go lone, botlhokwa le go dira ga mafelo ano go na le seabe sa botlhokwa jaaka mokgwatsamaiso wa metswedithuso ya metsi a selegae le mo kgaolong, le legaebonno la botlhokwa la diphologolo le dijalo tse di farologaneng.

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Setlhogo sa Sediriswa sa Tshekatsheko	Sediriswa sa Tshekatsheko	Legaetlhago	Moitseanape	Sediriswa se Netefaditswe kgotsa se Ganeditswe ke Moitseanape - Mabaka
Setlhogo sa Diphologolo	Kwa godimo	N/A	Kwa tlase	Se ganeditswe – Ga go a lemogiwa SCC epe, gape, di-SCC dingwe tsa diphologolo di ka tsamayatsamaya mo lefelong kwa ntle ga thulaganyo epe e e rileng, mme fela ga go na kgonagalo ya gore di tla nna di le mo lefelong.
Setlhogo sa Dijalo	Kwa tlase	N/A	Kwa tlase	Se netefaditswe – Ga go na di-SCC tse di lebeletsweng kgotsa tse di solofetsweng.

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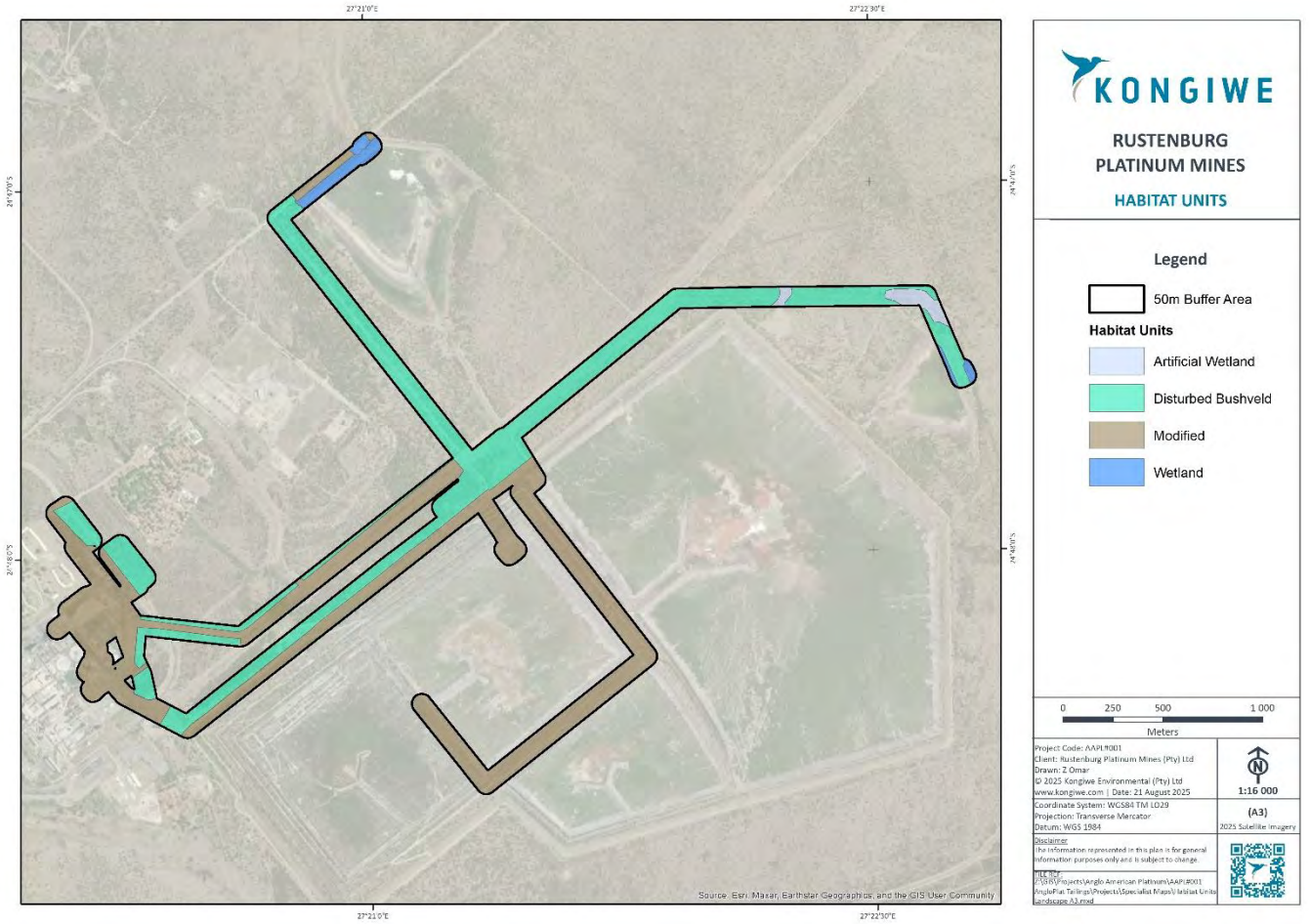

Setshwantsho 6: Magaetlhago a a Supilweng mo Lefelong la Porojeke e e Tshitsinngwang la Amandelbult

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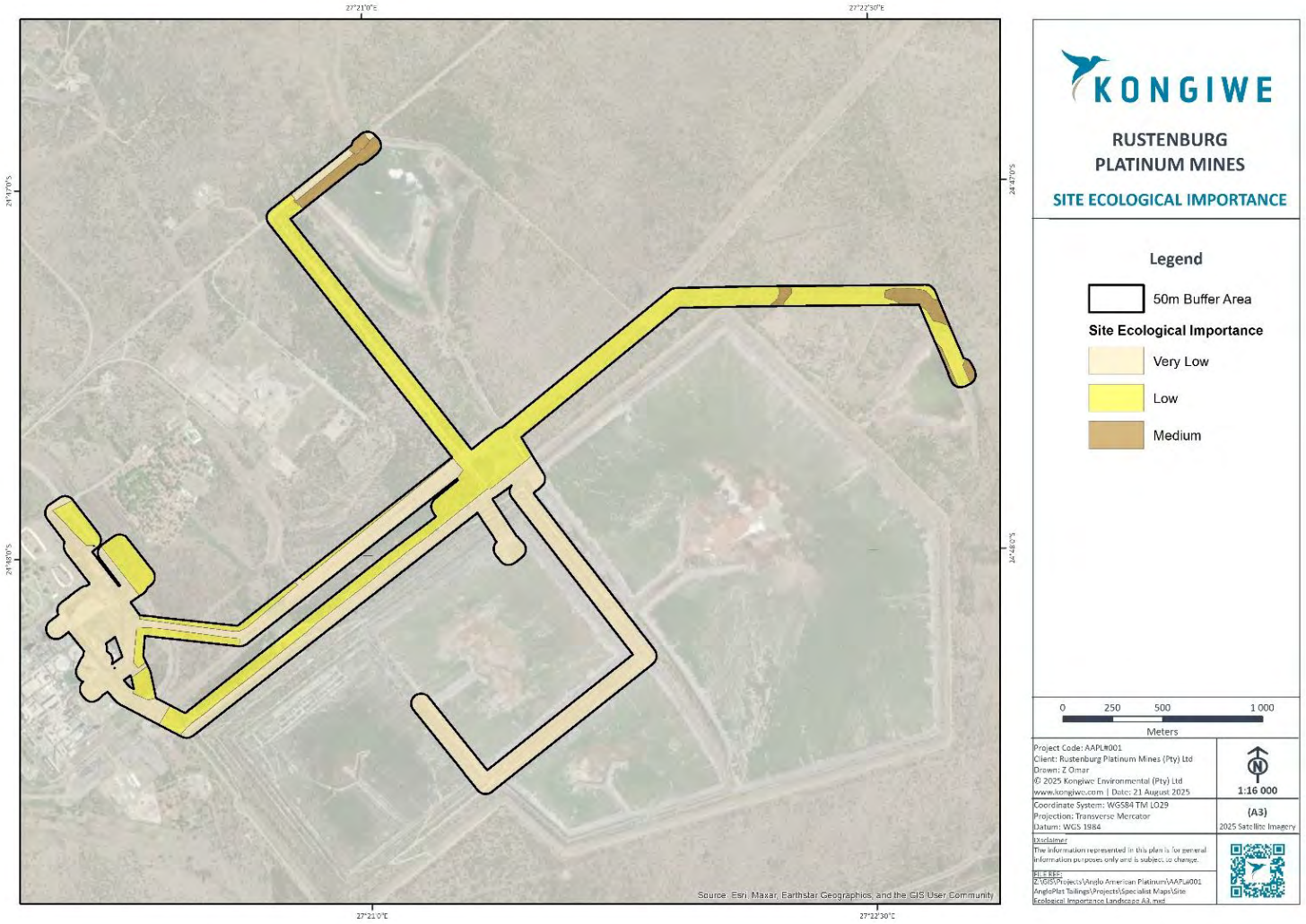

Setshwantsho 7:: Mmepe o o Bontshang Botlhokwa jwa Ikholoji mo Lefelong jwa Lefelo la Porojeke le le nang le Tlhotlheletso (PAOI)

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4.6 Mafatshe a a boraga

Porojeke e e Tshitsinngwang e wela kwa ntle ga mafatshe a a boraga le mafelo a a boraga a maitirelo mo lefelong le le tshitsinngwang, go akaretsa mafelo a a epegileng a maitirelo, matamo le mafelo a minoloso.

Porojeke e e tshitsinngwang e wela kwa ntle ga lefelokaroganyo la dimetara tse 500 le le dikologileng mafatshe ape a a supilweng a a boraga a a supilweng mo Setshwantsho 8. Di kopantswe go nna yuniti e le nngwe ya Hydrogeomorphic (HGM) ka ntlha ya tiro ya tsone e tshwanang le seemo sa tsone. Mo godimo ga moo, mafelo a le mmalwa a a kolobileng a maitirelo a lemogilwe mo PAOI, go akaretsa mafelo a a itiretsweng a a epegileng, matamo, le mafelo a minoloso. Mafaratlhatlha a a tshitsinngwang a TSF ga a fete mo mafelong a a epegileng a maitirelo, mme yuniti ya Hydrogeomorphic (HGM) le matamo a fitlhelwa mo sekgaleng se se fetang 500 m go tswa mo lefelong le le tshitsinngwang la kago. Dipharologantsho tsotlhe tse dingwe tse di lemogilweng di efogilwe ka katlego ke lefelo la kago. Moitseanape yo o dirileng ditekanyo tsa koafalo tse di tlhagisitsweng mono o akanyetsa go nna teng ga dipharologantsho, bogolo jwa tsone le dipharologantsho tsa ikholoji tsa mafelo a a boraga. Dikoafalo tse di golaganngwang le setlhogo sengwe le sengwe di tlhalositswe ka botlalo mo Lenaneo 4, moo di tshwailweng fa di ganediwa kgotsa di netefadiwa.

Lenaneo 4: Tshobokanyo ya Sediriswa sa Tshekatsheko fa se bapisiwa le Dikoafalo tse di Kailweng ke Moitseanape

Pharologantsho	Setlhogo sa Sediriswa sa Tshekatsheko	Sediriswa sa Tshekatsheko	Diphitlhelelo tsa Boitseanape	A Sediriswa se Netefaditswe kgotsa Se Ganeditswe ke Moitseanape – Mabaka
HGM 1	Setlhogo sa Diphologolo le Dijalo tse di Farologaneng tsa mo Metsing	Kwa tlase	Kwa godimo thata	Se ganeditswe – Go supilwe mafatshe a tlholego a a boraga a a neelang dilekano tsa bogareng tsa tshiamelo ya ikholoji. Le fa go ntse jalo a efogiwa gotlhelele ke boitlhophelo jo bo dirilweng.
Bafa ya 15 m	Setlhogo sa Diphologolo le Dijalo tse di Farologaneng tsa mo Metsing	Kwa tlase	Magareng	Se ganeditswe – Le fa mafelokaroganyo a sa bontshe dipharologantsho tsa metsi a foreše, tshomarelo ya one e botlhokwa mo go lekanyetseng ditlamorago mo mafatsheng a a boraga gonne a bopa dintshi tsa mafelo a a boraga mme ka jalo go na le kgolagano ya mafelo le mafelo a a boraga. Ka jalo koafalo ya mafelokaroganyo e tlhomamisiwa ke lefatshe le koafalo ya dipopegofatshe tse di akareditsweng. Le fa go ntse jalo di efogiwa gotlhelele ke boitlhophelo jo bo dirilweng.

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Pharologantsho	Setlhogo sa Sediriswa sa Tshekatsheko	Sediriswa sa Tshekatsheko	Diphitlhelelo tsa Boitseanape	A Sediriswa se Netefaditswe kgotsa Se Ganeditswe ke Moitseanape – Mabaka
Mafelo a a boraga a maitirelo, Lefelo la Minoloso, Tšhanele ya metsi a a elelang fa pula e nele	Setlhogo sa Diphologolo le Dijalo tse di Farologaneng tsa mo Metsing	Kwa tlase	Kwa tlase	Se netefaditswe – Tseno ke dipharologantsho tsa maitirelo tse di se nang koafatso ya ikholoji mme di ka emisa go nna teng fa metsi a a tsenang a maitirelo a emisiwa le fa lefatshe le busediwa seemo sa sone sa pele ga go kgoreletsega. Mo godimo ga moo, le fa go lemogilwe dimela tsa mo lefatsheng le le boraga mo mafelong a a boraga a maitirelo, ga go tsewe gore mafelo ano a na le tiro ya go nna lefatshe la tlholego le le feletseng le le boraga. Le fa go ntse jalo tseno di efogiwa gotlhelele ke boitlhophelo jo bo dirilweng.
Lefelo le le Setseng	Setlhogo sa Diphologolo le Dijalo tse di Farologaneng tsa mo Metsing	Kwa tlase	Kwa tlase	Se netefaditswe – Ga go a lemogiwa dipharologantsho dipe tsa metsi a a mo godimo ga lefatshe a tlholego mo mafelong ano. Le fa go ntse jalo, go efogilwe gotlhelele ke boitlhophelo jo bo dirilweng.

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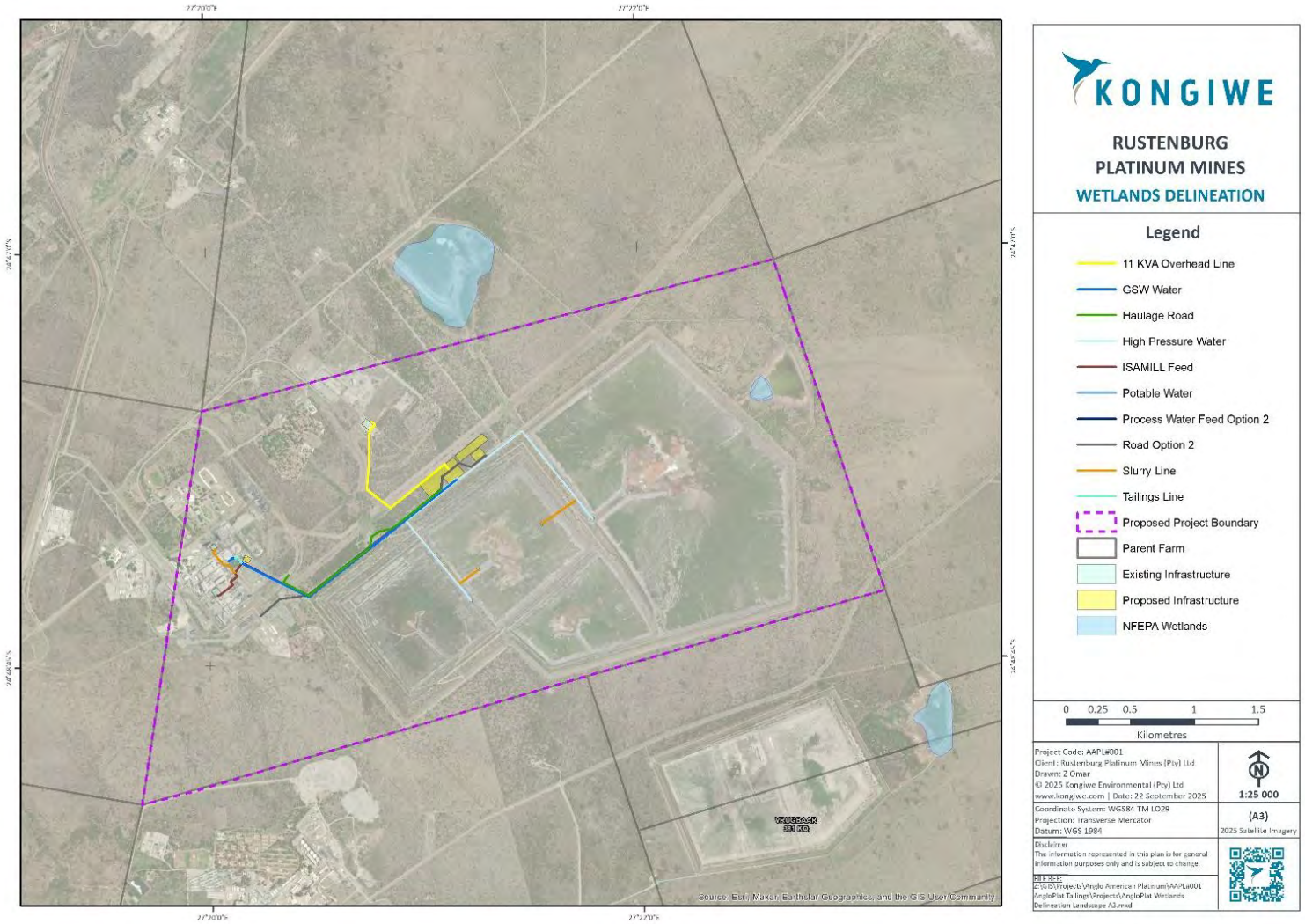

Setshwantsho 8: Tlhaloso le tlhagiso ya Dipharologantsho tsa Lefatshe le le Boraga mo Lefelong la Porojeke le le nang le Tlhotlheletso

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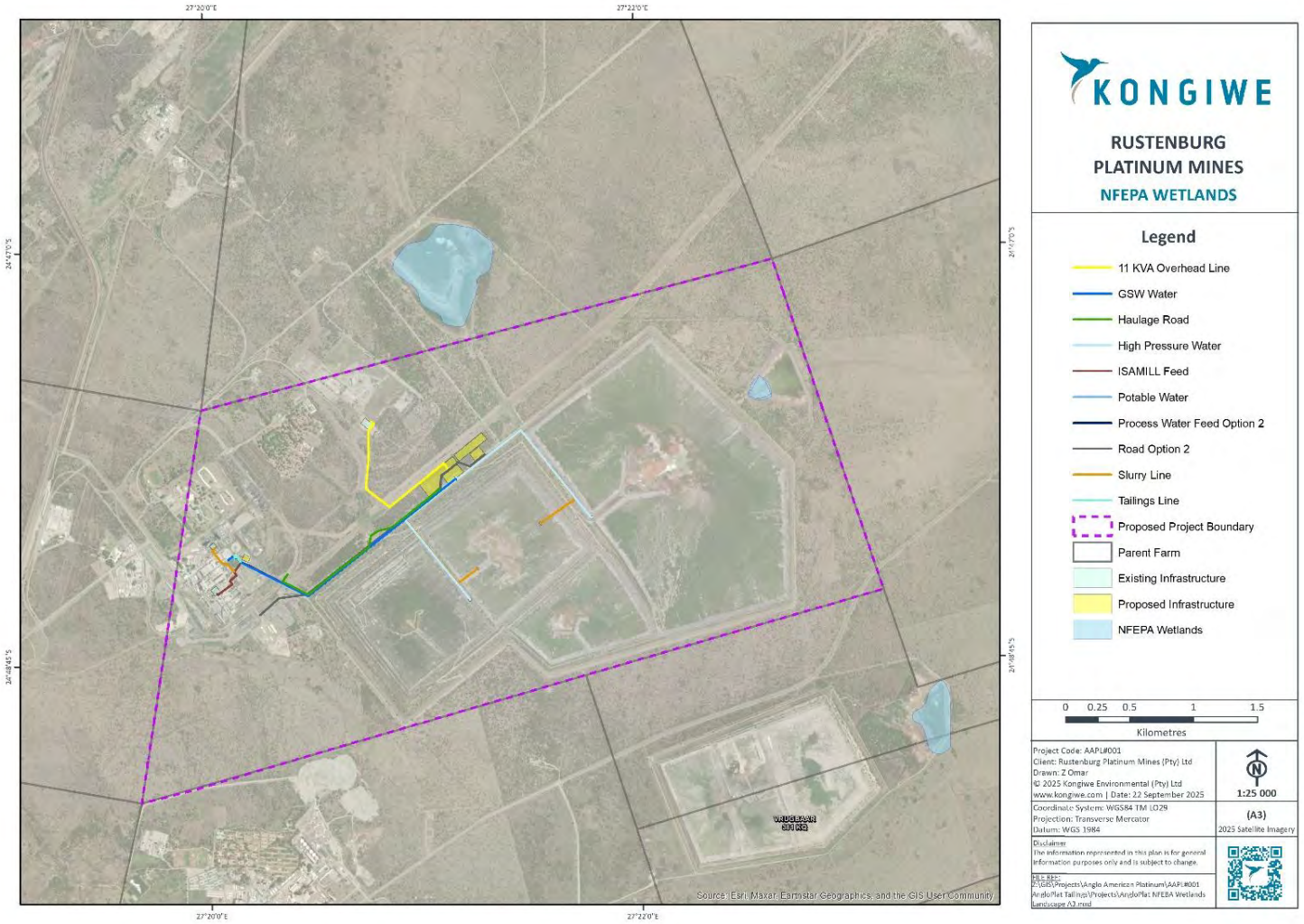

Setshwantsho 9: Mmepe wa Mafatshe a a Boraga wa NFEPA

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4.7 Metsi a a mo godimo ga lefatshe a a mo go tswaletsweng teng mo lefelong

Porojeke e e Tshitsinngwang e fitlhelwa mo Lefelong la Taolo ya Metsi la Bokone-bophirima jwa Limpopo mo mafelong a mabedi a bodutiso a mannyane a A24C (Crocodile) le A24F (Bierspruit). Karolo e e mo bophirima jwa moepo e wela mo teng ga lefelo la bodutiso la A24F mme e minolosa segolo thata go ela kwa bokone le bophirima go ela kwa nokeng ya Bierspruit e e elelang fela fa pula e nele. Middellaagtespruit ke modutela wa Bierspruit gaufi le lefelo la TSF. Karolo e e mo botlhaba jwa moepo e wela mo teng ga bodutiso jwa A24C mme e minolosa segolo thata go ela kwa bokone-botlhaba le botlhaba mme e feta mo melatswaneng e le mmalwa e e elelang fela mo nakong e khutshwane go ela kwa Nokeng ya Crocodile e e sa khutleng go elela. Mafelo a go tshotsweng sampole mo go one a kailwe le go sobokanngwa mo Lenaneong Table 5.

Table 5: Tlhaloso ya Mafelo a Peoleitlho mo Boleng jwa Metsi a a mo godimo ga lefatshe mo Mafaratlhatlheng a mo Lefelong

Lefelo le le Beilweng Leitlho	Tlhaloso ya Lefelo	Bogodimo*	Boleele*
AMD J (AMC 02)	Letamo le le tshwarang metsi a a boang	-24.78177	27.35029
AMD U (AMC 01)	Letamo le le tshwarang metsi	-24.79265	27.37930
AMD T1 (AMC t1)	Mesele	-24.79565	27.35788
AMD T2 (AMC 03)	Mosele o o tswang kwa polanteng go ya kwa Letamong la Metsi a a elelang fa pula e nele	-24.80627	27.33068
Letamo la metsi a a elelang fa pula e nele la CRP	Letamo la metsi a a elelang fa pula e nele la CRP	-24.80382	27.33265
Letamo la tshireletso ya bojang la Kilken	Letamo la tshireletso ya bojang la Kilken	-24.80348	27.33614

Dintlha tse di latelang di neela tshobokanyo ya boleng jwa metsi mo mafelong a a tswaletsweng mo lefelong, a a dirisiwang gape mo mokgwatsamaisong wa kelelo e e sa khutleng:

- pH e ne e le mo selekanyetsong se se siameng ka Motsheganong 2024 kwa CRP SWD moo pH e neng e feta selekanyetso go se kae fela.
- Phetiso ya Motlakase (EC) mo bogareng e ne e fetile ditekanyetso kwa kwa mafelong otlhe a a neng a beilwe leitlho mo go bontshang matswai a mantsi thata a a tlhaologileng mo seketeng ya metsi a leswe.
- Palogotlhe ya dilekano tse di kwa godimo tsa diminerale e ne e le kwa godingwana ga 600 mg/l ka kakaretso mo mafelong a mantsi a peoleitlho mme e ka tlhalosiwa jaaka selekano se se kwa godimo thata sa diminerale mo metsing.
- Sodiamo le tleloraete di ne di feta ditekanyetso kwa mafelong otlhe a peoleitlho mo gare ga dikgwedi tse dintsi.
- Go rekotilwe dilekano tse di kwa godimo tsa naetereiti kwa mafelong a mantsi a peoleitlho.

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- Dimetale tse di boima (aluminiamo, tshipi, mankanese, Chrome, kopore, khobalete, katemiamo, nikele, lloto le zinki) mo bogareng di fetile ditekanyetso kwa mafelong a mantsi a a neng a beilwe leitlho.
- E.coli e ne e oketsegile kwa mafelong otlhe a a neng a beilwe leitlho.

Ka bokhutshwane, boleng jwa metsi a sekete sa metsi a leswe kwa AMB bo ka tlhalosiwa jaaka jo bo nang le pH e e timotsweng go ya go ya alekhalaene, a le letswai thata e bile a na le diminirale tse di tlhaologileng, gammogo le naetereiti e e oketsegileng, dimetale tse di boima le E. coli.

4.8 Metsi a a ka fa tlase ga lefatshe

Dingwe tsa didiba tse di borilweng tse di lekeleditsweng ke Water Hunters di ne di akareditswe mo Sensaseng ya Metsi ya 2025. Didiba tsotlhe tsa Sensase ya Metsi tse di etetsweng di dirisiwa ke AMB go baya leitlho mme ga go na sediba sepe se se tsentsweng dipompo ka nako ya Sensase ya Metsi. Boteng jwa sediba se se borilweng bo ga bo ko teng thata, bo fa gare ga 21 m le 33 m. Boteng jwa tafole ya metsi a a ka fa tlase ga lefatshe bo ne bo le fa gare ga 0.52 m le 11.98 m fa tlase ga bogodimo.

Patlisiso ya Sensase ya Metsi e akareditse mafelo a a fitlhelesegang mo radiaseng ya 2.5 km go tswa mo TSF 2 mme e tsepamisitse mo go supeng didiba tse di borilweng tse di leng teng go oketsa kitso ya go suta ga metsi a a ka fa tlase ga lefatshe le tiriso ya metsi a a ka fa tlase ga lefatshe. Go supilwe didiba tse di borilweng tse somethataro (16), tsotlhe tsa tsone di mo lefelong la AMB.

Didiba tsotlhe tse di borilweng tse 16 di dirisiwa kgotsa di ne di dirisiwa mo nakong e e fetileng go direla mabaka a go baya leitlho mo metsing a a ka fa tlase ga lefatshe. Dingwe tsa didiba tse di borilweng mo tikologong ya RWD di epilwe gore di dire jaaka didiba tse di borilweng tsa skhafenja, mme go fitlhelela ga jaana di ne di dirisetswa fela mabaka a peoleitlho mo metsing a a ka fa tlase ga lefatshe.

Dilekano tsa metsi a a ka fa tlase ga lefatshe di lekanngwa ka go dirisa metara wa dipi go lekanya sekgala go tswa mo molomong wa sediba se se borilweng (bogodimo jwa kholoro ya sediba se se borilweng) go ya kwa boteng jwa tafole ya metsi a a ka fa tlase ga lefatshe mo sedibeng se se borilweng. Bogodimo jwa koloro ya sediba se se borilweng bo tlositswe mo selekanong se se lekantsweng sa metsi go tlhalosa selekano sa metsi se se mo tlase ga bogodimo jwa lefatshe (se se lekanngwang ka m bgl). Go tshotswe le disampole tsa metsi a a ka fa tlase ga lefatshe, moo go kgonegang teng.

Ditekano tsa selekano sa metsi a a ka fa tlase ga lefatshe di kgonne go dirwa mo didibeng tse di borilweng tse 15 tsa didiba tse 16. Go bontshitswe gore dilekano tsa metsi a a ka fa tlase ga lefatshe mo kgaolong di a farologana, mme seno go na le kgonagalo ya gore se golaganngwa le ditiro tsa go epa, monyelego go tswa mo di-TSF le matamo a moepo, kgotsa mekgwatsamaiso e e bulegileng ya akhwifa. Selekano sa metsi a a ka fa tlase ga lefatshe se fa gare ga 0.52 m bgl (sediba se se borilweng sa RWD PO3) le 11.98 m bgl mo sedibeng se se borilweng sa WM08 (bokone jwa lefelo la Polante le seporo). Didiba tse di borilweng tse di gaufi le Letamo la Metsi a a Boang (RWD) le Letamo le le Tshwarang Metsi di bontsha dilekano tsa metsi a a ka fa tlase ga lefatshe a a seng kwa teng thata fa go bapisiwa le didiba tse dingwe tse di borilweng. Dilekano tsotlhe tsa metsi a a ka fa tlase ga lefatshe mo didibeng tseno tse di borilweng ka bogareng di 1.4 m mo tlase. Mo bontsing jwa didiba tse dingwe tse di borilweng palogare ya boteng mo tafoleng ya metsi ke 7.4 m ka fa tlase.

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Go ya ka dipholo tsa boleng jwa metsi go dirilwe ditshwetso tse di latelang (papiso ya SANS 241:2015):

- **Ditlamorago mo Pholong:**
  - **Tshipi** – Selekano se se oketsegileng sa tshipi se lekantswe mo sedibeng se se borilweng sa EMPR15 (motswedi wa metsi BH), ka selekano sa tshipi sa dimiligerama tse 4.33 ka litara (mg/L), fa go bapisiwa le palogodimo e e letlelesegang ya selekano sa 2 mg/L. Sediba seno se se borilweng se mo perimetareng e e mo borwa (motswedi) ya TSF 2 le TSF 3A. Palogotlhe ya selekano sa tshipi kwa EMPR 08 (kwa metsi a elelelang go ya teng) e ne e le 0.034mg/L mme Palogotlhe ya selekano sa tshipi e ne e kwa fa tlase ga tekanyetso ya temogo ya sampole ya lefelo la minoloso le le kwa tlase (kwa metsi a elelelang go ya teng).
  - Selekano sa ayone e e tlhaolotsweng e na le kgonagalo ya go amana le ditiro tsa go epa tsa mo nakong e e fetileng mme e ikaegile ka go direga ga dimetale tse dingwe tse di boima, tse di jaaka mankanise, le pH ya metsi.
  - **Mankanise** – Mankanise ke elemente e kwa tlwaelo e leng ntsi, e e dirang bokana ka 0.1% ya legogo la lefatshe. Go lekantswe gore sediba se se borilweng sa EMPR15 se na le selekano sa mankanise se se fetang tekanyetso ya ditlamorago tsa mo pholong – 0.66 mg/L fa go bapisiwa le palogodimo e e letlelelwang ya selekano sa 0.4 mg/L. Mankanise e na le go tswa mo motswakong go bopa okosaete e ntsho e e se nang metsi e e leng yone sebako sa mathata a go fetola mmala. Selekano sa mankanise kwa mafelong a mangwe a mabedi a go tshotsweng sampole mo go one se feta tekanyetso (0.1 mg/L), mme se sa ntse se le kwa tlase ga selekanyetso sa ditlamorago mo pholong le boitekanelo sa 0.4 mg/L.
  - **Salefeiti** – Salefeiti e bopa matswai le dikheišene tse di farologaneng tse di jaaka pothasiamo, sodiamo, khalesiamo, makenesiamo, bariamo, lloto le amoniamo (DWAF, 1996). Salefeiti ke karolwana e e tlwaelegileng ya metsi mme e nna teng fa go direga kgaogano ya disalefeiti tsa diminerale mo mmung le matlapa. Ka ntlha ya gore disalefeiti tse dintsi di kgona go tlhaologa mo metsing di na le go kokoana go oketsa dilekano tsa teng. Kgotlelego ka salefeiti e solofelwa mo metsing a a kgotletsweng ke ditiro tsa go epa, ka ntlha ya okosideišene ya disalefaete mo manyeng le mo matlakaleng.
  - Selekano sa salefeiti se oketsegile mo mafelong otlhe a le mararo a go tshotsweng sampole mo go one, ka dilekano tse di fa gare ga 634 mg/L le 689 mg/L mo didibeng tse di borilweng, le 941mg/L mo sampoleng ya minoloso e e diregang kwa tlase. Tekanyetso ya boitekanelo e beilwe mo go 500 mg/L.

- **Ditlamorago tse di itumedisang / tsa tiro:**
  - **Sodiamo** – Sodiamo e ntsi mo tikologong mme ka gale e direga jaaka sodiamo tleloraete, mme ka dinako tse dingwe jaaka sodiamo salefeiti, sodiamo baekhaboneiti kgotsa le fa e le sodiamo naetereiti (DWAF, 1996). Sodiamo e kgona thata go tlhaologa mo metsing mme ga e tswe fa metsi a mowafala, ntle le fa go direga tlhaologo ka gotlhe. Sediba se se borilweng sa EMPR15 (438 mg/L) le minoloso ya kwa tlase 27 (486 mg/L) di bontsha dilekano tse di oketsegileng tsa sodiamo tse di fetang selekanyetso (200 mg/L) sa metsi a a nowang. Ka tirisogape ya metsi, go na le kgonagalo ya gore selekano sa sodiamo se tla go oketsega ka saekhele nngwe le nngwe kgotsa go tsenngwa ga sodiamo mo metsing. Ka ntlha ya lebaka leno, dilekano tsa sodiamo di a oketsega mo metsing a a elelang kgotsa metsi a a kgotlelegileng.

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- **Tleloraete** – Dilekano tse di oketsegileng tsa tleloraete di lekantswe kwa mafelong otlhe a go tshotsweng sampole mo go one ka dilekano tse di lekantsweng tsa fa gare ga 513 le 969 mg/L. Ditleloraete tsa sodiamo, pothasiamo, khalesiamo le makenesiamo di tlhaologa thata mo metsing. Fa e setse e le mo motswakong tleloraete e na le go kokoana ka bontsi.
- **Amoniamo** – Khemeseteri ya amonia e raraane thata, segolo bogolo moo go nang le dimetale tse di nang le dielemente tsa sekhemikale mo metsing, mme fa amonia ka boyone e na le botlhole jo bo kwa tlase, ga e se gore go ntse jalo mo motswakong wa yone o o golaganyang athomo ya metale le athomo ya khabone (DWAF, 1996). Go na le kgonagalo ya gore dingongorego tsa moutlwalo le monkgo di ka direga fa selekano sa amonia se feta 1.5 mg/L. Dilekano tse di kwa godimo tsa amonia gape di ka baka naetereiti, e go nang le kgonagalo ya gore e ka nna kotsi, segolo bogolo mo baneng (DWAF, 1996). Metsi a a tshotsweng mo lefelong le le kwa tlase la minoloso la 27 a bontshitse selekano se se oketsegileng sa Amoniamo (4.7 mg/L) se se fetang ditekanyetso tsa metsi a a nowang moo go beilweng selekanyetso sa 1.5 mg/L.
- Ditekanyetso tsa kaedi ya SANS 241 ya EC le TDS di fetilwe mo mafelong otlhe a go tshotsweng disampole kwa go one. Selekano sa EC se ne se le fa gare ga 287 le 422 mS/m. TDS e ne e le fa gare ga 2039 le 3114 mg/L.
- **Palogotlhe ya Selekano sa Diminerale** – Go lekantswe dipalogotlhe tse di kwa godimo thata tsa selekano sa diminerale kwa mafelong otlhe a le mararo a go tshotsweng sampole kwa go one. Go nna le selekano se se kwa godimo sa diminerale go tlhotlhelediwa ke go nna teng ga khalesiamo le matswai a makenesiamo. Dimetale tse dingwe tse di jaaka seteronthiamo, tshipi, aluminiamo, zinki le mankanese di ka nna le seabe mo selekanong se se kwa godimo sa diminerale sa metsi, mme fela gantsi go nna le khalesiamo le dilekano tsa ayone tsa makenesiamo mo metsing. Palogotlhe ya selekano se se kwa godimo sa diminerale e fa gare ga 1454 mg/L le 1755 mg/L.
- **Go nna tshweunyana ga metsi** – Bolengpalo jwa go nna tshweunyana ga metsi bo ne bo le kwa godimo mo mafelong otlhe a go tshotsweng disampole kwa go one. Didiba tse di borilweng ga di dirisiwe mme go tsaya sampole go na le kgonagalo ya gore go kgorelediteе mmukgogodi mo teng ga khuti ya sediba se se epilweng. Metsi a a tswang mo lefelong la minoloso le le kwa tlase la 27 a golaganngwa le kelelo e e tlhomameng ya metsi, ka kgonagalo ya sere se se itshekileng mo metsing. Lefelo la minoloso le le kwa tlase la 27 le tlhagisa palonyana e e kwa tlasenyana thata ya go nna tshweunyana ga metsi.

Sekao sa dipalo se ikaegile ka dikakanyo tse di latelang:

- Go tla dirisiwa dipalo tse di akanngwang go farologantsha selekano se se rileng sa akhwifa e e fetogileng mme e se kwa teng gammogo le seelo sa retšhatšhe.
- Le fa go fetilwe mo mephanyegong le dipopego tsa lefatshe mo ditirong tsa ka fa tlase ga lefatshe mo bokone jwa TSF 2, ga jaana ga go na tshedimosetso e e leng teng e e tshitsinyang gore sepe sa tseno se fetela kwa bogodimong kgotsa kwa tlase ga di-TSF tsa Amandelbult. Seno se raya mafelo a a phanyegileng a a golaganngwang le karolo e e fa gare ga mophanyego ya Middellaagte e e atologelang kwa lefelong la TSF3A.
- Ga jaana ga go na gape le deitha e e lekantsweng ya lefelo e e tshitsinyang maemo a a oketsegileng a akhwifa mo mephanyegong e e bonelwang pele. Go direla mabaka a tlhatlhobo eno, go tsewa gore ga go na mephanyego epe e e bonalang kgotsa dikarolo dipe tse di fa gare ga mephanyego tse di leng teng mo tlase ga di-TSF, tse di ka dirang jaaka ditselana tse di tlhophilweng tsa kelelo go tsena mo metsing a a ka fa tlase ga lefatshe.

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- Go akanyediwa fela mephanyego e e golaganngwang le karolo e e fa gare ga mophanyego ya Middellaagte mo thutopatlisisong eno. Tsone di fitlhelwa mo bokonebotlhaba jwa TSF 2 mme ga di ralale lefelo la TSF2.
- Le fa go ntse jalo go atlanegisiwa gore dipharologantsho tsa metsi tsa mafelo a a nang le mephanyego e e golaganngwang le karolo e e fa gare ga mophanyego ya Middellaagte di a batlisisiwa le go tlhomamisiwa.
- Go tsewa gore ditiro tsa ga jaana tsa go epa tsa mo tlase ga lefatshe le tsa khuti e e seng boteng thata ga di kitla di ama dilekano tsa metsi a a ka fa tlase ga lefatshe ka nako ya pusetso le lefelo ya TSF 2. Deithasete ya ga jaana e tshitsinya lefelo le le utlwalelwang ke ditlamorago mo dilekanong tsa metsi a a ka fa tlase ga lefatshe, ka ntlha ya go epa, ga le atologele kwa di-TSF tsa Amandelbult. Go tsewa go ya pele gore ditiro tsa mo isagong tsa go epa tse di tla elang kwa ntlheng ya di-TSF le tsone ga di kitla di ama dilekano tsa metsi a a ka fa tlase ga lefatshe ka ntlha ya gore boteng jwa moepo bo tla feta 1300 m ka fa tlase ga bogodimo. Seno ke ka ntlha ya kgaoganyo e e tsepameng fa gare ga diakhwifa tse di seng boteng thata mo tlase ga di-TSF le ditiro tsa ka mo tlase ga lefatshe.
- Pharologantsho ya motswedi e e dirisitsweng mo porojekeng e sweditswe go tswa mo deithaseteng e e leng teng. Gonne deitha ya teko e e lekanyang bokgoni jwa dire jwa go tlhaologa go nna seedi e ne e sa dirwa mo matherialeng wa masaledi, selekano se se rileng sa sere se sweditswe go tswa mo deithaseteng ya peoleitlho ya metsi a a ka fa tlase ga lefatshe le metsi a a leswe.
- Go latetswe Molawanatheo wa Temoso ya Matshosetsi mo tlhokegong ya tshedimosetso e e rileng ya jiokhemikhale.
- Ke fela tsamaiso ya dikgotledi e e etsisitsweng. Le fa go amogelwa gore phokotso e tla direga mo mebung, ga jaana go na le tshedimosetso e e sa lekanang go kaya selekano se seno se ka diregang ka sone. Ka jalo, diketsiso di ikaegile ka Molawanatheo wa diketsiso mo Molawanatheong wa Temoso ya Matshosetsi ple mme di akanyetsa maemo a a etegetseng.
- Selekano sa tebego ya boalo sa sekao sa dipalo se ikaegile ka dikgoreletsi tsa tlholego tsa metsi a a ka fa tlase ga lefatshe go akaretsa diaroganyi tsa metsi, gammogo le dinoka le melapo. Go tsewa gore selekano se se tsepameng sa ditlamorago tse di ka nnang teng tse di golaganngwang le TSF di ka se atologele go nna tse di kwa teng go feta 100 m fa tlase.

Ga go a supiwa kotsi epe ya go tshologa ga metsi a a kgotlelegileng mo porojekeng eno.

4.9 Boleng jwa Mowa

Maikemisetsomagolo a tlhatlhobo ya ditlamorago tsa boleng jwa mowa ke go tlhomamisa selekano sa ditlamorago mo tikologong le batho ba ba amegang ka ntlha ya dikgololo tse di bakilweng ke ditiro tse di tshitsinngwang jaaka karolo ya porojeke mme e atlanegisa mekgwatiriso e e maleba ya taolo le phokotso.

Manaane a dikgololo a kwadile metswedi yotlhe e e ka dirang dikgotledi tse di tshwenyang tse di jaaka ditiro tsa kago, dikgololo tse di nnang ka ntlha ya phetolo ya seretala, go tswa ga lerole le le tsogang fa serori se feta, go tswa ga masaledi, le tse di tswang mo tirisong ya dimatheriale tse di dirisiwang mo tirong ya go epa. PM e emetse Motswako wa Dikarolwana tse di Tshesane tse di Fitlhelwang mo Moweng, e e leng motswako wa dikarolwana tse di nnyane le tse di popota le marothodinyana a seedi tse di mo moweng. Dikarolwana tseno di farologana ka bogolo, kwa di simololang teng, le popego ya sekhemikale. PM10 e bontsha dikarolwana tse dikgolwane tse ka kakaretso di tshwenyang nko le mometso mme PM2.5 e bontsha dikarolwana tse di tshesane tse di ka tsenang mo makgwafong.

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Ditiro le dikgololo tse di amanngwang le tsone di tlhalositswe fa tlase mmogo le mekgwatiriso ya phokotsego e e ka nnang teng. Ka ntlha ya gore lefelo la porojeke ya Amandelbult le fitlhelwa mo Lefelo la Setlapele le le kailweng la Waterberg-Bojanala (WBPA) moo motswako wa dikarolwana tse di tshesane tse di fitlhelwang mo moweng e leng sengwe sa dikgotledi tse dikgolo tse di tshwenyang, dikarolo tsotlhe tsa porojeke ya pusetso ya lefeelo di tshwanetse go fokodiwa go tshola dikgololo di le kwa tlase. Lefelo la sekao le le amegang le sekgala sa one le dikgokanyi tse di tlhagisitsweng mo Lenaneo 6 fa tlase:

Lenaneo 6: Dikgokaganyi tsa UTM le Sekgala sa Mafelo a Sekao

Lefelo la sekao le le amegang	Tlhaloso	Dikgokaganyi tsa UTM	Sekgala (m)
1	Sekolo se se gaufi thata mo Bophirima-bokone-bophitima jwa TSF ya Amandelbult Matamo 1, 2, 3A le 3B	534478.00 m E 7257436.00 m S	970.69
2	Ntlo e e gaufi thata borwa-bophirima jwa TSF ya Amandelbult Matamo 1, 2, 3A le 3B	534230.00 m E 7254419.00 m S	985.38
3	Ntlo e e gaufi thata botlhaba jwa TSF ya Amandelbult TSF ya Amandelbult Matamo 1, 2, 3A le 3B	540207.00 m E 7257386.00 m S	949.91

Papiso ya palogodimo ya dilekano tsa sekao mo mafelong a a amegang mo maemong a le mararo a go dirilweng sekao ka one e tlhagisitswe mo Lenaneo 7. Dilekano tse go dirilweng sekao ka tsone di bontsha gore go tla itemogelwa ditlamorago tse dikgolo thata tsa tirego ya pusetso ya lefelo mo bathong ba go nang le matshosetsi a gore ba ka amiwa ke ditlamorago mo bokone-bophirima kwa TSF ya Amandelbult Matamo 1, 2, 3A le 3B kwa Sekolong sa Poraemari sa Rethabile le lefelo le le mabapi la bodulo. Botlhokwa jwa phokotso le bone bo tlhalositswe sentle. Seno se botlhokwa thata gape fa go akanyediwa gore moepo le Matamo a one a TSF o fitlhelwa mo Lefelong la Setlapele la Waterberg-Bojanala moo dilekano tsa sere di oketsegileng teng.

Lenaneo 7: Papiso ya Palogodimo ya Dilekano tsa sekao mo Mafelong a Mararo a a Amegang mo Maemong a le Mararo a go dirilweng sekao ka one

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Nako ya Bogareng	Lefelo le le amegang	Palogodimo ya Selekano se go dirilweng sekao ka sone (µg/m3)		
		Maemo a ga jaana	Maemo a a Etegetseng a Pusetso ya lefelo	Maemo a a Fokoditsweng Bogale
PM10 diura tse 24 (phesenthaele ya bo99)	1	22.6	66.8	44.9c
	2	14.5	21.8	16.9c
	3	6.4	16.3	6.5c
PM2.5 diura tse 24 (phesenthaele ya bo99)	1	9.4	10.1c	9.2
	2	5.7	6.0c	5.1
	3	2.5	2.4	2.3c

Go etsisitswe maemo a le mararo – maemo a ga jaana a a bontshang dikgololo tsa ga jaana go tswa mo Matamong otlhe a TSF a Amandelbult pele ga tshimololo ya tirego ya pusetso ya lefelo; maemo a a etegetseng; le maemo a a fokoditsweng. Go anama ga sere go kailwe go fitlha ka sekgala sa 5 km go tswa mo ntlheng ya bogareng. Dimmepe tse di fa tlase di tlhagisitse mela ya dipholo tsa sekao sa ga jaana mme di neetswe mo Setshwantsho 10 go fitlha go Setshwantsho 17 fa tlase:

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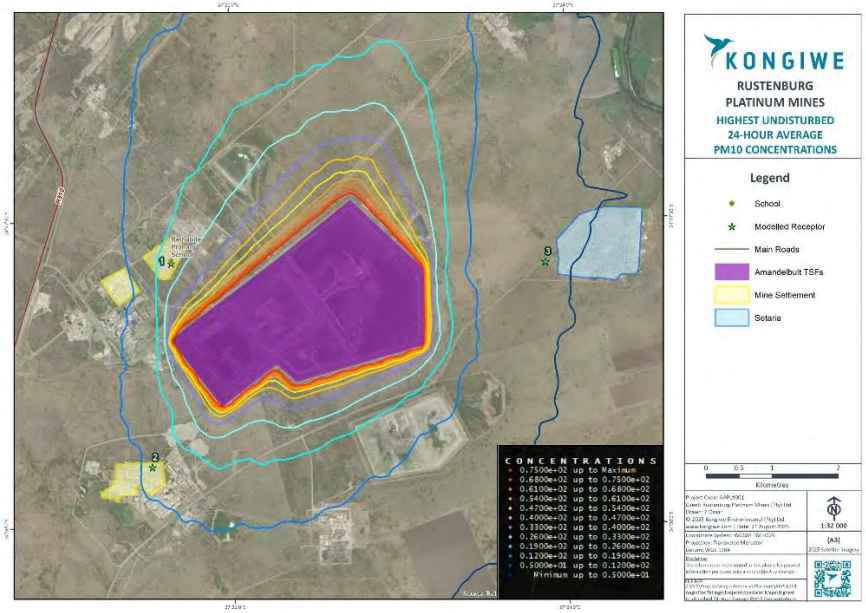
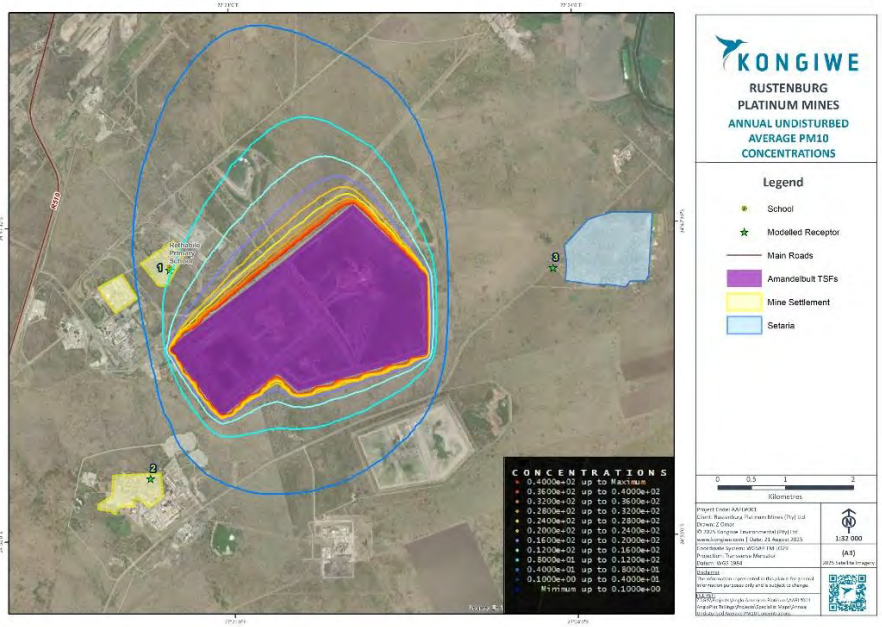


Setshwantsho 10: Ponelopele ya sekao sa dilekano tsa PM10 ya diura tse 24 tse di nnileng teng ka ntlha ya Matamo 1, 2, 3A le 3B a a sa kgorelediwang a TSF ya Amandelbult



Setshwantsho 11: Ponelopele ya sekao sa palogare ya ngwaga le ngwaga ya dilekano tsa PM10 tse di nnileng teng ka ntlha ya Matamo 1, 2, 3A le 3B a a sa kgorelediwang a TSF ya Amandelbult.

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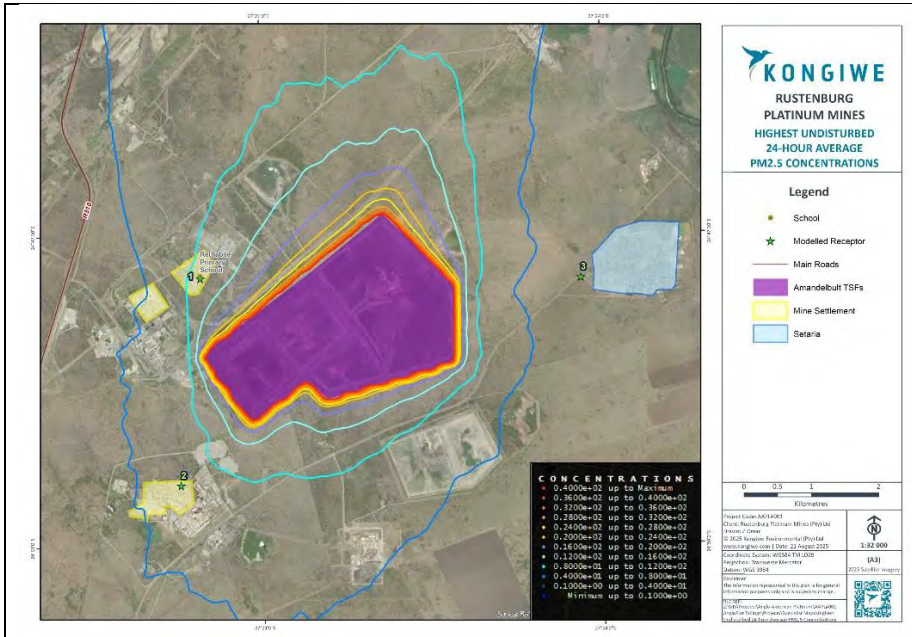
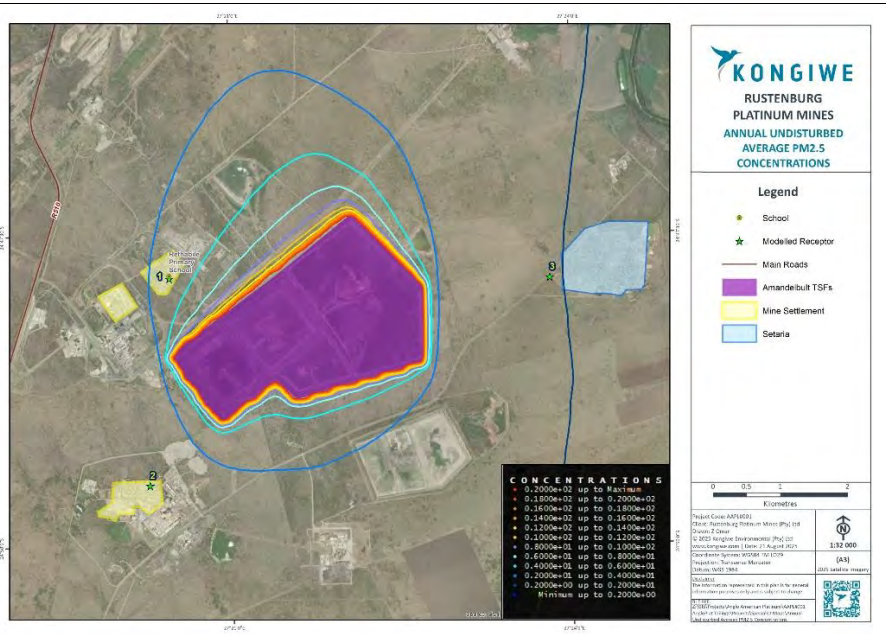


Setshwantsho 12: Ponelopele ya sekao ya palogare ya dilekano tse di kwa godimodimo tsa PM2.5 tsa diura tse 24 tse di nnileng teng ka ntlha ya Matamo a 1, 2, 3A le 3B a TSF ya Amandelbult.



Setshwantsho 13: Ponelopele ya sekao ya palogare ya ngwaga le ngwaga ya dilekano tsa PM2.5 tse di nnileng teng ka ntlha ya Matamo 1, 2, 3A le 3B a a sa kgorelediwang a TSF ya Amandelbult.

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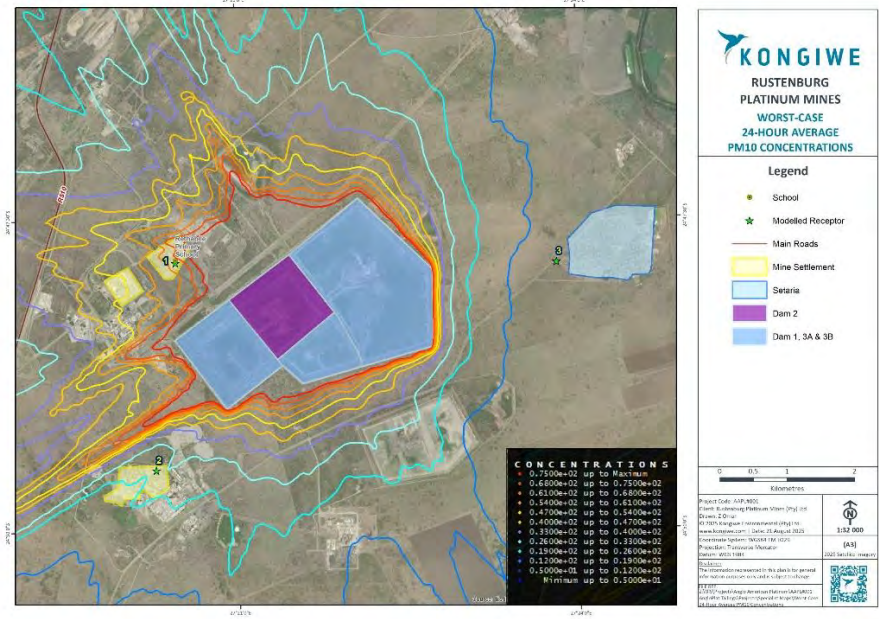
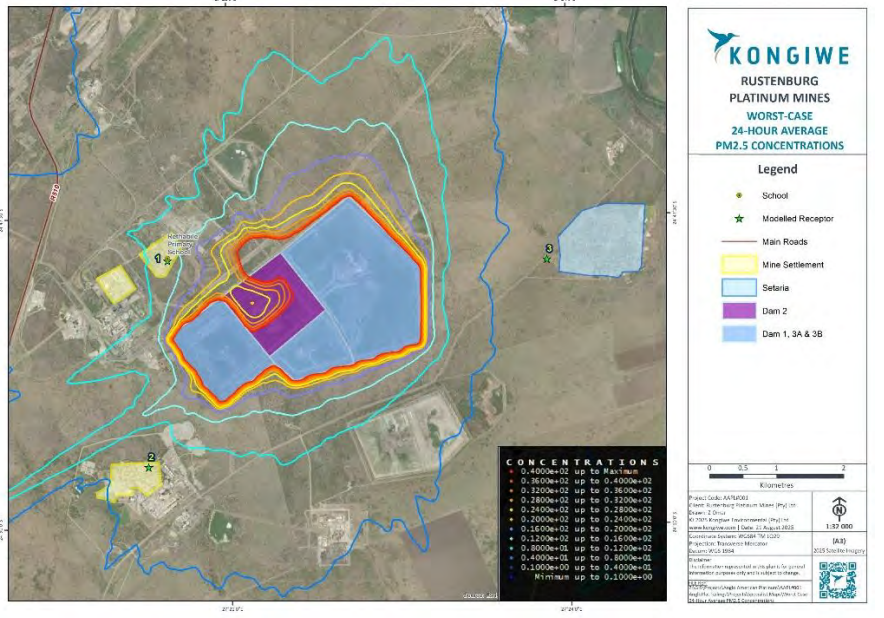


Setshwantsho 14: Ponelopele ya sekao sa palogare ya maemo a a etegetseng a dilekano tsa PM10 tsa diura tse 24 tse di nnileng teng ka ntlha ya pusetso ya lefelo ya Letamo 2 la TSF kwa Amandelbult .



Setshwantsho 15: Ponelopele ya sekao sa palogare ya maemo a a etegetseng a dilekano tsa PM2.5 tsa diura tse 24 tse di nnileng teng ka ntlha ya pusetso ya lefelo ya Letamo 2 la TSF kwa Amandelbult.

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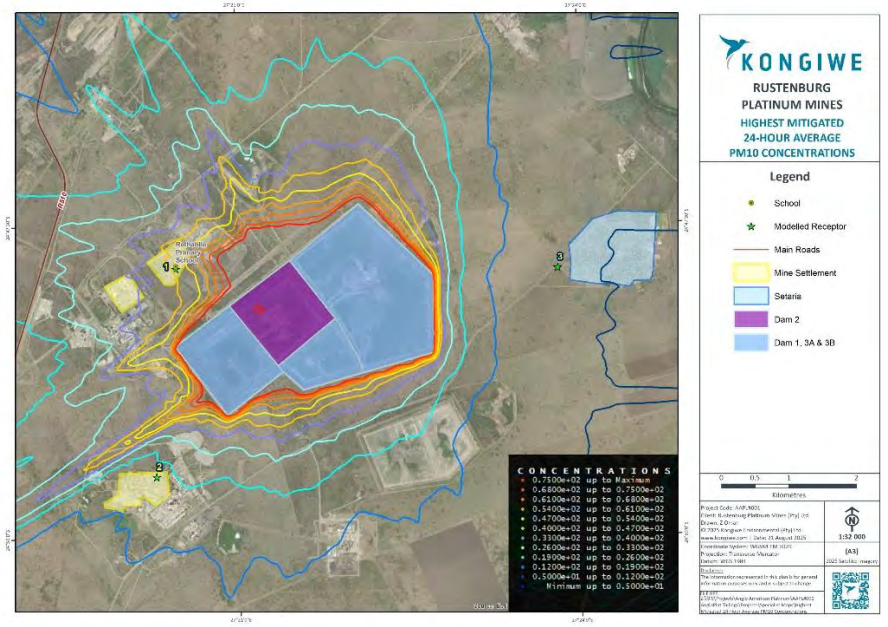
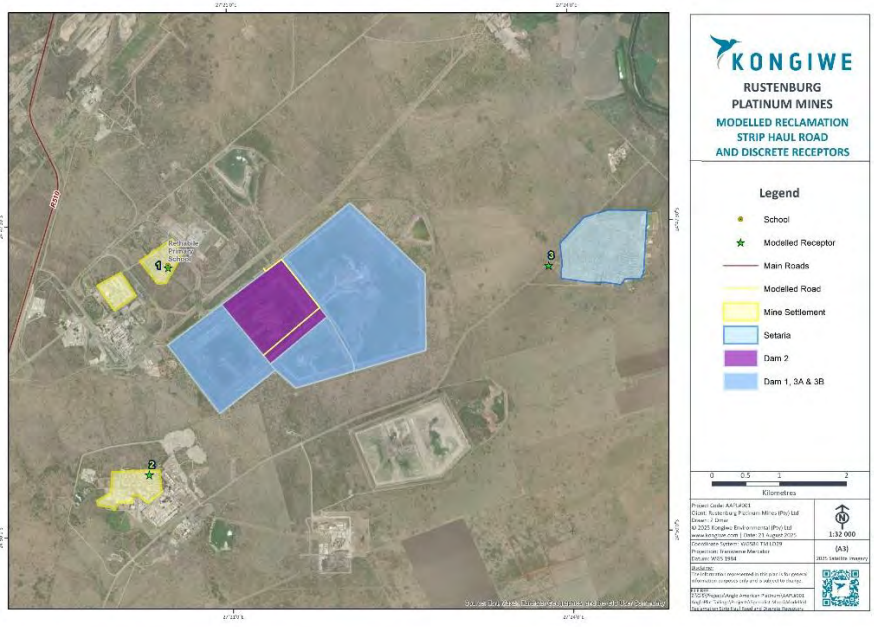


Setshwantsho 16: Ponelopele ya sekao sa palogare e e kwa godimodimo ya dilekano tsa PM10 tsa diura tse 24 tse di nnileng teng ka ntlha ya maemo a a fokoditsweng bogale a pusetso ya lefelo.



Setshwantsho 17: Karolwana e e tlhophetsweng pusetso ya lefelo ya sekao sa tsela ya nakwana ya dirori tse dikgolo le lefelo le le nang le modumo

4.10 Modumo

Medumo ya tlholego ke karolo ya modumo wa mo tikologong e e dikologileng batho. Dilekano tsa modumo wa mo tikologolong di angwa mo gogolo ke lefelo le go lekanngwang modumo mo go lone. Fa lefelo le go lekanngwang modumo mo go lone le fitlhelwa mo lefelong la toropo, gaufi le dipolante tsa madirelo kgotsa mafelo a a nang le motswedi o o tlhomameng wa modumo (lewatle, dinoka, jj.), ditlha le mabelo a a oketsegileng a phefo di na le ditlamorago tse dinnye go ya go tse dikgolo mo dilekanong tsa modumo wa mo tikologong.

Lefelo la Porojeke e e Tshitsinngwang le mo lefelong le le nang le pharologantsho ya tlhabologo e e akaretsang ditiriso tse dintsi. Metswedi e megolo ya modumo mo lefelong e akaretsa pharakano ya dirori mo ditseleng tsa bosetšhaba le tsa porofense tse mo lefelong, medumo go tswa mo baaging ba selegae le medumo e e amanang le go epa.

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Go akanyetsa deitha e e kgobokantsweng ya palogare ya selekano sa modumo o o lekantsweng ka bonako mo lefelo, palogare:

- Dilekano tsa modumo o o lekantsweng ka bonako wa motshegare di ne di tloga mo go 32 go fitlha mo godimonyana ga 70 dBA, ka dilekano tsa bogareng tsa modumo mo go 47.3 dBA. Seno se tlwaelegile thata mo mafelong a magae go na le modumo wa toropo, mo go dirang selekano sa modumo wa lefelo sa 45 dBA sa motshegare; le
- Dilekano tsa modumo o o lekantsweng ka bonako wa bosigo di ne di tloga mo go 37 go fitlha mo go 56 dBA, ka dilekano tsa bogareng tsa modumo mo go 45.1 dBA. Seno se tlwaelegile mo toropong, mo go dirang selekano sa modumo wa lefelo sa 45 dBA mo pakeng ya bosigo.
- Fa go akanyediwa ditlhokego tsa Melawana ya Taolo ya Modumo (NCR), ditiro tse di amanang le Porojeke e e Tshitsinngwang ga di a tshwanela go fetola dilekano tse di leng teng tsa modumo wa mo tikologong tse di fetang 7 dBA, mme ga di a tshwanela go feya ditekanyetso tsa modumo tsa WHO le IFC. Ka jalo ditekanyetso tse di atlanegisitsweng tsa modumo o o kwa godingwana e ka nna:
- 55 dBA (jaaka go atlanegisitswe ke IFC, e e ka fa tlase ga 7 dBA mo dilekanong tsa bogareng tsa modumo wa mo tikologong tse di lekantsweng mo lefelong) ya tiriso ya motshegare mo lefelobodulong; le
- 48 dBA (jaaka go atlanegisitswe je IFC) ya tiriso ya bosigo mo lefelobodulong (go tsenngwa 3 dBA gonne dilekano tsa modumo o o leng teng di setse di feta 45 dBA).

Gape moepo o tshwanetse go lekanyetsa selekano sa modumo go nna ka fa tlase ga 60 dBA mo molelwaneng (70 dBA motshegare le 60 dBA bosigo mo tekanyetsong ya modumo ya 70 dBA ya motshegare le bosigo).

4.10.1 Tshekatsheko ya Ditsela tse Dingwe

Tsela 1: Boitlhophelo jo bo sa tshwanelang go dirwa

Dilekano tsa modumo wa mo tikologong di tla nna ka moo di leng ka teng mme lefelo le ka tshola pharologantsho e e leng teng ya modumo.

Tsela 2: Tetlelelo e e Tshitsinngwang ya Porojeke ya Moepo

Tlhabololo e e tshitsinngwang e tla oketsa dilekano tsa modumo kwa NSR ba go nang le kgonagalo ya gore ba bo ba le gaufi thata, ka ditlamorago tse di kwa godimodimo tse di amanang le NSR ba ba dulang mo sekgaleng sa 500 m go tswa mo ditirong tsa porojeke. Medumo e e dirwang ke porojeke e ka utlwala go fitlha go 2,000 m go tswa mo lefelong la porojeke. Baagi ba selegae ba ka akanyetsa gore dilekano tse di oketsegileng tsa modumo di a tena e bile di a kgoreletsa bosigo (ka modumo wa go bipa go tswa mo dialamong tsa go boela morago kgapetsakgapetsa tse di begwang ke batho ba mo lefelong le le nang le modumo o o tenang thata). Le fa go ntse jalo baagi ba mo lefelobodulong le bone ba golaganngwa ka tlhamalalo le tiro ya go epa, sengwe se se ka dirang gore ba nne le maikutlo a a siameng ka dilekano tsa modumo tsa mo isagong.

Le fa go ntse jalo porojeke e tla thusa mo go golo ka kgolo ya ikonomi le dikgwetlho tsa tlhabologo tse Aforika Borwa e lebaneng le tsone ka go oketsa go epiwa ga diminerale. Seno se tla thusa ka go neela ditšhono tsa tlaleletso tsa tiro le kgwebo mo baaging ba selegae. Fa go akanyediwa modumo fela, batho ba ba mo lefelong

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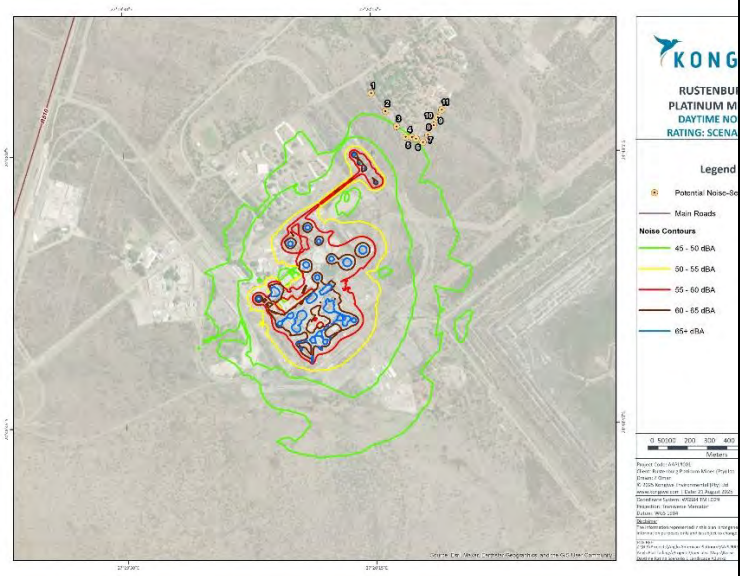
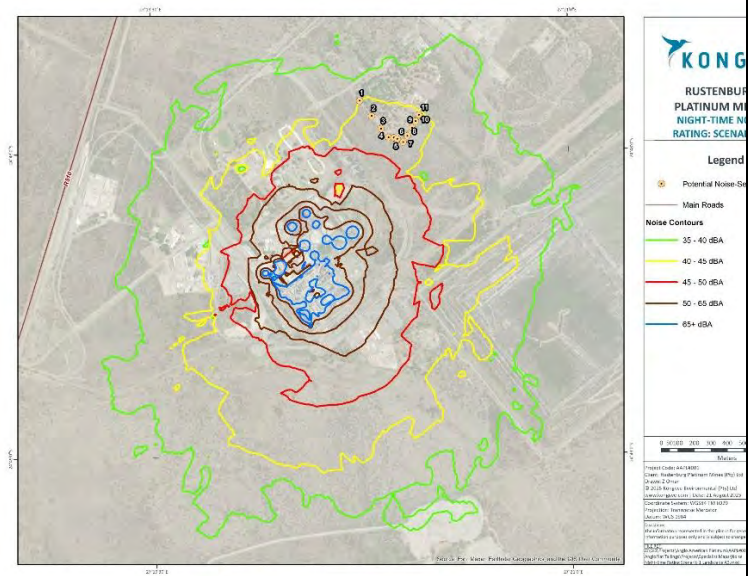
ba ba sa amiweng ka tlhamalalo ke dilekano tse di oketsegileng tsa modumo ba ka nna le kakanyo e e siameng ka porojeke mme ba ka bona botlhokwa le keletsego ya porojeke. Go dirilwe sekao sa modumo go bontsha boalo jwa selekano sa modumo o o ka nnang teng, jo bo nang le mafelo a metswedi e e farologaneng ya modumo. Dilekano tse di bonelwang pele tsa modumo o o leng teng di bontshiwa mo Setshwantsho 18 mme di tlhalosiwa go ya ka Lefelo le Modumo o o sa batlegeng o Amang Batho ba lone (NSR) mo pakeng ya motshegare. Dilekano tseno tsa modumo di dirisitswe go fopholetsa dilekano tse di ka nnang teng tsa modumo mo Maemo 2 le 3; le Setshwantsho Setshwantsho 19le sone se tlhalositswe go ya ka Lefelo le go nang le modumo o o sa batlegeng o o amang batho ba lone (NSR) mo pakeng ya bosigo. Dilekano tsa modumo di dirisitswe go fopholetsa dilekano tse di ka nnang teng tsa modumo mo Maemo 2 le 3 tse e leng dilekano tse di Bonelwang Pele tsa modumo di bontshitswe mo Setshwantsho 20 le go tlhalosiwa mo nakong ya motshegare; mme Setshwatsho 21 se tlhalosiwa mo nakong ya bosigo.



Setshwantsho 18: Dilekano tsa modumo o o bonelwang pele wa motshegare o o amanang le ditiro tse di leng teng tsa go epa (maemo 1)



Setshwantsho 19: Dilekano tsa Modumo o o bonelwang pele wa bosigo o o amanang le ditiro tse di leng teng tsa go epa (maemo 1)

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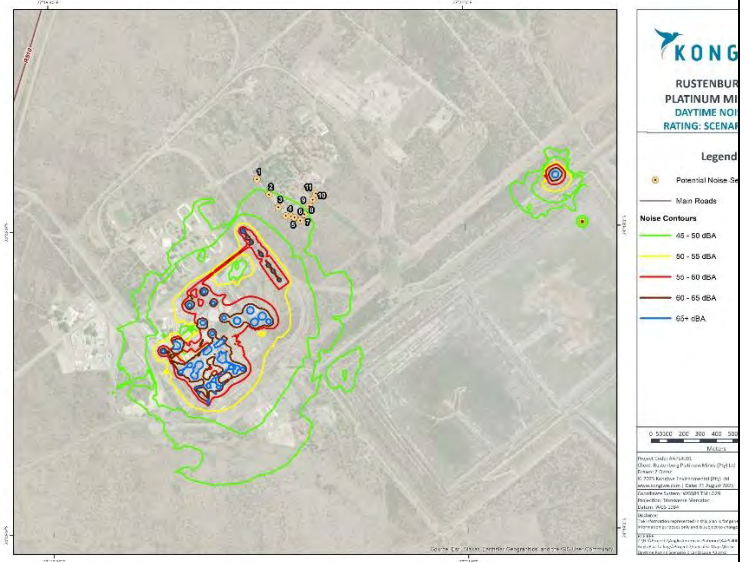

Figure 20: Projected cumulative daytime noise rating levels conceptual operational activities (scenario 2)

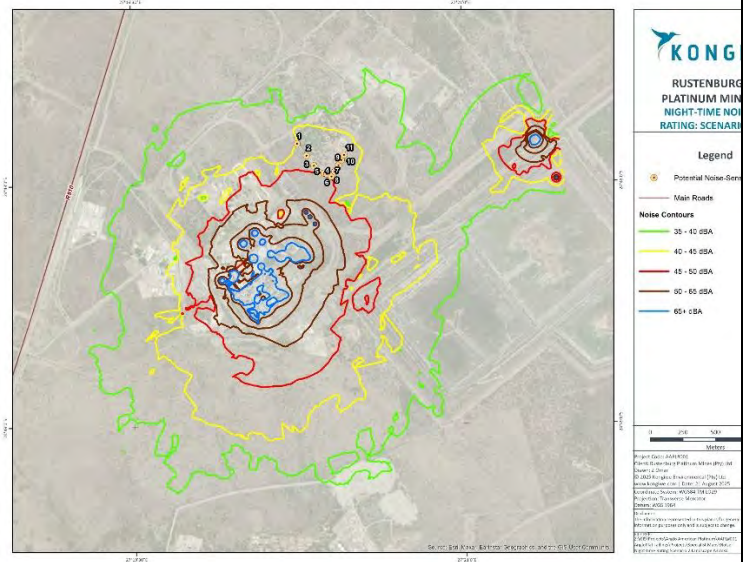

Figure 21: Projected cumulative night-time noise rating levels conceptual operational activities (scenario 2)

4.11 Dilwana tsa Setso le Ngwaoboswa

Ka ntlha ya gore ga go a supiwa dilwana dipe tsa setso kgotsa tsa ngwaoboswa mo thulaganyetsong ya kago, selekano sa ditlamorago ka nako ya logato la kago se lekanyediwa go nna **TSE DI SA SIAMANG MME E LE TSA BOGARENG** pele ga phokotso le **TSE DI SA SIAMANG MME DI LE KWA TLASE** morago ga phokotso fa go latelwa mokgwatiriso wa fa go ka utololwa dilo tsa setso kgotsa ngwaoboswa.

Go ya ka Selekano sa Koafalo ya Difosele tsa Diphologolo le Dijalo sa SAHRIS se se tlhalositsweng mo Setshwantsho 22, lefelo le le fopholediwang la thutopatlisiso—le le tshwailweng ka bohibidu—le wela mo lefelong la mmala o mokwebu, mo go kayang selekano se se kwa tlase kgotsa se se seng teng sa koafalo ya difosele tsa diphologolo le dijalo. Go ya ka Selekano sa Koafalo ya Difosele tsa Diphologolo le Dijalo sa lefelo la thutopatlisiso se kwa **Tlase**. Ga go kitla go tlhokega dithutopatlisiso dipe go ya pele.

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Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Setshwantsho 22: Selekano sa Koafalo ya Difosele tsa Diphologolo le Dijalo sa SAHRIS

4.12 Loago le ikonomi

Porojeke e tla nna le ditlamorago tse di siameng mo ditirong tsa selegae ka nako ya dikgato tsa kago le go epa. Morago ga tswalelo porojeke e solofelwa gape go nna le ditlamorago tse di siameng tsa go busetsa lefatshe mannong go direla mabaka a tlhabololo gape, go bulela karolo ya tlaleletso ya lefatshe go direla mabaka go ya pele a go tshelwa ga masaledi mo isagong, kwa ntle ga go atologela kwa mafelong a go sa agiwang sepe mo go one.

Ditlamorago tse di sa siamang tse di ka nnang teng mo baaging ba selegae di tsewa segolo thata di le kwa tlase le mo bogareng mme segolo bogolo di amana le matshosetsi mo bathong ka nako ya loago la go epa ya dingwaga di le 18. Matshosetsi ano a akaretsa dilo tse di tshwenyang (modumo le lerole tse di oketsegileng) gammogo le ditlamorago tse di ka nnang teng mo pabalesegong ya baagi. Matshosetsi mo bathong a a dirwang ke porojeke a ka fokodiwa ka katlego morago ga mekgwatiriso ya phokotso (Lenaneo 8).

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Table 8: Tshobokanyo ya Ditlamorago mo Bathong le ikonomi

Tlhaloso ya Ditlamorago	Pele ga Phokotso	Morago ga Phokotso	Ditlamorago Tsotlhe
	Selekano	Selekano	
Logato la Kago			
Ditiro le Lotseno	Kwa tlase+	Magareng +	Nnyaa
Go tla ka bontsi ga babatlatiro mo go seng mo molaong	Kwa tlase-	Kwa tlase -	Ee
Dilo tse di tshwenyang	Kwa tlase -	Kwa tlase -	Ee
Logato la Go epa			
Ditiro le Lotseno	Magareng +	Magareng +	Nnyaa
Go tla ka bontsi ga babatlatiro mo go seng mo molaong	Magareng -	Magareng -	Ee
Dilo tse di Tshwenyang	Magareng -	Magareng -	Ee
Pholo le pabalesego ya baagi	Magareng-	Magareng -	Ee
Ditlamorago mo go borapolase ba ba mabapi	Kwa tlase -	Kwa tlase -	Ee
Morago ga Tswalelo			
Go bulelwa ga lefatshe	Magareng +	Magareng +	Nnyaa
Khutliso ya ditiro	Magareng -	Magareng -	Nnyaa

Ditšhono tsa tiro tse di neelwang ke Porojeke ka nako ya kago le go epa di akaretsa:

- Ditiro tse di neelwang ka tlhamalalo ke Porojeke ka boyone,
  - AMB e ikaelela go dirisa badiri ba ba leng teng ba yone mo porojekeng. Seno se raya gore porojeke e tla tlhama ditiro tse di lekanyeditsweng tsa tlaleletso go baagi ba selegae mme e tla neela tshireletsego ya ditiro mo badiring ba ga jaana.

- Ditiro tse di neelwang e seng ka tlhamalalo ka go dirisa theko ya dikgakololo/didiriswa
  - AMB e tlile go tsaya moo go kgonegang teng go tswa mo batlameding ba selegae, di-HDSA le Small, Dikgwebo tsa Magareng le tse di Potlana (di-SMME).
  - Go tla neelwa kakanyetso ya pele go borakonteraka-potlana ba ba nang le bokgoni ba ba fitlhelwang mo lefelong la mmasepala wa selegae.

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- Buisana ka togamaano ya go thapa badiri ba selegae ka tsela e e tlhaloganyesegang le baagi ba selegae ba ba bapileng le moepo.

Ditiro tse di tlhamilweng di dirile ka koketsokakaretso mo lotsenong ka ntlha ya dilekano tsa lotseno le le kwa godimo thata tsa badiri le batlamedi ba tlhamalalo.

5. Dithutopatlisiso tsa Boitseanape le Tlhatlhobo ya Ditlamorago

Lenaneo 9 le le fa tlase le tlhalosa dithutopatlisiso tsotlhe tsa boitseanape tse di bakilweng le tse di diretsweng Porojeke ya Pusetso ya lefelo le Karoganyo ya Manya ya Lefelo la Polokelo ya Masaledi la Amandelbult, tse nngwe le nngwe ya tsone e neng e tlhatlhoba ditlamorago tse di kgonegang go ralala dikgato tsa Kago, Go epa, le Konosetso, mme mekgwatiriso e e tshitsinngwang e tlhalositswe ka botlalo mo karolong e e latelang.

Lenaneo 9 : Dithutopatlisiso tsa Boitseanape tse di dirilweng ka Logato la EIA

Dithutopatlisiso tsa Boitseanape tse di Dirilweng	
Tlhatlhobo ya Ditlamorago mo Diphologong le Dijalo tse di Farologaneng tsa mo Lefatsheng	Tlhatlhobo ya Ditlamorago mo Metsing a a mo Godimo ga Lefatshe
Tlhatlhobo ya Ditlamorago mo Lefatsheng le le Boraga	Tlhatlhobo ya Ditlamorago mo Metsing a a ka fa Tlase ga Lefatshe
Tlhatlhobo ya Ditlamorago mo Kobamelomolaong wa Mmu le Temothuo	Tlhatlhobo ya Ditlamorago mo Boleng jwa Mowa
Tlhatlhobo ya Ditlamorago mo Ngwaong-boswa & Difosele tsa Diphologolo le dijalo	Tlhatlhobo ya Ditlamorago tsa Modumo
Tlhatlhobo ya Ditlamorago mo Bathong	

6. Tekanyo ya Ditlamorago

Lenaneo 10 le le fa tlase le bontsha tshobokanyo ya bogolo jwa ditlamorago tse di lemogilweng ka nako ya porojeke mo karolwaneng nngwe le nngwe ya tikologo. Ditlamorago di solofetswe go direga ka nako ya logato la kago le go epa, le selekano se sennye ka nako ya konosetso le tswalelo.

Lenaneo 10: Thulaganyo ya Matshosetsi a Ditlamorago tse di Tlhatlhobilweng tsa Porojeke

Ditlamorago	Tekanyo ya pele ga phokotso	Kago	Go epa	Konosetso	Tekanyo morago ga phokotso	Kago	Tiro ya go epa	Konosetso
Di siame (+)	**Kgolo (kwa godimo)**				**Kgolo (kwa godimo)**			
Di siame (+)	**Magareng (fa gare)**	• Mafelo a a boraga	• Loago le ikonomi (Ditiro le	• Loago le ikonomi (Pulelo ya tiriso	**Magareng (fa gare)**	• Loago le ikonomi (Ditiro	• Mafelo a a boraga	• Loago le ikonomi (Pulelo ya tiriso

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Ditlamorago	Tekanyo ya pele ga phokotso	Kago	Go epa	Konosetso	Tekanyo morago ga phokotso	Kago	Tiro ya go epa	Konosetso
			lotseno). • Mafelo a a boraga	ya lefatshe). • Mafelo a a boraga		le lotseno). • Mafelo a a boraga		ya lefatshe) • Mafelo a a boraga
Di siame (+)	**Nnye (kwa tlase) +**	• Loago le ikonomi (Ditiro le lotseno).		• Mmu le temothuo.	**Nnye (kwa tlase) +**	• Mmu le temothuo. • Metsi a a mo godimo ga lefatshe. • Metsi a a ka fa tlase ga lefatshe.	• Mmu le temothuo • Modumo (Ditiro tsa go epa tsa bosigo mo maemong a a etegetseng). • Metsi a a ka fa tlase ga lefatshe.	• Mmu le temothuo • Diphologolo le dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”. • Ngwaoboswa. • Metsi a a mo godimo ga lefatshe. • Metsi a a ka fa tlase ga lefatshe.
Ga go na ditlamorago	**Ga go na ditlamorago**				**Ga go na ditlamorago**			
Ga di a siama (-)	**Nnye (kwa tlase) -**	• Diphologolo le dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”. • Loago le ikonomi	• Diphologolo le dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”. • Loago le ikonomi	• Diphologolo le dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”.	**Nnye (kwa tlase) -**	• Loago le ikonomi (Go tla ka bontsi ga babatlatiro mo go seng mo molaong & Dilo tse di tenang)	• Loago le ikonomi (Ditlamorago mo go borapolase ba ba mabapi). • Diphologolo le	•

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Ditlamorago	Tekanyo ya pele ga phokotso	Kago	Go epa	Konosetso	Tekanyo morago ga phokotso	Kago	Tiro ya go epa	Konosetso
		(Phudugelo e e seng ya semuso ya Batho ba ba batlang tiro & Dilo tse di Tenang). • Metsi a a ka fa tlase ga lefatshe.	(Ditlamorago mo go borapolase ba ba gaufi). • Modumo (Ditiro tsa mo isagong tsa motshegare & tsa bosigo). • Modumo (Ditiro tsa go epa tse di etegetseng tsa motshegare). • Metsi a a ka fa tlase ga lefatshe.			• Diphologolo le dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”. •	dijalo tse di farologaneng tsa mo lefatsheng di solofelwa go nna kwa “tlase”. • Modumo (Ditiro tsa mo isagong tsa motshegare & tsa bosigo). • Modumo (Ditiro tsa go epa tse di etegetseng tsa motshegare).	
Tse di sa siamang (-)	**Magareng (fa gare)**	• Boleng jwa Mowa. • Mmu le temothuo. • Ngwaoboswa. • Metsi a a mo godimo ga lefatshe.	• Boleng jwa Mowa. • Mmu le temothuo. • Loago le ikonomi (Go tla ka bontsi ga babatlatiro mo go seng mo molaong, Pholo le pabalesego ya baagi & Dilo tse di tenang). • Modumo (Ditiro tsa go epa tse di	• Loago le Ikonomi (Bokhutlo jwa ditiro). • Metsi a a ka fa tlase ga lefatshe. • Boleng jwa Mowa	**Magareng (fa gare)**	• Boleng jwa Mowa	• • Loago le ikonomi (Go tla ka bontsi ga babatlatiro mo go seng mo molaong, Pholo le pabalesego ya baagi & Dilo tse di tenang). • Metsi a a mo godimo ga lefatshe. • Boleng jwa	• Loago le Ikonomi (Bokhutlo jwa ditiro). • Boleng jwa Mowa • Metsi a a ka fa tlase ga lefatshe.

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Ditlamorago	Tekanyo ya pele ga phokotso	Kago	Go epa	Konosetso	Tekanyo morago ga phokotso	Kago	Tiro ya go epa	Konosetso
			etegetseng tsa bosigo).				Mowa	
Tse di sa siamang (-)	Kgolo (kwa godimo)		• Metsi a a mo godimo ga lefatshe. • Metsi a a ka fa tlase ga lefatshe.		Kgolo (kwa godimo)			

7. Tshobokanyo ya Phokotso

Tsepamiso ya mekgwatiriso ya phokotso ke go fokotsa selekano sa ditlamorago tse di kgonang go direga tse di golaganngwang le tirego yotlhe go simolola ka kago go fitlha ka tsosoloso/tswalelo. Leba Lenaneo 11.

Lenaneo 11: Mekgwatiriso ya Phokotso

Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
Diphologolo le Dijalo tse di Farologaneng tsa mo Lefatsheng	• Kgotlelego ya Tikologo le ya Metsi a a ka fa tlase ga lefatshe • Go tsena ga ditshedi tse di tswang koo le tse di tlalatlalang ka bonako, segolo bogolo dijalo • Phudugo ya diphologolo tse di rileng ka ntlha ya go latlhegelwa ke magaetlhago, dintsho tsa ka tlhamalalo le kgoreletsego (go thulwa ga tsone mo tseleng, modumo, lerole, thoromo le go utswiwa)	• Tshola metsi a a mo godimo ga lefatshe le a mo karolwaneng e e ka fa tlasenyana ga lefatshe le metsi a a elelang fa pula e nele a a ka elelang go tswa mo dithotobolong tse di mo mafelong a a kwa tlase, a a jaaka mafatshe a a boraga, gammogo le mafelo a a mabapi, mme a tlogela lefelo la porojeke ka mokgwa o o sa laolesegeng. • Didiriswa le dirori tse di dutlang di tshwanetse go baakanngwa ka gangwe kgotsa go tlosiwa mo lefelong la porojeke go nolofatsa paakanyo ya tsone. • Go tshwanetse ga tsenngwa tirisong peoleitlho ya kelelo ya metsi a a elelang fa pula e nele & boleng jwa metsi a a fetang mo molatswaneng ka nako e e rileng. • Ga go a tshwanela go phepafadiwa dirori, metšhini le didiriswa tse dingwe gaufi le metswedi ya metsi. • Ga go a tshwanela go baakanngwa metšhini, dirori le didiriswa kwa ntle ga

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Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
		mafelopolokelo a nakwana a a tshwailweng. • Borakonteraka botlhe ba tshwanetse go nna le dikhiti tsa phepafatso ya dioli le diedi tse dingwe tse di ka dutlang le go katisiwa mo tirisong e e nepagetseng ya tsone. • Metsi a phepa a tshwanetse go kgaoganngwa le a leswe. Metsi ano a tshwanetse go akanyediwa gape gore a phepafadiwe le go dirisiwa gape, go fokotsa ditatlhegelo tse di bakwang ke dithuto tsa metsi a a bolokilweng. • Neela badiri botlhe le borakonteraka Katiso ya Temoso ka ga Tikologo. Rejisetara e e saenilweng ya tsenelo e tshwanetse go bewa jaaka sesupo. Katiso e tshwanetse go akaretsa badiri botlhe mme ba tshwanetse go tsenela le kitsiso ya tshedimosetso e ntšha ka ga botlhokwa jwa tshireletso ya tikologo malebana le dinonyane tsa mo lefelong le le rileng mme segolo bogolo temoso ka go se senye, go se kgobokanye, kgotsa go se tsome ditshedi tsa mo lefatsheng, le merubisi, tse gantsi di sotlakiwang ka ntlha ya ditumelo tse di rileng. Go tshwanetse ga bewa matshwao go gatelela kobamelo ya seno.
Mafelo a a boraga	• Diphetogo tse di dirwang ke batho mo mekgwatsamaisong ya metsi tse di fetolang diphethene tsa tlhago tsa kelelo ya metsi; • Kgoreletso ya magaetlhago le go kgaoganngwa ka ditlhophanyana go ka kgoreletsa magaetlhago a mafelo a a boraga; le • Kgotlelego ya oli le metsi e ka feleletsa e bakile kgogolego le phetogo ya boleng jwa metsi.	• Latela mekgwatiriso e e gaisang ya go tlhoma, go tlhatlhamolola le go tlosa didiriswa go thibela go dutla. • Tsenya tirisong mekgwatsamaiso ya nakwana ya minoloso le metsi a a elelang fa pula e nele go laola ka katlego kelelo ya metsi mo godimo ga lefatshe ka tsela e e fokotsang bokgoni jwa kgotlelego le go nna teng kwa bofelong ga disedimente. • Netefatsa gore mafelo otlhe a a kgoreletsegileng a tlhomama pele ga tshimologo ya ditlha tsa pula. • Dira peoleitlho ya gangwe le gape le go tlosiwa ga ditshedi tse di tlalatlalang ka bonako.

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Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
Metsi a a mo godimo ga lefatshe	• Kgogolego le go tlosiwa ga mebu e e mo kotsing e e dirang gore go nne le seemo sa go nna le mmukgogodi mo metsweding e e kwa tlase ya metsi.	• Go ntshiwa ga dijalo go tshwanetse go lekanyediwa ka moo go kgonegang ka teng; • Mekgwatiriso ya nakwana ya kgogolego e e jaaka dinete tsa sedimente e tshwanetse go dirisiwa mo mafelong a go direlwang mo go one a a mo kotsing; le • SWMP e tshwanetse go tsenngwa tirisong jaaka kgato ya ntlha ka nako ya kago.
Metsi a a ka fa tlase ga lefatshe	• Ga go a solofelwa ditlamorago mo selekanong sa dipalo ka nako ya kago. • Kgoreletsego ya thotobolo ya moepo kgotsa go nna mo kotsing ga bogodimo jwa mmu go ka kgontsha metsi le mowa go tsena mo matherialeng wa masaledi, segolo bogolo go latela pula. • Kwelotlase ya boleng jwa metsi a a ka fa tlase ga lefatshe ka ntlha ya go tsena go go oketsegileng ga dilo tse di popota tse di itshekileng tse di tswang mo bogodimong jo bo mo kotsing. • Ditlamorago tsa tlaleletso tsa boleng di belaelwa di le kwa tlase ka nako ya kago.	• Tswelela ka lenaneo la peoleitlho ya metsi a a ka fa tlase ga lefatshe kwa AMB pele ga pusetso ya lefelo e simologa go tlhokomela diphetogo mo tafoleng ya metsi ya selegae, mo tsamaong ya nako. • Tswelela ka lenaneo la peoleitlho ya metsi a a ka fa tlase ga lefatshe kwa AMB pele ga pusetso ya lefelo e simologa. • Loga maano a a utlwalang a taolo ya kelelo ya metsi mo bogodimong go netefatsa gore metsi otlhe a a leswe a a elelang a laolesega e bile a fetisediwa kwa PCD. Ga go letlelelwe go kgobokanngwa ga metsi mo bogodimong. Tafole ya metsi a a ka fa tlase ga lefatshe e gaufi le bogodimo mme metsi a a kgotlelegileng a tla tsena ka bonako mo diakhwifa tse di ka fa tlase fa le sa laolwe ka tsela e e nonofileng. • Netefatsa gore di-PCD di diretswe go tsenya metsi otlhe a leswe a a nnang teng ka nako ya tirego ya pusetso ya lefelo, go thibela go tshologa ka ntlha ya go tlala phetelela le go dutla.
Boleng jwa Mowa	• Dillori tse Dikgolo mo ditseleng tse di sa pheifiwang, ditiro tsa go epa tse di dirisang dimatheriale, go tlosiwa ga dijalo mo bogodimong jwa TSF le kgogolego e e dirwang ke phefo mo mafelong a a mo kotsing e baka	• Diphepafatso tsa mo bogodimong jwa lefatshe ka go bo tshela seporei mo ditseleng tsa nakwana tsa dirori tse dikgolo go fokotsa go nna teng ga lerole. • Phokotsego mo go tshwareng dimatherile. Go sa fete tekanyetso ya lobelo ya 40km/h mo tseleng ya nakwana ya dirori tse dikgolo. • Kganelo ya lefelo le le tlositsweng dijalo go nna kwa tlase. • Go tlosa matheriale otlhe wa masaledi go fitlha go 'mmu o mohibidu' fa lefelo la tiro

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Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
	kgololelo ya dikarolwana mo moweng, ka jalo go oketsa direpopota tse di leng mo moweng wa tlhago tsa dikgotledi tse di tlwaelegileng tsa mo moweng (PM10 le PM2.5 ka bobedi) kwa bathong ba ba amegang.	le tsweletse ka tiro mme o sa tlogele matheriale wa masaledi kwa morago o o ka nnang mo kotsing ya go kgogolwa ke phefo. • Go tshola lefelo la pusetso ya lefelo ya mekhenikale go nna kwa tlase.
Batho	• Ditlamorago mo go thapiweng le lotseno; • Seabe se se siameng mo madithusong a loago; • Ditlamorago mo pholong le pabalesego ya baagi; • Kgonagalo ya go fudugela ka bontsi ga batho mo lefelong la porojeke; le • Koketsego mo dilong tse di bakang go tenega.	• Akanyetsa katiso ya semmuso ya badiri ba ba se nang dikgono tse di maleba ba ba maatlafaditsweng ka nako ya kago; • Dira deithabeisi ya batlamedi ba ba ka nnang teng ba dimatheriale tsa kago mo lefelong la selegae le go beela kwa thoko phesente ya dithoto le ditirelo tse di rekwang tse di ka bonwang go tswa mo batlameding ba selegae, di-HDSA le di-SMME. Go tshwanetse ga lebiwa pele borakonteraka-potlana ba ba nang le bokgoni ba ba nnang mo lefelong la mmasepala wa selegae; • Buisana ka togamaano ya ditiro tsa selegae ka tsela e e tlhaloganyesegang le baagi ba selegae ba ba gaufi le moepo ka go dirisa mekgwa e e leng teng ya go rerisana le bannaleseabe. • Jaaka setlapele sa ntlha, rulaganya badiri ba AMB ba ba tlhophilweng go direla phokotso go ya pele kwa moepong go direla go thapiwa ka logato la kago le go buisana ka tsela e e tlhaloganyesegang le baagi ba selegae gore tirego ya go thapa ke ya ka fa gare (moepo); • Rerisana le baemedi ba selegae go buisana ka togamaano ya go thapa ya Porojeke le go kwadisa dingongorego tse di amanang le selekano se se oketsegileng sa batho mo mafelong a baipei; • Go tlhokega ditharabololo go samagana le thebolelo ya ditirelo go tswa mo bathating ba selegae. Le fa go ntse jalo, modirakopo a ka samagana le mathata a a ka nnang teng a a ka feleletsang a dirile gore go nne le go sa iketla ka go netefatsa gore go dirisiwa mokgwatiriso o o nonofileng wa boikuelo go netefatsa gore bannaleseabe ba

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Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
		neelwa tšhono ya go tlhagisa matshwenyego/dingongorego tsa bone. • Kobamelo e e gagametseng ya mekgwatiriso ya phokotso ya dipegelo tsa ditlamorago tsa mo pharakanong le tsa boleng jwa mowa. • Mokgwa wa taolo ya boikuelo o tshwanetse go nna tirisong go amogela dipotso tse di amanang le tiragalo.
Ngwaoboswa	• Tshenyo ya metswedithuso ya ngwaoboswa le setso • Metswedithuso e e sa utololwang ya ngwaoboswa le setso	• Ka nako ya logato la kago, go botlhokwa go lemoga matheriale ope wa botlhokwa o o ntshiwang kwa tlase ga lefatshe, go tsaya tshwetso e e nepagetseng ya gore ke dikgato dife tse di tshwanetseng go tsewa. Go atlanegisiwa gore mokgwatiriso wa go bona sengwe ka lesego wa AMB o tshwanetse go dirisiwa le go tsenngwa tirisong, seno se mametleletswe jaaka Mametlelelo D8 mo pegelong ya EIA. Tse di latelang di botlhokwa mo tatelong ya mokgwatiriso ono: • Go tshwanetse ga thapiwa modiredi wa ngwagaoboswa / moakheoloji go tlhama lenaneo la kitsiso ya tshedimosetso e ntšha ka ga ngwaoboswa le go dira katiso ya ECO gammogo le baeteledipele ba ditlhopha ka ga temogo le utololo ya metswedithuso ya ngwaoboswa le dilwana tsa teng ka nako ya tsenyotirisong ya EMPr. • Go tshwanetse ga supiwa modiredi wa ngwaoboswa / moakheoloji yo o nang le dithutego tse di maleba gore a bidiwe fa e le gore go utolotswe metswedithuso ya ngwaoboswa kgotsa dilwana tsa ngwaoboswa. • Fa go lemogiwa lefelo le go ribolotsweng marope mo go lone kgotsa matheriale wa setso ka nako ya kago (kgotsa ya go epa), lefelo le tshwanetse go tlhaolwa, mme ditiro tsa kago di emisiwe. • Jalo modiredi yo o tshwanelegang wa ngwaoboswa / moakheoloji o tla tlhoka go tla mo lefelong le go sekaseka selekano le botlhokwa jwa metswedithuso ya ngwaoboswa le go dira dikatlanegiso tse di tlhokegang tsa go fokotsa se se

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Lephata	Ditlamorago tse Dikgolo	Mekgwatiriso ya Phokotso
		fitlheletsweng le ditlamorago mo motsweding wa go nna jalo wa ngwaoboswa.
Modumo	• Modumo o o golaganngwang le porojeke ya pusetso ya lefelo go le gantsi o simolola mo ditirong tsa kago tsa mafaratlhatlha a a tlhokegang gammogo le medumo e e tswang mo metšhining le dipompo ka nako ya logato la go epa	• AMB e tshwanetse go batlisisa ngongorego epe e e utlwalang le e e netefetseng ya modumo fa e tsenngwa ke motho yo o amiwang ke modumo yo o dulang 2,000 m go tswa mo polanteng kgotsa lefelo le tiro ya go epa e tsweletseng mo go lone. • AMB e ka batlisisa tiriso ya dialamo tse di dirang modumo o o kwa tlasenyana wa mo lemoragong mo boemong jwa dialamo tsa modumo wa segalo se se kwa godimo wa go supa go boela kwa morago mo diroring tse dikgolo tse di tsamayang mo ditseleng, mo teng ga mafelo a moepo le mo mafelong a go dirilweng mekoa mo go one.
Mmu le temothuo	• Tatlhego ya Bokgoni jwa Mmu, Koafatso ya Mmu, Kgogolego ya Mmu, Tatlhego ya Monono wa Mmu	• Mafelo a a tlhagotsweng a tshwanetse go busetswa mannong le go netefatsa gore ga a fetoge ka tsela epe go efoga ditlamorago mo mafelong a a mabapi. • Netefatsa pusetso ya lefelo e e atlegileng ya mafelo a a kgoreletsegileng ka nako ya kago le gore mafelo ano ga a fetolwe go efoga ditlamorago mo mafelong a a mabapi

8. Ditshwetso ka Kakaretso

Tlhatlhobo ya ditlamorago e dirilwe ka go dirisa baitseanape ba ba rutegileng, e e tsenyeletsang therisano e e tseneletseng le botsayakarolo jwa batho ba ba nang le kgatlhego le ba ba amegang. Go dirisa mokgwa wa go tswa kwa godimo go ya kwa tlase mo taolong ya ditlamorago, go akanyeditswe pele ditsela tse dingwe go efoga ditlamorago tse di sa siamang, mme fela moo go neng go sa kgonege gore di ka efogwa, botoka e nne go fokotsa le go laola ditlamorago tse di sa siamang. Moo go fitlhetsweng gore ditlamorago di na le kgonagalo ya go nna dikgolo thata, go tshitsintswe mekgwatiriso e e farologaneng ya phokotso go laola le go baya leitlho mo ditlamoragong tsa porojeke. Jaaka boitlhophelo jwa bofelo, ditogamaano tsa kganelo di tshwanetse go batlisisiwa, fa e le gore go a kgonega. Tsela e e neng e ratilwe e ne e efoga mafelo a mantsi a a bosisi a a jaaka mafelo a a boraga, e bile e fokoditse selekano sa taolo ya matlakala mo TSF go nna e e kwa tlase. Mo godimo ga moo, kago ya Matamo a Taolo ya Kgotlelego ga e tlhokege, gonne mafaratlhatlha a ga jaana a tlile go dirisiwa mme ga go kitla go agiwa polokelo ya tlaleletso le mafelo a taolo ya manya.

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Diphitlhelelo tsa tlhatlhobo ya ditlamorago di bontshitse gore Porojeke e ka feleletsa e dirile ditlamorago tse di rileng tse di sa siamang mo tikologong ka nako ya go epa, mme le fa go ntse jalo, ga go na dithutopatlisiso dipe tsa boitseanape tse di emeng kgatlhanong le porojeke. Gape go tshwanetse ga elwa tlhoko gore ditlamorago tsotlhe tse di supilweng di ka fokodiwa ka go dirisa mekgwatiriso e e tshitsintsweng tsa phokotso s.

Gape, go akareditswe mekgwatiriso ya diphokotso tsa boitseanape tsa saentifiki mo teng ga pegelo eno ya EIA le EMP go fokotsa bogolo jwa ditlamorago tsotlhe tse di sa siamang tse di supilweng. Bontsi jwa ditlamorago tse di sa siamang go tswa mo Porojekeng e e Tshitsinngwang di ka fokodiwa ka go tsenya tirisong mekgwatiriso ya phokotso. Go ya ka tshedimosetso e e mo pegelong eno, ke mogopolo wa EAP wa gore ditlamorago tse di sa siamang mo tikologong tse di nnang ka ntlha ya Porojeke di ka fokodiwa gore di se fete ditekanyetso tse di amogelesegang le gore porojeke e tshwanetse go neelwa tetlelelo. Mogopolo ono o ka tswelela fa go ka netefadiwa dikatlanegiso tsotlhe tse di tshitsintsweng mo dithutopatlisisong tsa boitseanape le pegelo ya EIA le EMP gammogo le go tsenngwa tirisong le go obamelwa ga ditlhokego tsa semolao.

9. Lenaanefoko la Mareo a a Rileng

Modiredi yo o Tlhatlhobang Tikologo (EAP): EAP ke mongwe yo o bagokaganyi, yo o laolang le go kopanya dikarolwana tse di farologaneng tsa tlhatlhobo ya tikologo mo tiregong yotlhe ya go rulaganya; o amogetse katiso e e maleba ya makalamantsi e e akaretsang ka bobedi tikologo ya tlhago le e batho ba fitlhelwang mo go yone; o na le maitemogelo mo taolong ya tikologo, tlhatlhobo ya tikologo le dithuto tse di maleba; mme o bontsha bokgoni jo bo tseneletseng jo bo tsewang bo le botlhokwa mo porofešeneng ya tlhatlhobo ya tikologo.

Tlhatlhobo ya Ditlamorago tsa mo Tikologong (EIA): EIA ke sediriswa se se dirisiwang go tlhatlhoba ditlamorago tse dikgolo tsa porojeke kgotsa tsa tshitsinyo ya kago mo tikologong. Di-EIA di netefatsa gore batho ba ba tsayang ditshwetso ka porojeke ba akanya ka ditlamorago tse di kgonang go nna mo tikologong go sale kgale ka moo go kgonegang ka teng mme e ikaelela go efoga, go fokotsa kgotsa go kganela ditlamorago tseo. Seno se netefatsa gore ditshitsinyo di a tlhaloganngwa pele ga go dirwa ditshwetso dipe.

Lenaneo la Taolo ya Tikologo (EMPr): EMPr ke thulaganyetso e e nang le dintlha ka botlalo ya tsenyotirisong ya mekgwatiriso ya phokotso go fokotsa ditlamorago tse di sa siamelang tikologo ka nako yotlhe ya porojeke.

Pegelo ya Patlisiso: SR e tlhalosa porojeke e e tshitsinngwang le go supa ditlamorago tse di ka nnang teng tsa kago le tlhabololo e e tshitsinngwang.

Lefelopolokelo la Masaledi (TSF): TSF ke letamo le le tladitsweng mmu le go bolokelwang metsi mo go lone le le dirisiwang go boloka ditlhagiswana tsa tiro ya go epa morago ga go aroganya manya le letlapa. Masaledi e ka nna seedi, sengwe se se popota, kgotsa seretse sa dikarolwana tse di tshesane.

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Appendix C4: Newspaper Advertisement

Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

• DMRE reference number: LP 30/5/1/2/2/48 MR • DWS reference number: To be confirmed

Applicant: The Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Complex (AMB)
Project Name: The Amandelbult Tailings Reclamation and Processing Project (Proposed Project).

AMB aims to reclaim and process the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and Platinum Group Metals (PGMs) using both hydraulic and mechanical reclamation processes, while ensuring continued stability of the surrounding Dams in the TSF complex. The proposed reclamation and processing project is located on the AMB surface rights footprint, which is located in the Thabazimbi Local Municipality of the Waterberg District Municipality in the Limpopo Province. It is located approximately 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

ABM is required to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Proposed Project as part of an Environmental Authorisation (EA). The S&EIA and specialist studies are being undertaken in support of the applications for the required approvals. The following applications are being made to the Department of Mineral Resources and Energy (DMRE), Limpopo region, for the Proposed Project:

- **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 and GN R985 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
- **Application for a Waste Management Licence (WML)** authorising waste management activities listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).
- **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.

In addition, the following application will be made to the Department of Water and Sanitation (DWS):
- **A Water Use Licence Application (WULA)** in terms of the National Water Act, 1998 (Act No. 36 of 1998) (NWA) will be submitted to the DWS.

AVAILABILITY OF THE SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT: The Draft Scoping Report (DSR) for the proposed project will be made available for public review and comment for a period of 30 days, from **Wednesday, 18 June 2025, to Thursday, 17 July 2025.**
- An electronic copy on Kongiwe's website: **https://kongiwe.com/projects/**.
- Copies of the non-technical summary of the DSR will be distributed to all stakeholders and will be available at the meetings.

A hard copy of the DSR will be made available at the following public places: Amandelbult Social Performance Office and Thabazimbi Public Library.

A hard copy of the DSR non-technical summary (BID) will be made available at the following public places: Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).

STAKEHOLDER CONSULTATION MEETINGS: Stakeholders (Interested and Affected Parties – I&APs) are invited to participate through online and face-to-face engagements. Consultation meetings will be held during the public review period using platforms like Microsoft Teams and an Open Day. The purpose of these meetings is to discuss the proposed project, contents of the Scoping Report, and to provide stakeholders with an opportunity to raise their comments and to interact with the project team.

Proposed dates	Available time slots	Method of Engagement
Face-to-Face Meeting: Open Day		
Monday, 23 June 2025	09H00 - 11H00 • 12H30 – 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Tuesday, 24 June 2025	09H00 - 11H00 • 12H30 – 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:		
Friday, 27 June 2025	10H00 - 11H30	Microsoft Teams – Virtual meeting

To register as an I&AP please contact: Kongiwe Environmental Stakeholder Engagement Team
Ms Vanessa Viljoen / Phone: (010) 140 1725 - Ms Thuli Phakathi Phone: (010) 140 1726 or E-mail: stakeholders@kongiwe.com

Our team welcomes your participation and looks forward to your involvement throughout this process.

Ditlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, Laesense ya Tiriso ya Metsi, le Karolo 102 ye Fetotsweng ya Lefelo la Amandelbult ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepala wa Selegae wa Thabazimbi, Porofense ya Limpopo

• Nomoro ya referense ya DMRE: LP 30/5/1/2/2/48 MR
• Nomoro ya referense ya DWS: E tla tlhomamisiwa

Modirakopo: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Complex (AMB)
Leina la Porojeke: Amandelbult Tailings Reclamation and Processing Project (Porojeke e e Kopelwang).

Boikaelelo jwa AMB ke go busetsa le go dirisa Amandelbult Tailings Storage Facility (TSF) Dam 2 ya khompolekese ya TSF ya Amandelbult, ka boikaelelo jwa go busetsa Chrome le Platinum Group Metals (di-PGM) ka ditiriso tsa metsi le ka metšhine, fa go ntse go tlhomamisiwa gore Matamo a a mo tikologong mo khompolekeseng ya TSF a tswelela a le mo maemong a a siameng. Porojeke e e kopelwang ya go busetsa lefelo la lefatshe le go dirisa e lefelong la ditshwanelo tsa AMB, le le leng mo Mmasepaleng wa Selegae wa Thabazimbi wa Kgaolo ya Waterberg mo Porofenseng ya Limpopo. E bokgakala jwa 15 km kwa bokone jwa Northam le 30 km kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

ABM e tlhoka go dira tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment (S&EIA)) e e sekasekang kafa tikologo e amiwang ka teng ke Porojeke e e Kopelwang e le karolo ya Tetlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation - EA). S&EIA le dipatlisiso tsa bomankge di dirwa go tshegetsa dikopo tsa ditumelelo tse di tlhokegang le tse batliwang. Dikopo tse di latelang di dirwa kwa Lefapha la Metswedi ya Diminerale le Maatla (Department of Mineral Resources and Energy [DMRE]), Porofenseng ya Limpopo, malebana le Porojeke e e Kopelwang:

- **Kopo ya EA** ya ditiro tse di kwadilweng tse di simmolodisiwa mo Dikitsisong tsa Papatso tsa GN R983, GN R984 le GN R985 e e phasaladiwang go ya ka Melawana ya EIA ya 2014 (o o fetotsweng), e e itsisiweng phatlalatsa malebana le molawana wa National Environmental Management Act, 1998 (Act No. 107 wa 1998) (NEMA).
- **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e e rebolelang go dira ga ditiro tsa taolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanaatsele 2013 e e phasaladitsweng malebana le National Environmental Management: Waste Act, 2008 (Act No. 59 wa 2008) (o o fetotsweng) (NEM:WA).
- **Phetolo ya Karolo 102** go ya ka Mineral and Petroleum Resources Development Act, 2002 (Act No.28 wa 2002) e tlile go romelelwa DMRE malebana le go fetolwa ga Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moepong.

Mo godimo ga moo, go tla dirwa kopo e e latelang kwa Department of Water and Sanitation [DWS]:
- Kopo ya Laesense ya Tiriso ya Metsi (Water Use Licence Application [WULA]) go ya ka le National Water Act, 1998 (Act No. 36 wa 1998) (NWA) e tlile go romelelwa DWS.

GO NNA TENG GA PEGO YA TIRO KA KAKARETSO GORE E SEKASEKIWE KE MORAFE LE GO TSHWAELA KA YONE: Draft Scoping Report (DSR) ya porojeke e e kopelwang e tla nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo sebakeng sa malatsi a le 30, go simolola **ka Laboraro, 18 Seetebosigo 2025 go ya go Labone, 17 Phukwi 2025**.
- Khopi ya ileketeroniki mo webosaeteng ya Kongiwe: **https://kongiwe.com/projects/**.
- Dikhopi tsa tshobokanyo e e seng ya botegeniki ya DSR e tla anamisedwa banaleseabeng botlhe mme e tla nna teng kwa dikopanong.

Go tla dirwa gore khopi ya DSR e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Social Performance Office le Thabazimbi Public Library.

Go tla dirwa gore khopi ya tshobokanyo e e seng ya botegenike ya DSR (BID) e nne teng kwa mafelong a botlhe a a latelang: Smash Block Community (Thabong Children Centre), mabating a dikitsiso a Amandelbult (Mlanje Hostel), Dishaba Mine Entrance (matlo a Jabulani), kgoro ya motse wa Rethabile le Recreation Club, Setaria (Motse wa Northam Platinum).

DIKOPANO TSA DIPUISANO TSA BANALESEABE: Banaleseabe (Batho ba ba Nang le Kgatlhego le ba ba Amegang – [Interested and Affected Parties (bo-I&AP)]) ba laledilwa go tsaya karolo mo dipuisanong tsa mo inthaneteng le tsa ka namana. Dikopano tsa dipuisano di tla tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa polatefomo ya mo inthaneteng (Microsoft Teams) le Open Day go amogelwang botlhe. Boikaelelo jwa dikopano tseno ke go buisana ka porojeke e e kopelwang, tshedimosetso ya Scoping Report, le go naya banaleseabe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke. Tsweetswee bona fa tlase thulaganyo ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Dinako tse di leng teng	Mofuta wa Puisano
Kopano ya ka Namana: Open Day		
Mosupulogo, 23 Seetebosigo 2025	09H00 - 11H00 • 12H30 - 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labobedi, 24 Seetebosigo 2025	09H00 - 11H00 • 12H30 - 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
KKopano ya mo Inthaneteng:		
Labotlhano, 27 Seetebosigo 2025	10H00 - 11H30	Microsoft Teams – Kopano ya mo inthaneteng

Gore o ikwadise jaaka I&AP tsweetswee ikgolaganye le: Setlhopha sa Kongiwe sa Banaleseabe sa Dipuisano ka Porojeke, Ms Vanessa Viljoen / Mogala: (10) 140 1 725 - Ms Thuli Phakathi /Mogala: (10) 140 1726 kgotsa Imeile: stakeholders@kongiwe.com

KONGIWE

Setlhopha sa rona se amogela go tsaya karolo ga gago mme se lebile pele go nna le seabe ga gago mo tirong eno yotlhe.

Drie dae van Genesing, Groei en Genade

Thabazimbi – Vroue van alle ouderdomme word hartlik uitgenooi na 'n kragtige en lewensveranderende geestelike kamp wat van 20 tot 22 Junie 2025 by Tarentaal Pan buite Thabazimbi plaasvind.

Onder die tema "Jy is uitgekies vir 'n tyd soos hierdie. Jy is gekroon met Sy heerlikheid," bied die Thabazimbi Vrouekamp 'n unieke geleentheid vir geestelike verdieping, rus en verbintenis met ander dogters van God.

"Kom kamp saam met ons. Kom beleef God se grootheid, Sy goedheid, en deel in Sy teenwoordigheid," nooi organiseerder Fredelene Ferreira.

Die koste vir die naweek beloop R600, en plekke is beperk. Besprekings word sterk aanbeveel om teleurstelling te voorkom.

Vir navrae en besprekings, skakel Fredelene by 071 115 8066.

Wrap Someone in Kindness

Thabazimbi – With winter tightening its grip, the Thabazimbi Homeless Shelter has launched an urgent blanket drive to help those in need survive the cold months ahead.

"If you have any extra blankets, warm clothes, or shoes — especially for babies, children, and the elderly — please consider donating," says Beverly Spira Kühn, founder and board member of the shelter. "Items don't need to be new, just clean and usable. Even one old blanket can mean a warmer night for someone without a home."

The shelter's stocks are low, while the need is growing daily. Donations can be dropped off at the shelter or arranged via Beverly on 078 403 1813. Let's come together as a community. Share this message, spread the word, and let's wrap our neighbours in compassion this winter. God bless!

Conversations on Autism Take Centre Stage in Thabazimbi

Thabazimbi – A heartfelt event, Perspective on Autism, will take place on Saturday 21 June 2025, at the New Way Christian Church, aiming to open minds and hearts through direct conversations with autistic children and their allies.

The event, themed "Accept. Understand. Love," offers a rare and inclusive platform where non-speaking autistics, unreliably speaking autistics, parents, and professional allies come together to share their lived experiences, insights, and strategies for communication and connection.

Confirmed speakers include Pennelope Musadavira, Akha Khumalo, Mika van Zyl, and Jabu Khumalo, alongside professional allies such as Dr Isaura Ribeiro, Tracy Gunn, and Belinda Sikwane. Together, they will explore innovative methods like spelling to communicate and advocate for deeper understanding of neurodiverse children.

Entry costs R200, with all proceeds donated to Spitskop Special Needs School to support its spelling-to-communicate initiative for autistic learners.

The event runs from 08:00 to 13:00, and interested participants can contact Pennelope via WhatsApp on 078 441 3454 for bookings or more information.

Whether you're a parent, teacher, therapist, or community member, this event offers a fresh perspective on autism — one shaped by voices that are often unheard.

Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

• DMRE reference number: LP 30/5/1/2/2/48 MR • DWS reference number: To be confirmed

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• Nomoro ya referense ya DMRE: LP 30/5/1/2/2/48 MR
• Nomoro ya referense ya DWS: E tla tlhomamisiwa

Modirakopo: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Complex (AMB)
Leina la Porojeke: Amandelbult Tailings Reclamation and Processing Project (Porojeke e e Kopelwang).

Boikaelelo jwa AMB ke go busetsa le go dirisa Amandelbult Tailings Storage Facility (TSF) Dam 2 ya khompolekose ya TSF ya Amandelbult, ka boikaelelo jwa go busetsa Chrome le Platinum Group Metals (di-PGM) ka ditiriso tsa metsi le ka metšhine, fa go ntse go tlhomamisiwa gore Matamo a a mo tikologong mo khompolekseng ya TSF a tsweletse a le mo maemong a a siameng. Porojeke e e kopelwang ya go busetsa lefelo la lefatshe la go dirisa e lefelong la ditshwanelo tsa AMB, le le lang mo Mmasepaleng wa Selegae wa Thabazimbi wa Kgaolo ya Waterberg mo Porofenseng ya Limpopo. E bokgakala jwa 15 km kwa bokone jwa Northam le 30 km kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

ABM e tlhoka go dira tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment (S&EIA)) e e sekasekang kafa tikologo e amiwang ka teng ke Porojeke e e Kopelwang e le karolo ya Tetlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation - EA). S&EIA le dipatlisiso tse bomankge di dirwa go tshepetsa dikopo tsa ditumelelo tse di tlhokegang le tse batlhwang. Dikopo tse di latelang di dirwa kwa Lefapha la Metswedi ya Diminerale le Maatla (Department of Mineral Resources and Energy [DMRE]), Porofenseng ya Limpopo, malebana le Porojeke e e Kopelwang:

- **Kopo ya EA** ya ditiro tse di kwadilweng tse di simmolodilwe mo Dikitsiseng tsa Papatso tsa GN R983, GN R984 le GN R985 e e phasaladitswang go ya ka Molawana ya EIA ya 2014 (o o fetotsweng), e e itsiswang phatlalatsa malebana le molawana wa National Environmental Management Act, 1998 (Act No. 107 wa 1998) (NEMA).
- **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e a rebolelang go dira ga ditiro tsa tsolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanatsele 2013 e e phasaladitsweng malebana le National Environmental Management: Waste Act, 2008 (Act No. 59 wa 2008) (o o fetotsweng) (NEM:WA).
- **Phetolo ya Karolo 102** go ya ka Mineral and Petroleum Resources Development Act, 2002 (Act No.28 wa 2002) e tlile go romelelwa DMRE malebana le go fetolwa ga Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moapong.

Mo godimo ga moo, go tla dirwa kopo e e latelang kwa Department of Water and Sanitation [DWS]:
- Kopo ya Laesense ya Tiriso ya Metsi (Water Use Licence Application [WULA]) go ya ka le National Water Act, 1998 (Act No. 36 wa 1998) (NWA) e tlile go romelelwa DWS.

GO NNA TENG GA PEGO YA TIRO KA KAKARETSO GORE E SEKASEKIWE KE MORAFE LE GO TSHWAELA KA YONE: Draft Scoping Report (DSR) ya porojeke e e kopelwang e tla nna teng gore e sekasekiwe ka morafe le go tshwaela ka yone mo sebakeng sa malatsi a le 30, go simolola ka **Laboraro, 18 Seetebosigo 2025 go ya go Labone, 17 Phukwi 2025.**
- Khopi ya leketeroniki mo webosaeteng ya Kongiwe: https://kongiwe.com/projects/.
- Dikhopi tsa tshobokanyo e e seng ya botsgeniki ya DSR e tla aramisediwa banalesesebeng botlhe mme e tla nna teng kwa dikopanong.

Go tla dirwa gore khopi ya DSR e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Social Performance Office le Thabazimbi Public Library.

Go tla dirwa gore khopi ya tshobokanyo e e seng ya botsgeniki ya DSR (NID) e ane teng kwa mafelong e botlhe a a latelang: Smash Block Community (Thabong Children Centre), mabaeting a dikitsiso a Amandelbult (Mianja Hostel), Dishaba Mine Entrance (matlo a Jabulani), kgoro ya motse wa Rethabile le Recreation Club, Setaria (Motse wa Northam Platinum).

DIKOPANO TSA DIPUISANO TSA BANALESEASE: Banalesesebe (Batho ba ba Nang le Kgatlhego le ba ba Amegang – [Interested and Affected Parties (bo-I&AP)]) ba laelediwa go tsaya karolo mo dipuisanong tse mo inthaneteng le tse ka namana. Dikopano tsa dipuisano di tla tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa polatefomo ya mo inthaneteng (Microsoft Teams) le Open Day go amogelwang botlhe. Boikaelelo jwa dikopano tseno ke go buisana ka porojeke e e kopelwang, tshedimosetso ya Scoping Report, le go naya banalesesebe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke. Tsweetswee bona fa tlase thulaganyo ya dikopano ya banalesesebe.

Matlha a a akantshiwang	Dinako tse di leng teng	Motuta wa Puisano
Kopano ya ka Nnaneng: Open Day		
Mosupologo, 23 Seetebosigo 2025	09H00 - 11H00 • 12H30 - 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labobedi, 24 Seetebosigo 2025	09H00 - 11H00 • 12H30 - 15H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Kopano ya mo Inthaneteng:		
Labotlhano, 27 Seetebosigo 2025	10H00 - 11H30	Microsoft Teams – Kopano ya mo Inthaneteng

Gore e kwadise jaaka I&AP tsweetswee kgolaganya le: Setlhopha sa Kongiwe sa Banalesesebe sa Dipuisano ka Porojeke,
Ms Vanessa Viljoen / Mogala: (10) 140 1725 - Ms Thuli Phakathi / Mogala: (10) 140 1725 kgotsa Imelle: stakeholders@kongiwe.com

KONGIWE

Setlhopha sa rona se amegile go tsaya karolo ga gago mme se lebile pele go nna le seabe ga gago mo tirong eno yotlhe.

NOTICE OF ENVIRONMENTAL AUTHORISATION PROCESS FOR A MINING PERMIT APPLICATION

DMRE REF NUMBER: LP/30/5/1/3/2/12799MP
JUNE 2025

Notice of Environmental Authorisation Application in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended; and the Environmental Impact Assessment Regulations and the National Environmental Management Waste Act, 2008 in respect of listed activities that have been triggered by applications in terms of the Mineral and Petroleum Resources Development Act (MPRDA) as amended for the proposed mining activities associated application for Aggregate, Chrome Ore, Gravel, Iron Ore, Platinum Group Metals, Sand (General), Sand (Manufactured) from Hardrock, Sand (Manufactures) from waste dump and Vanadium ore within the magisterial district of Waterberg in the Limpopo Province.

Applicant Name: Keosip Mining (Pty) Ltd

Location of Sites: proposed site is situated within 30 kilometres southwest of Thabazimbi town and 20 kilometres northeast of Northam along the Thabazimbi-Rustenburg Road.

Proposed Activity: The proposed project mining activities within 4.16ha of the affected farm portion.

Listed Activity/ Triggers Applied for: Government Notice, No. R. 327, April 2017 (LN1)-Activity 21,27 and R324 (LN3) Activity 12.

INTERESTED AND AFFECTED PARTIES ARE INVITED TO REGISTER. ALL REGISTERED INTERESTED AND AFFECTED PARTIES WILL BE NOTIFIED VIA THEIR PREFERRED METHOD OF COMMUNICATION FOR THE COMMENTING PERIOD OF THE DRAFT BASIC ASSESSMENT REPORT. THE DRAFT BAR WILL BE PLACED AT THABAZIMBI PUBLIC LIBRARY.

ELECTRONIC COPIES ARE AVAILABLE ON REQUEST

Enquiries: Ms Nomvuyo Ngcobo **Cell**: 072 864 1819
Email: nomvuyo@thevhasustainableservices.co.za

Placing an obituary

Announcing the death of a family member is a time-honoured tradition as life should be celebrated and never forgotten. To help you to celebrate the life of your loved one and share details about the upcoming funeral, place an obituary in our newspaper, free of charge. You can include the date of death, details about their life and surviving family members. You can also write a special message, a poem or a prayer. Please include a photo and the date, time and place of the memorial service.

If you would like to place an obituary in *Platinum Weekly / Platinum Bushvelder*, send the information via WhatsApp to 072 482 6871 or email **news@platinumweekly.co.za/ news@platinumbushvelder.co.za**

116 childline South Africa

STAD VAN THABAZIMBI PLAASLIKE MUNISPALITEIT

KENNISGEWING VAN AANSOEK VIR DIE ONDERVERDELING EN KONSOLIDASIE INGEVOLGE ARTIKEL16(12)(a)(iii) VAN DIE THABAZIMBI PLAASLIKE MUNISIPALITEIT VERORDENING OP GRONDGEBRUIK BESTUUR, 2015.

Ons, Lombard Du Preez Professionele Landmeters (Pty) Ltd (Reg Nr: 1996/001771/07), synde die aansoeker vir die registrasie van serwituut area oor die Restant van Gedeelte 18 van die plaas Zwartkop No. 369-KQ, gee hiermee kennis ingevolge Artikel, 16(12)(a)(iii) van die Thabazimbi Plaaslike Munisipaliteit Grondgebruiksbestuur By- Wet, 2015, dat ons by die Thabazimbi Plaaslike Munisipaliteit aansoek gedoen het vir die registrasie van 'n serwituut area oor die Restant van Gedeelte 18 van die plaas Zwartkop No. 369-KQ. Die eiendom is ongeveer 20 km suid van Thabazimbi en ongeveer 4,9km noordoos van Amandelbult geleë, koördinaat 24°46' 23,39" S 27°19' 44,56" O. Die met die aangeleentheid is om die grootte van die bestaande serwituut area (S.G 4980/2006) van 5,8211ha na 3,7255ha te verlaag. Enige beswaar en/of kommentaar insluitend die redes vir die beswaar en/of kommentaar met volledige kontakbesonderhede, waarsonder die munisipaliteit nie met die beswaarmaker kan kommunikeer nie, sal skriftelik by die Thabazimbi Plaaslike Munisipaliteit, Privaat Sak X530, Thabazimbi, 0380. Tel: 014 772 2295 ingedien of gerig word, vanaf **13 Junie 2025**. Volledige besonderhede en planne kan gedurende gewone kantoorure ter insae by die Munisipale Kantore, soos hieronder uiteengesit, besigtig word vir 'n periode van 28 dae vanaf die eerste publikasie van hierdie kennisgewing op die terrein in die Plaaslike Koerant. Adres van die Munisipale Kantore: **7 Rietbok Straat, Munisipale Kantoor**. Sluitingsdatum vir besware en/of kommentare: **14 Julie 2025**. Adres van die aansoeker: LOMBARD DU PREEZ Professionele Landmeters (Edms) Bpk, **P.O. Box 798, Brits, 0250 (76 Van Velden Street) Tel. (012) 252 5959, losurvey@mweb.co.za**. Datums waarop kennisgewing gepubliseer sal word: **13 Junie 2025** and **20 Junie 2025**.

- Oppervlakte van die Restand van Gedeelte 18 van die plaas Zwartkop No 369-KQ = 207,6838 hektaar
- Oppervlakte van bestaande serwituut area (S.G 4980/2006) = 5,8211hektaar
- Oppervlakte van die verlaagte serwituut area = 3,7255 hektaar.

Environmental Authorisations, Waste Management Licence Application and Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMPR reference number: LP 30/5/1/2/2/48 MR

Applicant: Rustenburg Platinum Mines Limited
Project Name: Amandelbult Mine (AMB) Tailings Storage Facility Dam 2 Reclamation and Processing Project

Kongiwe Environmental (Pty) Ltd (Kongiwe) hereby gives notice that the **Draft Environmental Impact Assessment (EIA) Report and the Draft Environmental Management Programme Report (EMPr)** for the Amandelbult Mine (AMB) Tailings TSF Dam 2 Reclamation and Processing Project will be made available for public review and comment.

The Draft EIA/EMPr has been compiled and will be made available for a 30-day public review and comment period from **Friday, 26 September 2025 until Monday, 27 October 2025**. An electronic copy of the non-technical summary of the Draft EIR/EMPr will be distributed to all stakeholders on the database.

Copies of the reports will be made available for public review and comment on the following website:
- Kongiwe's website: **https://kongiwe.com/projects/**
- A hard copy of the **Draft EIA/EMPr** will be made available at the following public places:
  Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance) and Thabazimbi Public Library.

A hard copy of the **Draft EIR/EMPr non-technical summary** will be made available at the following public places: Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance), Smash Block Community (Thabang Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village), Mantserre Traditional Authority (Mantserre Tribal Hall), Ramokokastad (Ramokoka Clinic and Traditional Office).

STAKEHOLDER CONSULTATION MEETINGS: Stakeholders (Interested and Affected Parties – I&APs) are invited to participate through online and in-person engagements. Consultation meetings will be held during the public review period using platforms like Microsoft Teams and Public Meetings / Open Days. The purpose of these Stakeholder Meetings is to discuss the Draft EIA /EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/ EMPr and interact with the project team.

Please see table below for the proposed stakeholders' meeting schedule.

Proposed dates	Available time slots	Method of Engagement
In-Person Meeting: Public Meeting / Open Days		
Thursday, 9 October 2025	09H00 - 12H00 • 13H00 - 15H30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Friday, 10 October 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:		
Tuesday, 7 October 2025	10H00 - 11H30	Microsoft Teams – Online meeting

Any person affected by or who may be interested in the proposed project is requested to register as an I&AP Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA) is taken into consideration.

To register as an I&AP/ to confirm your attendance at the meeting, please contact: **Kongiwe Environmental (Pty) Ltd,**
Contact person: Ms Vanessa Viljoen or Ms Thuli Phakathi, Tel: 010 140 1725/1726, Email: stakeholders@kongiwe.com

Our team welcomes your participation and looks forward to your involvement throughout this process

Titlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, le Karolo 102 ye Fetotsweng ya Lefelo la Amandelbult Mine ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepalang wa Selegae wa Thabazimbi, Porofenseng ya Limpopo

Nomoro ya referense ya DMPR: LP 30/5/1/2/2/48 MR

Modirakopo: Rustenburg Platinum Mines Limited
Leina la Porojeke: **Porojeke ya Amandelbult Mine (AMB) Tailings Storage Facility ya go Busetsa le go Dirisa Letamo 2**

Kongiwe Environmental (Pty) Ltd (Kongiwe) e naya kitsiso ya gore **Terafote ya Pego ya Tshekatsheko ya go Amega ga Tikologo (Environmental Impact Assessment [EIA]) le Terafote ya Pego Thulaganyo ya Taolo ya Tikologo (Environmental Management Programme Report [EMPr])** ya Porojeke ya Amandelbult Mine (AMB) TSF ya go Busetsa le go Dirisa Letamo 2 e tlile go dirwa gore e bonwe ke botlhe gore ba e sekaseke le go tshwaela ka yone.

Terafote ya EIA/EMPr e kwadilwe mme e tla dirwa gore e bonwe malatsi a le 30 gore e sekasekiwe ke botlhe le go tshwaela ka yone go simolola ka **Labotlhano, 26 Lwetse 2025 go ya go Mosupologo, 27 Diphalane 2025**. Khopi ya mo inthaneteng ya tshobokanyo e e seng ya botegeniki ya Terafote ya EIR/EMPr e tlile go newa banaleseabe botlhe ba ba mo dathabeiseng.

Dikhopi tsa dipego tseno di tlile go dirwa gore di bonwe ke botlhe gore ba di sekaseke le go tshwaela ka tsone mo webosaeteng e e latelang:
- Webosaete ya Kongiwe: **https://kongiwe.com/projects/**
- Khopi ya pampiri ya **Terafote ya EIA/EMPr** e tlile go dirwa gore e nne teng kwa mafelong ano a botlhe a latelang: Amandelbult Mine Corporate Affairs and Sustainability Office (e pele e neng e le Social Performance) le Thabazimbi Public Library.

Khopi ya pampiri ya **tshobokanyo e e seng ya botegeniki ya Terafote ya EIR/EMPr** e tlile go dirwa gore e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Mine Corporate Affairs le Sustainability Office (e pele e neng e le ya Social Performance), Smash Block Community (Thabang Children Centre), Diboto tsa dikitsiso tsa Moepo wa Amandelbult (Mlanje Hostel), Kgoro ya Moepo wa Dishaba (bonno jwa Jabulani), kgoro ya motse wa Rethabile le Recreation Club, Setaria (Motse wa Northam Platinum), Mantserre Traditional Authority (Mantserre Tribal Hall), Ramokokastad (Ramokoka Clinic le Traditional Office).

DIKOPANO TSA DIPUISANO LE BANALESEABE: Banaleseabe (Batho ba ba Nang le Kgatlhego le ba ba Amegang (Interested and Affected Parties – bo-I&AP) ba laledіwa go tsaya karolo mo dipuisanong tsa mo inthaneteng le tsa batho ba tlileng ka namana. Diphuthego tsa dipuisano di tlile go tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa dipolateforomo tse di tshwanang le Microsoft Teams le Dikopano tsa Botlhe. Boikaelelo jwa Dikopano tsa Banaleseabe ke go sekaseka ka Terafote ya EIA /EMPr, go tlhalosa tse di bonweng mo dipatlisisong tsa bomankge, go naya banaleseabe tshono ya go naya ditshwaelo tsa bone ka Terafote ya EIA/ EMPr le go dirisana le setlhopha sa porojeke.

Tsweetswee bona lenaneothalo le le fa tlase la thulaganyo e e akantshiwang ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Dinako tse di leng teng	Mofuta wa Puisano
Kopano ya go tla ga Batho ka Namana: Phuthego ya Botlhe		
Labone, 9 Diphalane 2025	09H00 - 12H00 • 13H00 - 15H30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labotlhano, 10 Diphalane 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Kopano ya mo Inthaneteng:		
Labobedi, 07 Diphalane 2025	10H00 - 11H30	Microsoft Teams – Phuthego ya mo inthaneteng

Motho ope fela yo o amiwang ke kgotsa yo o ka tswang a na le kgatlhego mo porojekeng e e kopelwang o kopiwa gore a ikwadise jaaka I&AP. Go akanngwa ka Molao wa Tshireletso ya Tshedimosetso ka Motho (Protection of Personal Information Act, 2013 (Molao No. 4 wa 2013) (POPIA).

Go kwadisa jaaka I&AP/ go tlhomamisa gore o tla nna teng kwa dikpanong, tsweetswee ikgolaganye le:
Motho yo go ikgolaganngwang le ene kwa Kongiwe Environmental (Pty) Ltd: Ms Vanessa Viljoen kgotsa Ms Thuli Phakathi
Mog: 010 140 1725/1726, **Imeile ya: stakeholders@kongiwe.com**

KONGIWE

Setlhopha sa rona se lebogela go tsaya karolo ga gago mme se lebile pele go go tsaya karolo ga gago mo tirong eno yotlhe.

Thabazimbi • Northam • Moruleng • Setaria • Swartklip • Amandelbult | T: 014 777 1003 | F: 011 252 6669 | 59 Van Der Bijl Street, Thabazimbi
Thabazimbi: 072 482 6871 | 081 309 3876 • **ads2@platinumbushvelder.co.za | news@platinumbushvelder.co.za**

FREE
PLATINUM BUSHVELDER

Jou Gratis Gemeenskapskoerant | *Your Free Community Newspaper* | 26 SEPTEMBER 2025

You too can help Avanya smile again. Donations can be made via her BackaBuddy campaign.

Teachers of Laerskool Koedoeskop joined by families and community members, walking together in support of little Avanya.

Helping Avanya Smile again

Anja and Avanya

Thabazimbi – Community spirit reached new heights on Wednesday, 24 September 2025, when Laerskool Koedoeskop hosted a heartfelt fundraising event at Smartbrain's field and the local airfield in support of five-year-old Avanya Espag.

More than 170 people laced up their shoes for a 5km walk, while between 250 and 300 community members attended to show their support. What started as a walk for Avanya turned into a powerful display of unity, generosity, and care.

Avanya's mother, Anja, expressed her gratitude: "Avanya is recovering well, but she is still very fearful of large dogs. We have a long road ahead, including a consultation with a plastic surgeon in six months to plan for scar revision surgery that can only take place after a year. These costs are overwhelming, and we never expected so many people to stand with us on this journey. We are deeply thankful."

The funds raised have already helped to cover some specialist fees and current treatment in Pretoria, where Avanya is receiving therapy to aid muscle healing. Beyond finances, the day gave the Espag family strength — proof that they are not walking this road alone.

Businesses and sponsors who made the day possible

- Nama-O-Rama Butchery
- Spar
- AP Church
- Smartbrain (for the use of their field)
- Emma's Place
- An anonymous donor who sponsored helicopter rides for the 1st and 2nd place winners
- Mac's Familia Biker Club Northam

Why It Matters

On 29 August 2025, Avanya's life changed when she was attacked by a dog in Thabazimbi, leaving her with severe facial injuries. Her recovery will take years of medical procedures, therapy, and emotional healing. Beyond the physical scars, she will also need trauma counselling, play therapy, and school support to rebuild confidence and overcome anxiety.

The financial burden is immense, but the outpouring of love from neighbours, friends, schools, churches, and businesses has given the Espag family renewed hope.

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FREE

Thaba Fire and Rescue never back down

Thabazimbi – When flames roar and danger strikes, there is one team the people of Thabazimbi know they can count on — Thaba Fire and Rescue. From veld fires racing across the land to homes and businesses under threat, these men and women stand tall, giving their time, their strength, and sometimes even their safety to protect others.
Between 1 July and 23 September 2025, the team responded to an incredible 163 fire emergencies. Every call carried a story of lives and livelihoods at risk:

- A grass-roof home saved from destruction.
- A food truck lost to flames.
- A veld blaze sparked by a burning vehicle.
- A family home in Thabazimbi scorched, but contained.
- A business with a thatched roof completely destroyed… just to mention a few.

Through it all, they fought relentlessly. Even more sobering, 104 of these fires happened during the official fire ban period, when conditions were at their most dangerous.

Speaking on behalf of the team, Angelique Loots, one of the directors of Thaba Fire and Rescue, said: "These past months have reminded us why we do what we do. We are always ready to tackle the challenges of emergency response and community safety. Together, we aim to strengthen Thaba Fire and Rescue's position as a trusted and vital service provider."
But Thaba Fire and Rescue is more than just a fire service. They are there when someone is trapped in the mountains, when a car crash shatters lives, when water turns deadly, when time runs out. They are there — always.
And they do this not for profit, but for people. As a non-profit organisation (NPO) made up of volunteers, they sacrifice weekends, family time, and comfort so that the community can rest a little easier.
A massive thank-you also goes to WildMed Emergency Services, who are always ready to stand shoulder to shoulder with Thaba Fire and Rescue when the call for help comes.

A raging night fire, met head-on by the fearless Thaba Fire and Rescue team.

THABA FIRE RESCUE VOLUNTEER

071 622 2702

HEROES AMONG US

The truth is, they are not just responders. They are guardians. They are the heartbeat of Thabazimbi's safety. And **to every firefighter who** pulls on those boots — our community says: thank you.

Veld fires sweep across the bushveld — relentless, but never stronger than our heroes in red.

Flames in Acasia Street

The raging fire as it tore through vegetation near Acasia Street.

Thabazimbi – A fire that broke out on Tuesday, 23 September 2025, behind Sasol in Acasia Street left a local lapa in ashes and nearby properties in danger. Thanks to swift teamwork and brave community spirit, greater tragedy was averted.
Emergency teams rushed to the scene, including Thaba Fire and Rescue, WildMed Emergency Services, and the Waterberg District Fire team. Community members also pitched in, with one resident dousing flames in the spruit and preventing a grass-roof home from catching alight. Local VF Plus representative, Frik Erasmus, was also on the scene assisting with the response.
Angelique Loots, one of the directors of Thaba Fire and Rescue, said: "Every fire is a reminder of how quickly things can turn devastating. What matters most is how people come together. The support from WildMed, Waterberg District's Fire team, and community members shows the true meaning of standing strong in the face of danger."

Child Assault Case Faces Yet Another Delay

Thabazimbi – The child assault case involving Ria Oberholzer, Petrus Oelofse, and Jesica Hull has once again been postponed, this time to 27 and 28 October 2025 in the Thabazimbi Magistrates' Court. Originally set to resume on 22 September 2025, the trial has now been pushed back more than a month.
The accused — who remain out on bail — face serious charges. Oelofse is charged with sexual assault and child neglect, while Oberholzer and Hull face charges of child neglect and assault with intent to cause grievous bodily harm. This trial has dragged on since March 2024, when charges were first laid. Along the way, the matter has seen multiple postponements.

SANRAL

bvi 50 +ENGINEERING +PROCUREMENT +MANAGEMENT

WBHO CEBEKHULU CONSTRUCTION JOINT VENTURE

Skills Development – CSDG – In-service Training

WBHO/Cebekhulu JV invites individuals that meet the requirements below from within the Thabazimbi Local Municipality to apply for in-service training for contract SANRAL R.516-010-2019/1R FOR THE IMPROVEMENT OF NATIONAL ROAD R516 SECTION 1 FROM R516 (KM 0.00) TO TOOYSPRUIT (KM 36.67).

In-service training opportunities are for the following categories:

1. **P1 & P2 or a 240 Credit Qualification (Universities of Technology) (3 Candidates)**
   Fields: Quantity Surveying, Civil Engineering
   Opportunity: 12 months In-Service Training (Work integrated learning) to graduate. Apply with:
   - Cover letter
   - CV including a valid proof of residence not older than 3 months
   - Letter from University confirming in-service requirement
   - Certified copies of academic transcript & ID
2. **TVET Colleges – NATED Programme (3 Candidates)**
   Field: Civil Engineering
   Opportunity: 18 In-Service Training (WIL) (3 Candidates). Apply with:
   - Cover letter
   - CV including a valid proof of residence not older than 3 months
   - Letter from TVET confirming in-service requirements
   - Certified copies of academic transcript & ID

All interested candidates are to email supporting documents in PDF to Tooyspruit@wbho.co.za

On the subject line please specify which in-service training opportunity you're applying for.

Closing date for all applications will be Monday 20 October 2025

SANRAL

bvi 50 +ENGINEERING +PROCUREMENT +MANAGEMENT

WBHO CEBEKHULU CONSTRUCTION JOINT VENTURE

Skills Development – Community Training – On the Job Training

WBHO/Cebekhulu JV invites individuals that meet the requirements below from within the Thabazimbi Local Municipality to apply for on-the-job training for contract SANRAL R.516-010-2019/1R FOR THE IMPROVEMENT OF NATIONAL ROAD R516 SECTION 1 FROM R516 (KM 0.00) TO TOOYSPRUIT (KM 36.67).

Applicants are hereby invited for the appointment of the following position:

Safety Officer

A Safety Officer will be employed by WBHO/Cebekhulu JV on the R516 Tooyspruit Project on a fixed term basis, for the duration of the construction period.

POSITION: Safety Officer

LOCATION OF SERVICES: **Thabazimbi Local Municipality**

PURPOSE: The Safety Officer will be responsible for all tasks related to daily construction safety duties

MINIMUM REQUIREMENTS:

- Applicant must be a resident within the Thabazimbi Local Municipality
- Must be able to pass the mandatory site fitness test
- Applicant must have a Grade 12 certificate
- SAMTRAC or relevant safety qualification that is recognised by SACPCMP
- Must have a valid driver's licence
- Must have computer literacy and competent with all Microsoft office applications
- Must have excellent communication skills
- Should be prepared to work within a construction environment
- Should not have any interest in any local construction related companies, or have any affiliations to local business forums

All interested candidates must email their CVs and supporting documents to Moeketsi.thoahlane@wbho.co.za

All applications must be accompanied by a valid proof of residence issued by the local Municipality.

Your application must state the following Reference: WBHO – Skills Development – Safety Officer

Closing date for all applications will be 20 October 2025

SANRAL

bvi 50 +ENGINEERING +PROCUREMENT +MANAGEMENT

WBHO CEBEKHULU CONSTRUCTION JOINT VENTURE

Skills Development – Community Training – On the Job Training

WBHO/Cebekhulu JV invites individuals that meet the requirements below from within the Thabazimbi Local Municipality to apply for on-the-job training for contract SANRAL R.516-010-2019/1R FOR THE IMPROVEMENT OF NATIONAL ROAD R516 SECTION 1 FROM R516 (KM 0.00) TO TOOYSPRUIT (KM 36.67).

Applicants are hereby invited for the appointment of the following position:

SED Administrator

An SED Administrator will be employed by WBHO/Cebekhulu JV on the R516 Tooyspruit Project on a fixed term basis, for the duration of the construction period.

POSITION: SED Administrator

LOCATION OF SERVICES: Thabazimbi Local Municipality

PURPOSE: The SED Administrator will be required to provide support to the Targeted Enterprises Manager with the following:

- Manage queries received via project email address
- Manage the running of the information centre/Help Desk
- Responsible for administrative tasks in execution of the skills development programmes
- Responsible to register all tender submissions
- Will be required to assist walk in community members with any queries relating to the project
- Will be required to provide secretarial support with any engagements with local stakeholders

MINIMUM REQUIREMENTS:

- Applicant must be a resident within the Thabazimbi Local Municipality
- Must be able to pass the mandatory site fitness test
- Applicant must have a Grade 12 certificate and a National Diploma in HR/IR or relevant qualification
- Applicant must have experience in working with elements of Social Economic Development
- Must have a valid driver's licence and own vehicle
- Must have computer literacy and competent with all Microsoft office applications
- Must have excellent communication skills
- Should be prepared to work within a construction environment
- Should not have any interest in any local construction related companies, or have any affiliations to local business forums

All interested candidates must email their CVs and supporting documents to magandrann@wbho.co.za

All applications must be accompanied by a valid proof of residence issued by the local Municipality.

Your application must state the following Reference: WBHO – Skills Development – SED Administrator

Closing date for all applications will be 20 October 2025

ANOTHER LIFE LOST ON THE R510

Northam — Tragedy struck again on Tuesday morning, 23 September 2025, on the R510 near Northam, where a motor vehicle accident claimed another life and left three others seriously injured. One of the patients had to be airlifted by helicopter for urgent medical treatment. The cause of the accident remains under investigation, but community members and emergency services alike are voicing growing concern about the state of this road.

Pierre Loots, director of Thaba Fire and Rescue, expressed deep frustration: "The R510 has become a danger zone. SANRAL must urgently complete this road, which has been left in a hazardous state for months now. Lives are being lost, and families are left devastated."

This tragic incident follows several recent crashes on the same stretch of road. Just weeks ago, on 31 August 2025, another accident on the R510 close to Northam claimed a life, a head-on collision between two light motor vehicles ended in tragedy.

Loots extended heartfelt appreciation to all those who responded to the scene: "We thank every emergency personnel member and agency who assisted. Your dedication saves lives, even on our darkest days."

Thaba Fire and Rescue press release

The mangled wreck of the car on the R510 near Northam — a stark reminder of how quickly tragedy can strike.

THABA FIRE RESCUE VOLUNTEER

071 622 2702

Environmental Authorisations, Waste Management Licence Application and Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMPR reference number: LP 30/5/1/2/2/48 MR

Applicant: Rustenburg Platinum Mines Limited
Project Name: Amandelbult Mine (AMB) Tailings Storage Facility Dam 2 Reclamation and Processing Project

Kongiwe Environmental (Pty) Ltd (Kongiwe) hereby gives notice that the **Draft Environmental Impact Assessment (EIA) Report and the Draft Environmental Management Programme Report (EMPr)** for the Amandelbult Mine (AMB) Tailings TSF Dam 2 Reclamation and Processing Project will be made available for public review and comment.

The Draft EIA/EMPr has been compiled and will be made available for a 30-day public review and comment period from **Friday, 26 September 2025 until Monday, 27 October 2025**. An electronic copy of the non-technical summary of the Draft EIR/EMPr will be distributed to all stakeholders on the database.

Copies of the reports will be made available for public review and comment on the following website:
- Kongiwe's website: **https://kongiwe.com/projects/**
- A hard copy of the **Draft EIA/EMPr** will be made available at the following public places:
  Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance) and Thabazimbi Public Library.

A hard copy of the **Draft EIR/EMPr non-technical summary** will be made available at the following public places: Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance), Smash Block Community (Thabang Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village), Mantserre Traditional Authority (Mantserre Tribal Hall), Ramokokastad (Ramokoka Clinic and Traditional Office).

STAKEHOLDER CONSULTATION MEETINGS: Stakeholders (Interested and Affected Parties – I&APs) are invited to participate through online and in-person engagements. Consultation meetings will be held during the public review period using platforms like Microsoft Teams and Public Meetings / Open Days. The purpose of these Stakeholder Meetings is to discuss the Draft EIA /EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/ EMPr and interact with the project team.

Please see table below for the proposed stakeholders' meeting schedule.

Proposed dates	Available time slots	Method of Engagement
In-Person Meeting: Public Meeting / Open Days		
Thursday, 9 October 2025	09H00 - 12H00 • 13H00 - 15H30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Friday, 10 October 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:		
Tuesday, 7 October 2025	10H00 - 11H30	Microsoft Teams – Online meeting

Any person affected by or who may be interested in the proposed project is requested to register as an I&AP.
Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA) is taken into consideration.

To register as an I&AP / to confirm your attendance at the meeting, please contact: **Kongiwe Environmental (Pty) Ltd, Contact person: Ms Vanessa Viljoen or Ms Thuli Phakathi, Tel: 010 140 1725/1726, Email: stakeholders@kongiwe.com**

Our team welcomes your participation and looks forward to your involvement throughout this process

Titlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, le Karolo 102 ye Fetotsweng ya Lefelo la Amandelbult Mine ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepalang wa Selegae wa Thabazimbi, Porofenseng ya Limpopo

Nomoro ya referense ya DMPR: LP 30/5/1/2/2/48 MR

Modirakopo: Rustenburg Platinum Mines Limited
Leina la Porojeke: **Porojeke ya Amandelbult Mine (AMB) Tailings Storage Facility ya go Busetsa le go Dirisa Letamo 2**

Kongiwe Environmental (Pty) Ltd (Kongiwe) e naya kitsiso ya gore **Terafote ya Pego ya Tshekatsheko ya go Amega ga Tikologo (Environmental Impact Assessment [EIA]) le Terafote ya Pego Thulaganyo ya Taolo ya Tikologo (Environmental Management Programme Report [EMPr])** ya Porojeke ya Amandelbult Mine (AMB) TSF ya go Busetsa le go Dirisa Letamo 2 e tlile go dirwa gore e bonwe ke botlhe gore ba e sekaseke le go tshwaela ka yone.

Terafote ya EIA/EMPr e kwadilwe mme e tla dirwa gore e bonwe malatsi a le 30 gore e sekasekiwe ke botlhe le go tshwaela ka yone go simolola ka **Labotlhano, 26 Lwetse 2025 go ya go Mosupologo, 27 Diphalane 2025**. Khopi ya mo inthaneteng ya tshobokanyo e e seng ya botegeniki ya Terafote ya EIR/EMPr e tlile go newa banaleseabe botlhe ba ba mo dathabeiseng.

Dikhopi tsa dipego tseno di tlile go dirwa gore di bonwe ke botlhe gore ba di sekaseke le go tshwaela ka tsone mo webosaeteng e e latelang:
- Webosaete ya Kongiwe: **https://kongiwe.com/projects/**
- Khopi ya pampiri ya **Terafote ya EIA/EMPr** e tlile go dirwa gore e nne teng kwa mafelong ano a botlhe a latelang: Amandelbult Mine Corporate Affairs and Sustainability Office (e pele e neng e le Social Performance) le Thabazimbi Public Library.

Khopi ya pampiri ya **tshobokanyo e e seng ya botegeniki ya Terafote ya EIR/EMPr** e tlile go dirwa gore e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Mine Corporate Affairs le Sustainability Office (e pele e neng e le ya Social Performance), Smash Block Community (Thabang Children Centre), Diboto tsa dikitsiso tsa Moepo wa Amandelbult (Mlanje Hostel), Kgoro ya Moepo wa Dishaba (bonno jwa Jabulani), kgoro ya motse wa Rethabile le Recreation Club, Setaria (Motse wa Northam Platinum), Mantserre Traditional Authority (Mantserre Tribal Hall), Ramokokastad (Ramokoka Clinic le Traditional Office).

DIKOPANO TSA DIPUISANO LE BANALESEABE: Banaleseabe (Batho ba ba Nang le Kgatlhego le ba ba Amegang (Interested and Affected Parties – bo-I&AP) ba laledilwa go tsaya karolo mo dipuisanong tsa mo inthaneteng le tsa batho ba tlileng ka namana. Diphuthego tsa dipuisano di tlile go tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa dipolateforomo tse di tshwanang le Microsoft Teams le Dikopano tsa Botlhe. Boikaelelo jwa Dikopano tsa Banaleseabe ke go sekaseka ka Terafote ya EIA /EMPr, go tlhalosa tse di bonweng mo dipatlisisong tsa bomankge, go naya banaleseabe tshono ya go naya ditshwaelo tsa bone ka Terafote ya EIA/ EMPr le go dirisana le setlhopha sa porojeke.

Tsweetswee bona lenaneothalo le le fa tlase la thulaganyo e e akantshiwang ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Dinako tse di leng teng	Mofuta wa Puisano
Kopano ya go tla ga Batho ka Namana: Phuthego ya Botlhe		
Labone, 9 Diphalane 2025	09H00 - 12H00 • 13H00 - 15H30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labotlhano, 10 Diphalane 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Kopano ya mo Inthaneteng:		
Labobedi, 07 Diphalane 2025	10H00 - 11H30	Microsoft Teams – Phuthego ya mo inthaneteng

Motho ope fela yo o amiwang ke kgotsa yo o ka tswang a na le kgatlhego mo porojekeng e e kopelwang o kopiwa gore a ikwadise jaaka I&AP. Go akanngwa ka Molao wa Tshireletso ya Tshedimosetso ka Motho (Protection of Personal Information Act, 2013 (Molao No. 4 wa 2013) (POPIA).

Go kwadisa jaaka I&AP / go tlhomamisa gore o tla nna teng kwa dikpanong, tsweetswee ikgolaganye le:
Motho yo go ikgolaganngwang le ene kwa Kongiwe Environmental (Pty) Ltd: Ms Vanessa Viljoen kgotsa Ms Thuli Phakathi
Mog: 010 140 1725/1726, Imeile ya: stakeholders@kongiwe.com

KONGIWE

Setlhopha sa rona se lebogela go tsaya karolo ga gago mme se lebile pele go go tsaya karolo ga gago mo tirong eno yotlhe.

SANRAL

bvi 50 YEARS EST. 1975 ENGINEERING • PROCUREMENT • MANAGEMENT

WBHO CONSTRUCTION (PTY) LTD CEBEKHULU CONSTRUCTION JOINT VENTURE

WBHO/Cebekhulu JV invites enterprises from with the Thabazimbi Local Municipality to submit their bids for contract SANRAL R.516-010-2019/1R FOR THE IMPROVEMENT OF NATIONAL ROAD R516 SECTION 1 FROM R516 (KM 0.00) TO TOOYSPRUIT (KM 36.67)

Preference will be given to prospective tenderers from within the Thabazimbi Local Municipality. The following packages will be going out for tender as part of the Priority 2 scope.

Scope of Works	Type	Work package Number	Minimum CIDB requirement	Tender Documents
Waste Skip / Refuse Removal	Services	R.516-010-2019/1R-TE09	N/A	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111066077X329003184610000NxZiC
Supply & Maintain Portable toilets	Services	R.516-010-2019/1R-TE10	N/A	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111188847X172011635410000itvf6
Concrete kerbing and channeling, asphalt berms, chutes, downpipes, concrete, stone pitched and gabion linings for open drains	Supply & Install	R.516-010-2019/1R-TE11	CIDB 3 & 4	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111211816X172011635410000PEHry
Pitching, stonework, cast in situ concrete for protection against erosion	Supply & Install	R.516-010-2019/1R-TE13	CIDB 3 & 4	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111266861X172011635410000RJaY0
Non-structural gabions	Supply & Install	R.516-010-2019/1R-TE14	CIDB 3 & 4	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111310708X172011635410000d6ayL
Cement (CEM II, 32,5 N) - Supply and spreading	Supply & Install	R.516-010-2019/1R-TE15	CIDB 5 & 6	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111351195X172011635410000lhc3m
Road lime	Supply	R.516-010-2019/1R-TE16	CIDB 5 & 6	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111377800X172011635410000K4ppf
Prime	Supply	R.516-010-2019/1R-TE17	CIDB 5 & 6	https://sendfile.wbho.co.za/app?operation=pubopp&id=1758111400424X172011635410000Kk1NK

These tenders will be evaluated in terms of the following criteria locality, BBBEE ownership, functionality, price and preference points system. Tenderers who satisfy the following criteria are eligible to submit tenders:
1. B-BBEE Level 1 or 2 contributor.
2. Exempted Micro Enterprise (EME) or Qualifying Small Enterprise (QSE).
3. Registered on the National Treasury Central Supplier Database (CSD).
4. An award will only be given to preferred tenderers that are:
   - Compliant with the Compensation for Occupational Injuries and Diseases Act (COID).
   - Tax Compliant with South African Revenue Service (SARS).

Note: Tenderers should not be a member of the Public Liaison Committee (PLC), or an employee of or affiliated to any Municipal and Government Department.

Compulsory **information briefing sessions and Tender closing dates:**

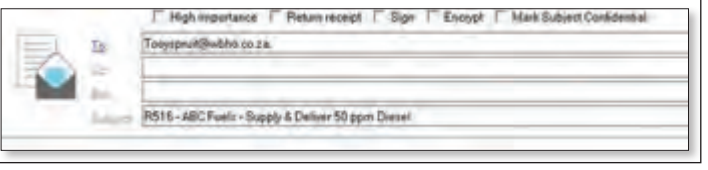
Scope of Works	Type	Work package Number	**Information Briefing Venue & Date**	Tender Submission **closing Date &** Time
Waste Skip / Refuse Removal	Services	R.516-010-2019/1R-TE09	Leeupoort Mining Town, recreational club (next to Church) – 01 October 2025 @ 10:00 am	Friday, 17th October 2025 @13:00
Supply & Maintain Portable toilets	Services	R.516-010-2019/1R-TE10	Leeupoort Mining Town, recreational club (next to Church) – 01 October 2025 @ 12:00 pm	Friday, 17th October 2025 @13:00
Concrete kerbing and channeling, asphalt berms, chutes, downpipes, concrete, stone pitched and gabion linings for open drains	Supply & Install	R.516-010-2019/1R-TE11	Leeupoort Mining Town, recreational club (next to Church) – 01 October 2025 @ 14:00 pm	Friday, 17th October 2025 @13:00
Pitching, stonework, cast in situ concrete for protection against erosion	Supply & Install	R.516-010-2019/1R-TE13	Leeupoort Mining Town, recreational club (next to Church) – 02 October 2025 @ 12:00 pm	Friday, 17th October 2025 @13:00
Non-structural gabions	Supply & Install	R.516-010-2019/1R-TE14	Leeupoort Mining Town, recreational club (next to Church) – 02 October 2025 @ 14:00 pm	Friday, 17th October 2025 @13:00
Cement (CEM II, 32,5 N) - Supply and spreading	Supply & Install	R.516-010-2019/1R-TE15	Leeupoort Mining Town, recreational club (next to Church) – 03 October 2025 @ 10:00 am	Friday, 17th October 2025 @13:00
Road lime	Supply	R.516-010-2019/1R-TE16	Leeupoort Mining Town, recreational club (next to Church) – 03 October 2025 @ 11:00 am	Friday, 17th October 2025 @13:00
Prime	Supply	R.516-010-2019/1R-TE17	Leeupoort Mining Town, recreational club (next to Church) – 03 October 2025 @ 12:00 pm	Friday, 17th October 2025 @13:00

Notes to Tenderers: WBHO/Cebekhulu JV will reserve the right to negotiate feasible rates with the preferred tenderers if necessary. Tenderers must specify on their cover page the tender package they are applying for Tenderers may submit tenders for all sub-contracts in this Tender Notice, but only 1 (one) subcontract will be let per preferred Tenderer at any one time for this project.

The tender and supporting documents shall be sealed in an envelope and clearly marked: "SUBCONTRACT SANRAL R.516-010-2019/1R FOR THE IMPROVEMENT OF NATIONAL ROAD R516 SECTION 1 FROM R516 (KM 0.00) TO TOOYSPRUIT (KM 36.67)" and shall be delivered by hand and placed in the tender box marked "R516 Tooyspruit Tender Box" Leeupoort Mining Town, recreational club (next to Church)

Tenders must specify on cover page the tender package they are applying for. All tenders to be submitted no later than 13h00 on the 17th of October 2025.

Queries may be addressed to:
Thobekile Tshabalala – Email: Tooyspruit@wbho.co.za
Subject Line: R516 Tooyspruit – "Company Name" – "Scope Mentioned Above"



THABAZIMBI

LOCAL MUNICIPALITY | PLAASLIKE MUNISIPALITEIT | MASEPALA WA SELEGAE

Alle korrespondensie moet gerig word aan die Munisipale Bestuurder
All correspondence must be directed to the Municipal Manager
Makwalo otlhe a lebiswe go Mookamedi wa Masepala

(ERRATUM) THABAZIMBI LOCAL MUNICIPALITY | MUNICIPAL MANAGER OFFICE

NOTICE IS HEREBY GIVEN THAT AN AMENDMENT IS MADE ON THE CLOSING DATE AND EXTENSION BELOW LISTED TENDER:

(For publication on Competitive bidding process the Municipal notice board, Newspaper, website and e-tender portal)

BID No	Bid Description	Evaluation criteria	Contact Persons	Compulsory **Briefing**	Document availability date	**Closing** Date & Time	Cost
PED/02/2025-26	APPOINTMENT OF A SERVICE PROVIDER FOR FINALIZATION OF A TOWNSHIP ESTABLISHMENT PROPOSED THABAZIMBI EXTENSION 58	Profile of the team leader or director Academic Qualification, CV and more than three (3) years post qualification experience to be able to score:.30 Points Previous experience of the company in town planning (attach appointment letters accompanied by corresponding reference letters on the letterhead, The reference letter must indicate contract/Bid number and the value of the contract). 30 Points N.B:The reference letter must support similar/ same appointment letter.*(if the bidder provides different appointment letter to the reference letter the municipality will not consider the reference letter as part of evaluation).* Reference letter must contain email address, telephone number, contract amount and the period. Failure to adhere will result in municipality not considering the reference letter:. Director's Professional Registration with SACPLAN: 20 Points Methodology: 20 Points TOTAL: 100 Points SCORING FORMULA (80/20) | **The scoring formula (80/20) will be used**	Enquires: O. Lithole – 078 928 0722 Procurement Enquire: V. Makobe – 072 826 5897	23 SEPTEMBER 2025 @10H00 | Venue: Municipal Chamber	25 SEPTEMBER 2025	03 October 2025@ 12:00pm	R1000.00

All quotations will be evaluated in terms of preferential points system as prescribed in the preferential procurement policy regulation of 2022.

Please note:

1. (a) Section 217 of the Constitution of the Republic of Republic of South Africa requires an organ of state to contract for goods and services in accordance with a system which is fair, equitable, transparent, competitive, and cost effective. (b) No bid (s) will be accepted from a person in the service of the state. (c) No telegraphic, telefax and late bids will be accepted. (d) The lowest bid/proposal will not be accepted, and the Municipality reserves the right to accept where applicable a part of portion of any bid or where possible accepts bids or proposal from multiple bidders. (e) Municipal Supply Chain Management policy and Preferential Procurement policy Framework Act No 5 of 2000 and its regulations (2022) will be applied.
2. To claim preference points for specific goals. A. locality –Where the tenderer is the owner of the property of the company, shall submit a Municipal rates and taxes registered in the name of the tenderer, where the tenderer is not the owner of the property of the company (A valid lease agreement or Affidavit from the property owner that the address used to claim points is being rented out to the tenderer) B. Youth, Women, Locality and HDIs – The bidders must submit ID documents for them to be able to claim points. Bidders who fail to submit the relevant documents will not get 20 points.
3. The tender document will be available for purchase at the Thabazimbi Local Municipality offices. Interested bidders are required to:
   - Pay the non-refundable 1000.00 tender fee into the municipal account: Account Name: Thabazimbi Local Municipality | Bank Name: ABSA | Account Number:158000 0009 | Branch Code:632005 | Reference: [Insert Tender Number or Bidder Name]
   - Collect the tender document at the SCM Department upon presentation of proof of payment.
   - Attach the original proof of payment (deposit slip) to the tender document upon submission.
   - Failure to attach the proof of payment may result in disqualification.

All completed Bid documents to be submitted at: Thabazimbi Local Municipality; Tender Box; 7 RIETBOK **STREET, Thabazimbi;** 0380

	Points
Price	80
Specific Goals	20

Mr GC Letsoalo CA (SA)
Municipal Manager

Date: 23/09/2025

Annie Junior steel harte in Thabazimbi

Stralend op die verhoog – Annie en haar mede-akteurs het gehore se harte gesteel met hul talent en lewenslus.

Thabazimbi – Laerskool Thabazimbi het verlede week gehore betower met hulle uiters besonderse aanbieding van die musiekblyspel *Annie Junior*. Die rolverdeling, uitmuntende sang, sprankelende choreografie en toegewyde akteurspel het elke aand die gehoor meegesleur in Annie se wêreld.

Vier vertonings is vanaf 16 tot 19 September 2025 aangebied, met bykans elke aand 'n uitverkoopte gehoor wat die jong sterre beloon het met staande ovasies. Dinsdagaand is senior burgers spesiaal gratis uitgenooi.

Die hoogtepunt van die week was die gala-aand op 19 September, aangebied as 'n gesellige kaas-en-wyn by lang tafels. Hier is Vrede-en-Lust se Sauvignon Blanc met die simboliese naam *Anni* bedien – 'n perfekte pasmaat vir die aand.

Jacques de Villiers, beoordelaar van die Bosveld Interskole Kunstefees, was Woensdagaand in die gehoor en het groot lof uitgespreek. Hy het gesê die standaard van hierdie produksie selfs dié van baie stedelike laerskole ver oortref. Die groep is boonop as afdelingswenners in die revue-afdeling aangewys.

Agter die verhoog

Die sukses het nie oornag gekom nie. Reeds op 24 Februarie het die eerste oudisies begin. Sedertdien het maande se harde werk ingespan gegaan in sang, dialoog, verhoogspel, choreografie, dekor, kostuums en beligting.

- **170 leerders** van graad 1 tot 7 het deelgeneem.
- **14 personeellede** saam met Annalize van Wyk, Louise de Beer en Dajana Havenga het afrigting behartig.
- **Klank en beeld:** Frans Steyn (Franstaal Studio).
- **Beligting:** Erik van den Berg (Xtreme Productions).
- **Kostuums:** Mathilda Maree en Hollywood Costumes.
- **Grimering:** Katryntjies Face Art.

Laerskool Thabazimbi kan met reg breëbors trots wees. Hierdie produksie was meer as vermaak – dit was 'n vertoonvenster van entoesiasme, uitnemendheid en hoop.

SOULFOOD

PROVERBS 24 (1-4)

1 Do not be envious
of evil men,
Nor desire to be with
them;
2 For their heart
devises violence,
And their lips talk of
troublemaking.
3 Through wisdom a
house is built,
And by understanding
it is established;
4 By knowledge the
rooms are filled
With all precious
and pleasant
riches.

NEW KING JAMES VERSION (NKJV)

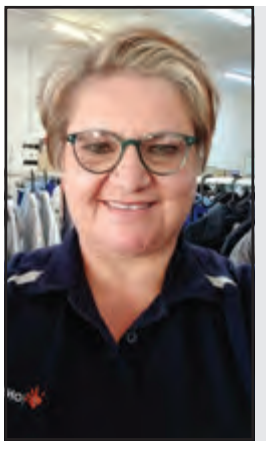
HAVE YOUR SAY

Do you entertain people and add value to their lives, or do you simply drain them?

Everyday interactions either uplift or exhaust. Some people bring laughter, encouragement, and light, while others leave those **around them feeling drained. Reflect honestly: are you a source of joy and inspiration, or do you take more than you give?**

"Yes, I believe I add value to people's lives by bringing positivity and encouragement. Whether through listening, sharing a funny story, or offering support when needed, I aim to uplift those around me."

Evelyn Mogomotsi, Thabazimbi



"In my shop, I try to help everyone who comes in with whatever they may need. Sometimes I'm just a listening ear, a shoulder to cry on, or simply a smile to brighten their day. I see myself as God's hands, feet, ears, and eyes here."

Ancia Sieberhagen, Thabazimbi

PUBLIC POLL: **THE RESULTS ARE IN!**

Do you entertain people and add value to their lives, or do you simply drain them?

NO 2% YES 98%

POLL

Should kids under 10 get a cellphone?

While some parents see it as a safety tool to stay in touch, others worry about screen time, social media exposure, and online risks. What do you think — are cellphones a necessity for children, or should they wait until they're older?

Here's how you can participate. Email us at news@platinumbushvelder.co.za or WhatsApp your response to 081 579 7000. Include the following:

- Your answer: Yes or No
- Why? We want to hear from you!
- A recent photo – We'd love to publish your pic alongside your answer!
- Your town/city
- Deadline – Be sure to send your response before 12:00 on Monday, 29 September 2025.

Vote results: The outcome of the poll will be featured in our next issue. Be a part of our community's story!

P.S.: Don't forget, you can also voice your opinion on our Facebook post about this topic. Join the conversation!

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Appendix C5: Site Notice

Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR

DWS reference number: To be confirmed

The Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine (AMB) aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and Platinum Group Metals (PGMs) using both hydraulic and mechanical reclamation processes, while ensuring continued stability of the surrounding Dams in the TSF complex. The proposed reclamation project is located on the AMB surface rights footprint, which is located in the Thabazimbi Local Municipality (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province. It is located approximately 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

It is proposed that the reclaimed material will be transported to the slurry transfer station and then pumped from the TSF via new pipelines alongside existing pipelines, to a new processing plant located near the existing Amandelbult concentrator plant area, or the existing concentrator plant. Tailings generated at the plant from the reclaimed material will be transported via existing pipelines and infrastructure to the TSF 3B dam for deposition. Process water for the reclamation will be pumped to the reclamation site and infrastructure via new pipelines in an existing pipeline route. The proposed process water sourcing options include the water held in the mines existing Return Water Dam and the Holding Dam.

AMB is required to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Proposed Project as part of an Environmental Authorisation (EA). The S&EIA and specialist studies are being undertaken in support of the applications for the required approvals. The following applications are being made to the Department of Mineral Resources and Energy (DMRE), Limpopo region, for the Proposed Project:

1. **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 and GN R985 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA); and
2. **Application for a Waste Management Licence (WML)** authorising waste management activity listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).
3. **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.

In addition, the following application will be made to the Department of Water and Sanitation (DWS):

- **A Water Use Licence Application (WULA)** in terms of the National Water Act, 1998 (Act No. 36 of 1998) (NWA).

AVAILABILITY OF THE SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT: The Draft Scoping Report (DSR) for the proposed project will be made available for public review and comment for a period of 30 days, from **Wednesday, 18 June 2025 to Thursday, 17 July 2025**. An electronic copy on Kongiwe's website: https://kongiwe.com/projects/. Copies of the non-executive summary of the DSR will be distributed to all stakeholders and will be available at the meetings.

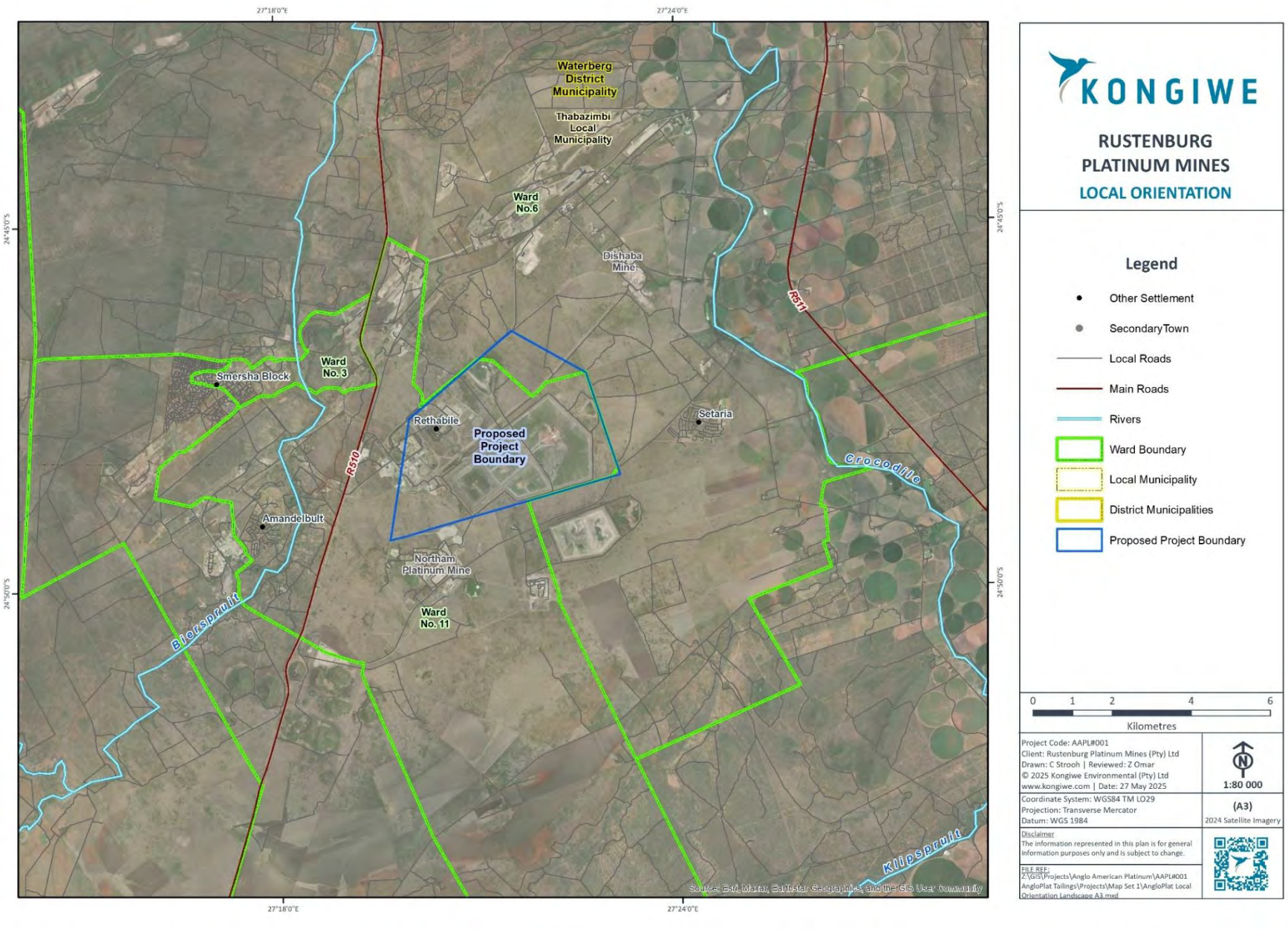
A hard copy of the DSR will be made available at the following public places: Amandelbult Social Performance Office and Thabazimbi Public Library.

A hard copy of the DSR non-technical summary (BID) will be made available at the following public places: Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residents), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).

STAKEHOLDER CONSULTATION MEETINGS: Stakeholders (Interested and Affected Parties – I&APs) are invited to participate through online and in-person engagements. Consultation meetings will be held during the public review period using an online platform (Microsoft Teams) and a public Open Day. The purpose of these meetings is to discuss the proposed project, contents of the Scoping Report, and to provide stakeholders with an opportunity to raise their comments and to interact with the project team. Please see below the proposed stakeholders meeting schedule.

Proposed dates	Method of Engagement
Face-to-Face Meeting: Open Day	
Monday, 23 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Tuesday, 24 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:	
Friday, 27 June 2025	Microsoft Teams – Virtual meeting

To register as an I&AP please contact: Kongiwe Environmental Stakeholder Engagement Team
Ms Vanessa Viljoen - Phone: (010) 140 1725 - Ms Thuli Phakathi - Phone: (010) 140 1726 or
E-mail: stakeholders@kongiwe.com
Our team welcomes your participation and looks forward to your involvement throughout this process.



Locality map of the proposed project

Ditlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, Laesense ya Tiriso ya Metsi, le Karolo 102 ye Fetotsweng ya Lefelo la Amandelbult ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepala wa Selegae wa Thabazimbi, Porofense ya Limpopo
Nomoro ya referense ya DMRE: LP 30/5/1/2/2/48 MR
Nomoro ya referense ya DWS: E tla tlhomamisiwa

Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine (AMB) e ikaela go busetsa le go baakanya Amandelbult TSF Dam 2 ya khompolekese ya Amandelbult TSF, ka maikaelelo a go busetsa Chrome le Platinum Group Metals (di-PGM) ka go dirisa dithulaganyo tsa go busetsa ka metsi le ka metšhine, fa go ntse go tlhomamisa gore Matamo a a mo tikologong mo khompolekeseng ya TSF a tswelela a le mo maemong a a siameng. Porojeke e e kopelwamg ya go busetsa lefelo la lefatshe e kwa lefelong la ditshwanelo AMB mo godimo ga lefatshe, le le leng mo Masepaleng wa Selegae wa Thabazimbi (TLM) wa Kgaolo ya Waterberg (WDM) mo Porofenseng ya Limpopo. Go fopholediwa gore e bokgakala jwa dikilometara di 15 kwa bokone jwa Northam le dikilometara di le 30 kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

Go tshitshinngwa gore sedirisiwa se se buseditsweng se tla isiwa kwa seteišeneng sa phetiso ya seretse mme morago ga moo se pompiwe go tswa kwa TSF ka diphaephi tse dišwa go bapa le diphaephi tse di leng teng, go ya kwa polanteng e ntšhwa ya go baakanya e e leng gaufi le lefelo le le leng teng la polante ya go kokoanya ya Amandelbult, kgotsa polante e e leng teng ya go kokoanya dilo. Go akantshitswe gore matheriale o o buseditsweng o isiwe kwa polanteng ya go tlhatswa/go tlhotlhora di bo di pompelwa mo TSF ka diphaepe tse disha tse di bapileng le diphaepe tse di setseng di le teng, di isiwang kwa polanteng e ntšha e gaufi lelefelo la polante ya khonsentereita ya Amandelbult. Seretse sa Manya se dirilweng kwa planteng ka matheriale o o busediwang di tlile go tsamaisiwa ka diphaepe tse di leng teng le ka tsela go ya kwa letamong la TSF 3B go ya go latlhiwa. Metsi a a dirisediwang go busetsa lefelo la lefatshe a tla pompelwa kwa lefelong la lefelo le le busediwang le dikago le ditsela ka diphaepe tse disha mo tseleng ya diphaepe e e setseng e le teng. Ditsela tse di kopelwang tsa go bona metsi di akaretsa mo metsi a a mo meepong a a leng teng a a tswang mo Return Water Dam e e ntseng e le teng le Letamo la go Tshwara Metsi.

AMB e tlhoka go dira tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment [S&EIA]) e e sekasekang go amiwa ga tikologo ke Porojeke e e Kopelwang e le karolo ya Tetlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation [EA]). S&EIA le dipatlisiso tsa bomankge di dirwa go tshegetsa dikopo tsa ditumelelo tse di tlhokegang le tse batliwang. Dikopo tse di latelang di dirwa kwa Lefapha la Metswedi ya Diminerale le Maatla (Department of Mineral Resources and Energy [DMRE]) Porofenseng ya Limpopo, malebana le Porojeke e e Kopelwang:

1. **Kopo ya EA** ya ditiro tse di kwadilweng e simmolodisiwa mo Dikitsisong tsa Papatso tsa GN R983, GN R984 le GN R985 e e phasaladitsweng go ya ka Melawana ya EIA ya 2014 (o o fetotsweng), e e itsisiweng phatlalatsa malebana le molawana wa National Environmental Management Act, 1998 (Molao No. 107 wa 1998) (NEMA).
2. **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e e rebolelang go dira ga ditiro tsa taolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanaatsele 2013 e e phasaladitsweng malebana le National Environmental Management: Waste Act, 2 008 (Molao No. 59 2008) (o o fetotsweng) (NEM:WA).
3. **Phetolo ya Karolo 102** go ya ka Mineral and Petroleum Resources Development Act, 2002 (Molao 28 wa 2002) o tlile go romelelwa DMRE malebana le go fetolwa ga Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moepong.

Mo godimo ga moo, go tlile go dirwa kopo e e latelang kwa Department of Water and Sanitation (DWS):

- **Kopo ya Laesense ya Tiriso ya Metsi (Water Use Licence Application [WULA])** go ya ka National Water Act, 1 998 (Molao No. 36 wa 1 998) (NWA).

GO NNA TENG GA PEGO YA TIRO KA KAKARETSO GORE E SEKASEKIWE KE MORAFE LE GO TSHWAELA KA YONE: Draft Scoping Report (DSR) ya porojeke e e kopelwang e tlile go nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo sebakeng sa malatsing a le 30, go simolola ka **Laboraro, 18 Seetebosigo 2025 go ya go Labone, 17 Phukwi 2025.**

- Khopi ya ileketeroniki mo webosaeteng ya Kongiwe: https://kongiwe.com/projects/.
- Dikhopi tsa tshobokanyo e e seng ya botegeniki ya DSR e tla anamisediwa banaleseabeng botlhe mme e tla nna teng kwa dikopanong.

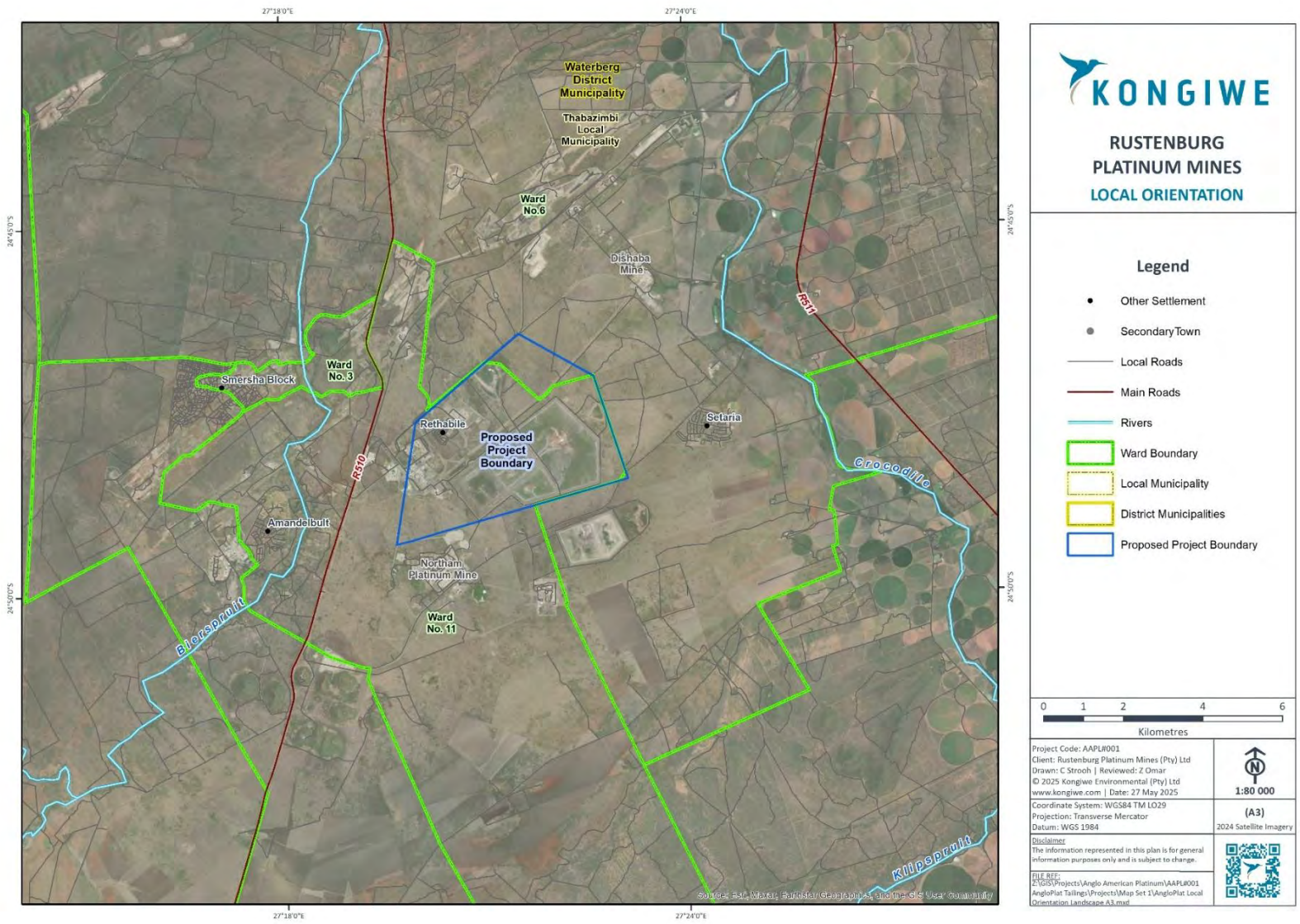
Khopi ya pampiri ya DSR e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Social Performance Office le Thabazimbi Public Library.

Khopi ya pampiri ya DSR e e seng ya botegeniki (BID) e nne teng kwa mafelong a botlhe a a latelang: Smash Block Community (Thabong Children Centre), mabating a dikitsiso a Amandelbult Mine (Mlanje Hostel), Dishaba Mine Entrance (baagi ba Jabulani), kgoro ya motse wa Rethabile le Recreation Club, Setaria (Motse wa Northam Platinum).

DIKOPANO TSA DIPUISANO TSA BANALESEABE: Banaleseabe (Interested and Affected Parties – bo-I&AP) ba laledіwa go tsaya karolo mo dipuisanong tsa mo inthaneteng (Microsoft Teams) le tsa ka namana. Dikopano tsa dipuisano di tla tshwarwa ka nako ya tshekatsheko ya morafe go dirisiwa polatefomo ya mo inthaneteng (Microsoft Teams) le Open Day go amogelwang botlhe. Boikaelelo jwa dikopano tseno ke go buisana ka porojeke e e kopelwang, tshedimosetso ya Scoping Report, le go naya banaleseabe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke. Tsweetswee bona fa tlase thulaganyo ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Mofuta wa Puisano
Kopano ya ka Namana: Open Day	
Mosupulogo, 23 Seetebosigo 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Labobedi, 24 Seetebosigo 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Kopano ya mo Inthaneteng:	
Labotlhano, 27 Seetebosigo 2025	Microsoft Teams – Kopano ya mo inthaneteng

Gore o ikwadise jaaka I&AP tsweetswee ikgolaganye le: Setlhopha sa Kongiwe sa Dipuisano le Banaleseabe ka Porojeke
Ms Vanessa Viljoen - Mogala: (10) 140 1725 - Ms Thuli Phakathi - Mogala : (10) 140 1726 kgotsa
Imeile: stakeholders@kongiwe.com
Setlhopha sa rona se amogela go tsaya karolo ga gago mme se lebile pele go nna le seabe ga gao mo tirong eno yotlhe.



Mmapa wa lefelo la porojeke e e kopelwang

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Site Notice Placement Report – Tuesday and Wednesday, 17 and 18 June 2025

Site Notice Number	Location	Co-ordinates	Photo	
1.	Entrance to Jabulani Informal Settlement	24.762555'S 27.390409'E		

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Site Notice Number	Location	Co-ordinates	Photo	
2.	On a lamp post outside the entrance to Setaria	24.783921'S 27.412082'E		

© 2025 Kongiwe Environmental (Pty) Ltd

Site Notice Number	Location	Co-ordinates	Photo	
3.	Near the entrance to Amandelubult Complex	24.843867'S 27.304825'E		

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Site Notice Number	Location	Co-ordinates	Photo	
4.	Outside entrance to the Mlanje SAV & AET (Adult Education and Training)	24.800635'S 27.330966'E		

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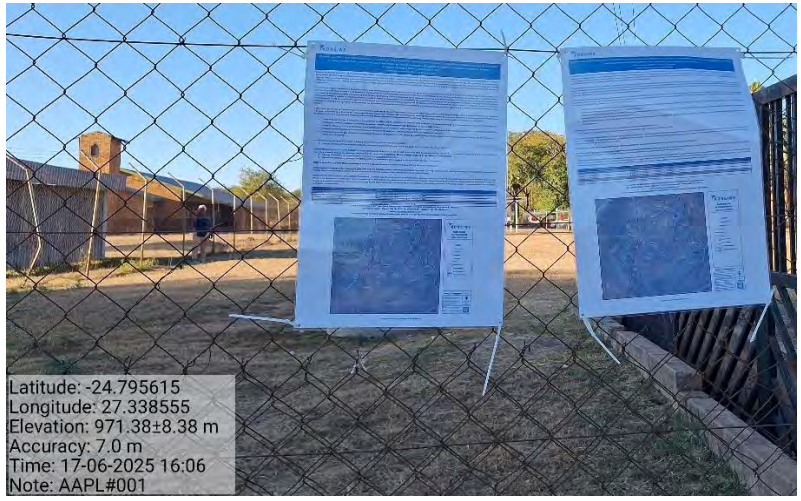
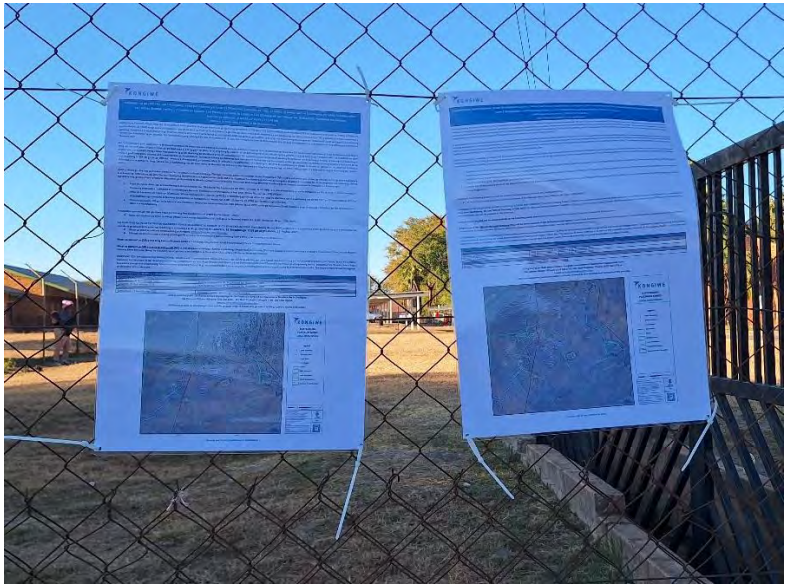
Site Notice Number	Location	Co-ordinates	Photo	
5.	Outside the entrance to Rethabile.	24.795615'S 27.338555'E		

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Site Notice Number	Location	Co-ordinates	Photo	
6.	Outside the entrance to the Chromite Children's Project.	24.785247'S 27.290035'E		

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Site Notice Number	Location	Co-ordinates	Photo	
7.	Outside the Thabazimbi Public Library	24.596748'S 27.4074'E		

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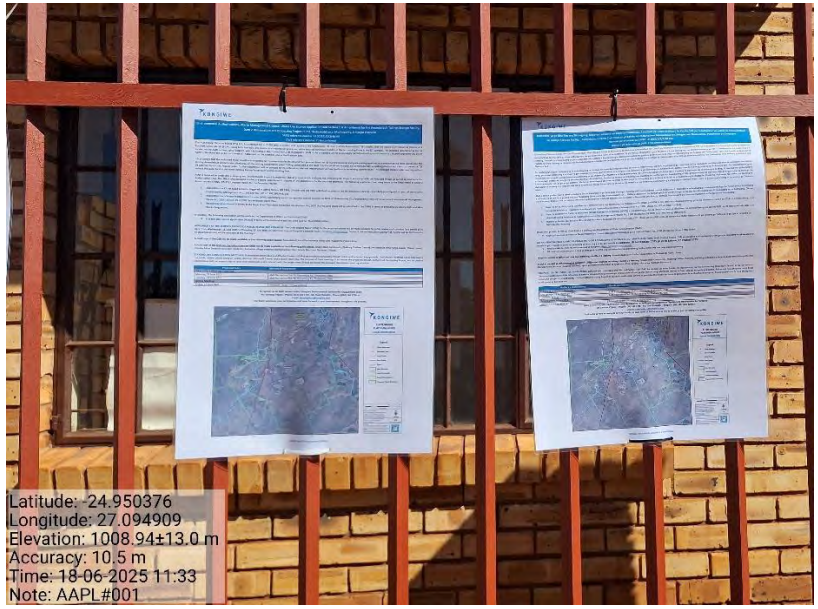
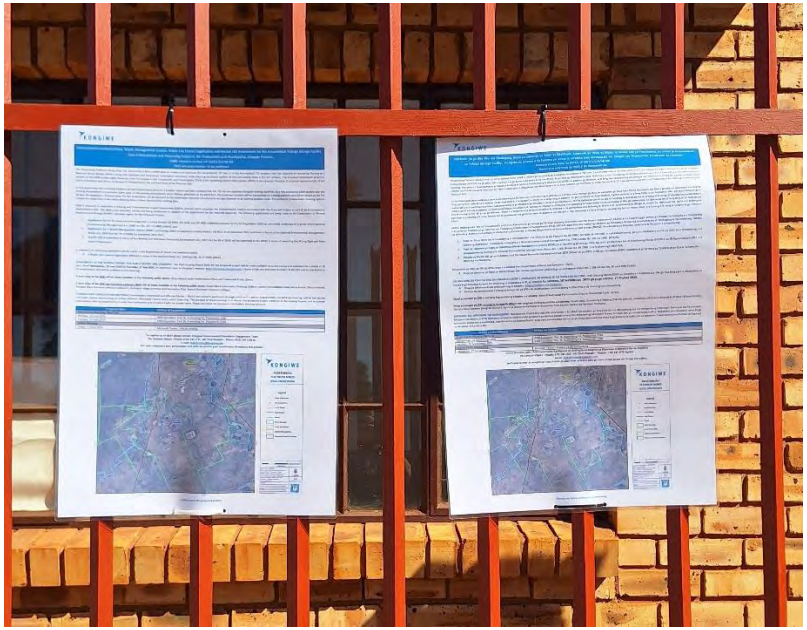
Site Notice Number	Location	Co-ordinates	Photo	
8.	Outside the Mantserre Tribal Hall	24.950376'S 27.094909'E		

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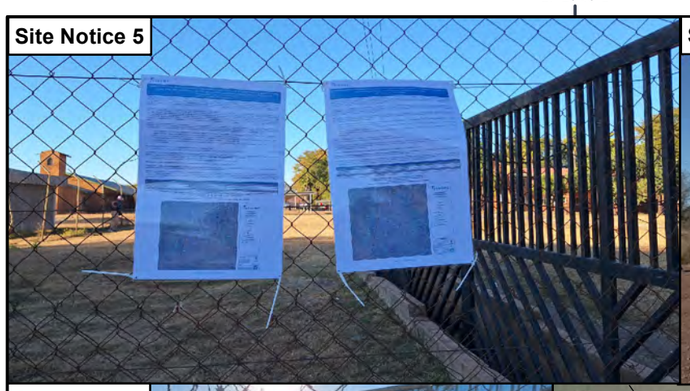
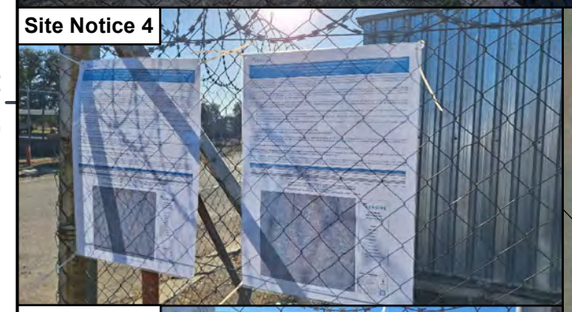
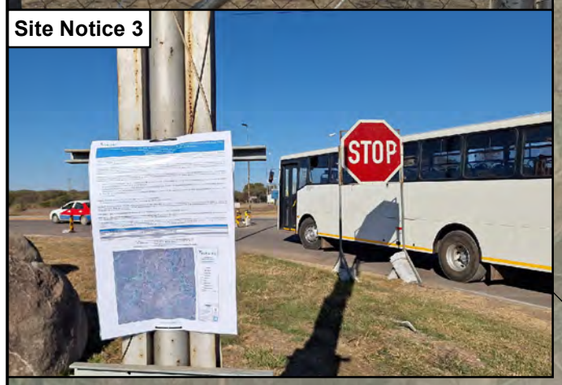
Site Notice Number	Location	Co-ordinates	Photo	
9.	Outside the entrance to Trollope	24.753912'S 27.327873'E		

27°16'40"E
27°22'30"E
24°44'0"S
24°49'30"S







KONGIWE

RUSTENBURG PLATINUM MINES

SITE NOTICES: MAP A

Legend

- Other Settlement
- Secondary Town
- Site Notices
- Main Roads
- Proposed Project Boundary

0 0,5 1 2 3 4 5

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 19 June 2025

1:70 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Site Notices Map A Landscape A3.mxd

27°10'0"E
27°20'0"E
24°40'0"S
24°50'0"S
Thabazimbi
Site No. 7
A
R511
R510
Dishaba Mine
Smersha Block
Rethabile
Proposed Project Boundary
Setaria
Amandelbult
Northam Platinum Mine
Middelwit
Kraalhoek
Swartklip
Site No. 8
Mopyane
Mantserre
Northam
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

KONGIWE

RUSTENBURG PLATINUM MINES

SITE NOTICES

Legend

- Other Settlement
- Secondary Town
- Site Notices
- Main Roads
- Proposed Project Boundary

0 1 2 4 6 8 10 12

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 19 June 2025

1:160 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Site Notices Landscape A3.mxd

Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR

DWS reference number: To be confirmed

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In addition, the following application will be made to the Department of Water and Sanitation (DWS):

- **A Water Use Licence Application (WULA)** in terms of the National Water Act, 1998 (Act No. 36 of 1998) (NWA).

AVAILABILITY OF THE SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT: The Draft Scoping Report (DSR) for the proposed project will be made available for public review and comment for a period of 30 days, from **Wednesday, 18 June 2025 to Thursday, 17 July 2025**. An electronic copy on Kongiwe's website: https://kongiwe.com/projects/. Copies of the non-executive summary of the DSR will be distributed to all stakeholders and will be available at the meetings.

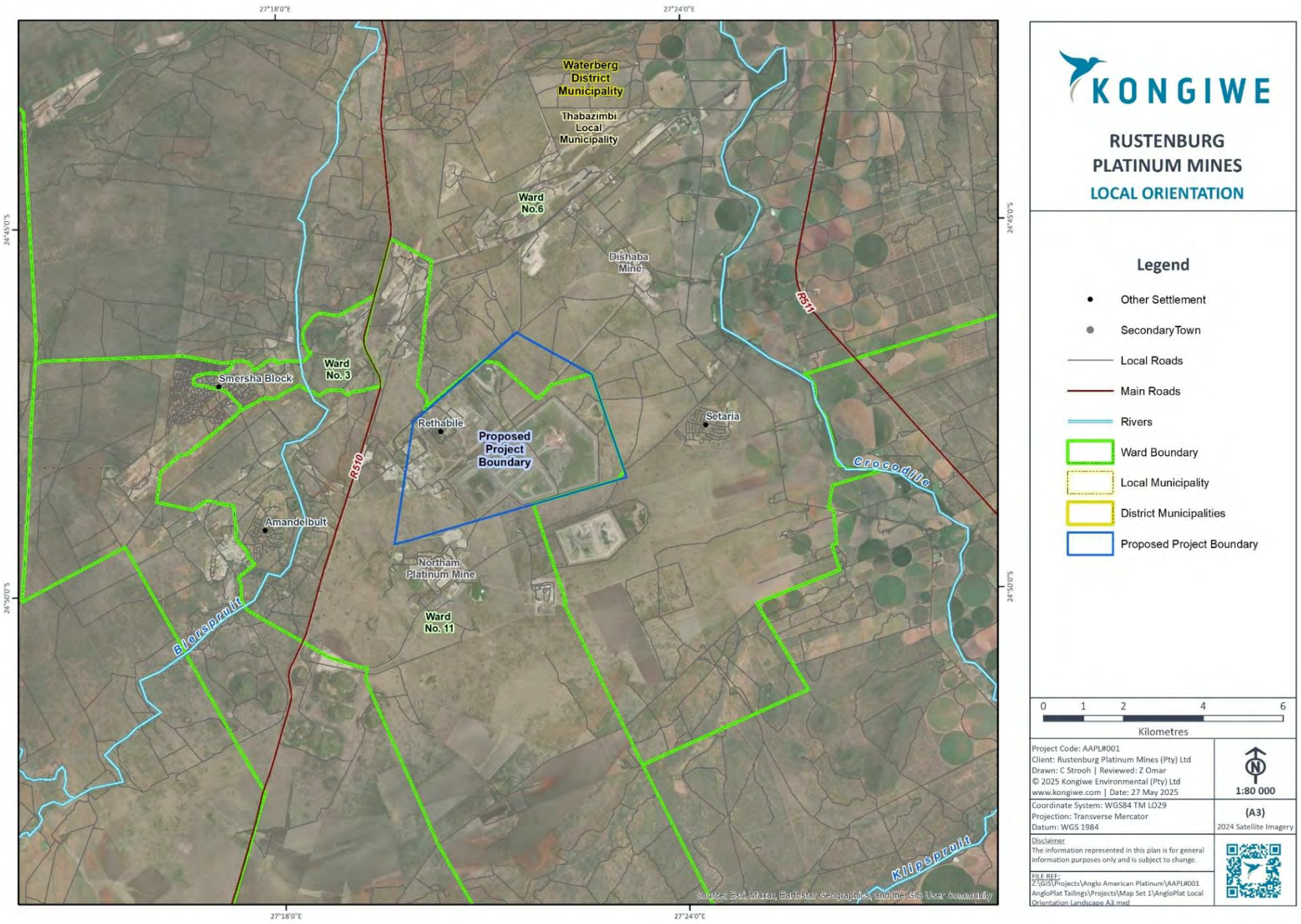
A hard copy of the DSR will be made available at the following public places: Amandelbult Social Performance Office and Thabazimbi Public Library.

A hard copy of the DSR non-technical summary (BID) will be made available at the following public places: Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residents), Rethabile village entrance, Recreation Club, Setaria (Northam Platinum's Village) and at the Public Meeting.

STAKEHOLDER CONSULTATION MEETING: Stakeholders (Interested and Affected Parties – I&APs) from the Mantserre community are invited to participate through an in-person engagement. A consultation meeting will be held during the public review period. The purpose of this meeting is to discuss the proposed project, contents of the Scoping Report, and to provide stakeholders with an opportunity to raise their comments and to interact with the project team. Please see below the proposed stakeholders meeting schedule.

Proposed dates	Time	Venue
In-Person Meeting: Open Day		
Friday, 11 July 2025	10:30 – 12:30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

To register as an I&AP please contact: Kongiwe Environmental Stakeholder Engagement Team
Ms Vanessa Viljoen / Phone: (010) 140 1725 - Ms Thuli Phakathi Phone: (010) 140 1726 or
E-mail: stakeholders@kongiwe.com
Our team welcomes your participation and looks forward to your involvement throughout this process.



Locality map of the proposed project

Ditlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa, Laesense ya Tiriso ya Metsi, le Karolo 102 ye Fetotsweng ya Lefelo la Amandelbult ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepala wa Selegae wa Thabazimbi, Porofense ya Limpopo

Nomoro ya referense ya DMRE: LP 30/5/1/2/2/48 MR

Nomoro ya referense ya DWS: E tla tlhomamisiwa

Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB) e ikaela go busetsa le go baakanya Amandelbult TSF Dam 2 ya khompolekese ya Amandelbult TSF, ka maikaelelo a go busetsa Chrome le Platinum Group Metals (di-PGM) ka go dirisa dithulaganyo tsa go busetsa ka metsi le ka metšhine, fa go ntse go tlhomamisa gore Matamo a a mo tikologong mo khompolekeseng ya TSF a tswelela a le mo maemong a a siameng. Porojeke e e kopelwamg ya go busetsa lefelo la lefatshe e kwa lefelong la ditshwanelo AMB mo godimo ga lefatshe, le le leng mo Masepaleng wa Selegae wa Thabazimbi (TLM) wa Kgaolo ya Waterberg (WDM) mo Porofenseng ya Limpopo. Go fopholediwa gore e bokgakala jwa dikilometara di 15 kwa bokone jwa Northam le dikilometara di le 30 kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

Go tshitshinngwa gore sedirisiwa se se buseditsweng se tla isiwa kwa seteišeneng sa phetiso ya seretse mme morago ga moo se pompiwe go tswa kwa TSF ka diphaephi tse dišwa go bapa le diphaephi tse di leng teng, go ya kwa polanteng e ntšhwa ya go baakanya e e leng gaufi le lefelo le le leng teng la polante ya go kokoanya ya Amandelbult, kgotsa polante e e leng teng ya go kokoanya dilo. Go akantshitswe gore matheriale o o buseditsweng o isiwe kwa polanteng ya go tlhatswa/go tlhotlhora di bo di pompelwa mo TSF ka diphaepe tse disha tse di bapileng le diphaepe tse di setseng di le teng, di isiwang kwa polanteng e ntšha e gaufi lelefelo la polante ya khonsentereita ya Amandelbult. Seretse sa Manya se dirilweng kwa planteng ka matheriale o o busediwang di tlile go tsamaisiwa ka diphaepe tse di leng teng le ka tsela go ya kwa letamong la TSF 3B go ya go latlhiwa. Metsi a a dirisediwang go busetsa lefelo la lefatshe a tla pompelwa kwa lefelong la lefelo le le busediwang le dikago le ditsela ka diphaepe tse disha mo tseleng ya diphaepe e e setseng e le teng. Ditsela tse di kopelwang tsa go bona metsi di akaretsa mo metsi a a mo meepong a a leng teng a a tswang mo Return Water Dam e e ntseng e le teng, Letamo la go Tshwara Metsi le polante e entseng e le teng ya go kokoanya.

AMB e tlhoka go dira tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment [S&EIA]) e e sekasekang go amiwa ga tikologo ke Porojeke e e Kopelwang e le karolo ya Tetlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation [EA]). S&EIA le dipatlisiso tsa bomankge di dirwa go tshegetsa dikopo tsa ditumelelo tse di tlhokegang le tse batliwang. Dikopo tse di latelang di dirwa kwa Lefapha la Metswedi ya Diminerale le Maatla (Department of Mineral Resources and Energy [DMRE]) Porofenseng ya Limpopo, malebana le Porojeke e e Kopelwang:

1. **Kopo ya EA** ya ditiro tse di kwadilweng e simmolodisiwa mo Dikitsisong tsa Papatso tsa GN R983, GN R984 le GN R985 e e phasaladitsweng go ya ka Melawana ya EIA ya 2014 (o o fetotsweng), e e itsisiweng phatlalatsa malebana le molawana wa National Environmental Management Act, 1998 (Molao No. 107 wa 1998) (NEMA).
2. **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e e rebolelang go dira ga ditiro tsa taolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanaatsele 2013 e e phasaladitsweng malebana le National Environmental Management: Waste Act, 2 008 (Molao No. 59 2008) (o o fetotsweng) (NEM:WA).
3. **Phetolo ya Karolo 102** go ya ka Mineral and Petroleum Resources Development Act, 2002 (Molao 28 wa 2002) o tlile go romelelwa DMRE malebana le go fetolwa ga Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moepong.

Mo godimo ga moo, go tlile go dirwa kopo e e latelang kwa Department of Water and Sanitation (DWS):

- **Kopo ya Laesense ya Tiriso ya Metsi (Water Use Licence Application [WULA])** go ya ka National Water Act, 1 998 (Molao No. 36 wa 1 998) (NWA).

GO NNA TENG GA PEGO YA TIRO KA KAKARETSO GORE E SEKASEKIWE KE MORAFE LE GO TSHWAELA KA YONE: Draft Scoping Report (DSR) ya porojeke e e kopelwang e tlile go nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo sebakeng sa malatsing a le 30, go simolola ka **Laboraro, 18 Seetebosigo 2025 go ya go Labone, 17 Phukwi 2025.**

- Khopi ya ileketeroniki mo webosaeteng ya Kongiwe: https://kongiwe.com/projects/.
- Dikhopi tsa tshobokanyo e e seng ya botegeniki ya DSR e tla anamisediwa banaleseabeng botlhe mme e tla nna teng kwa dikopanong.

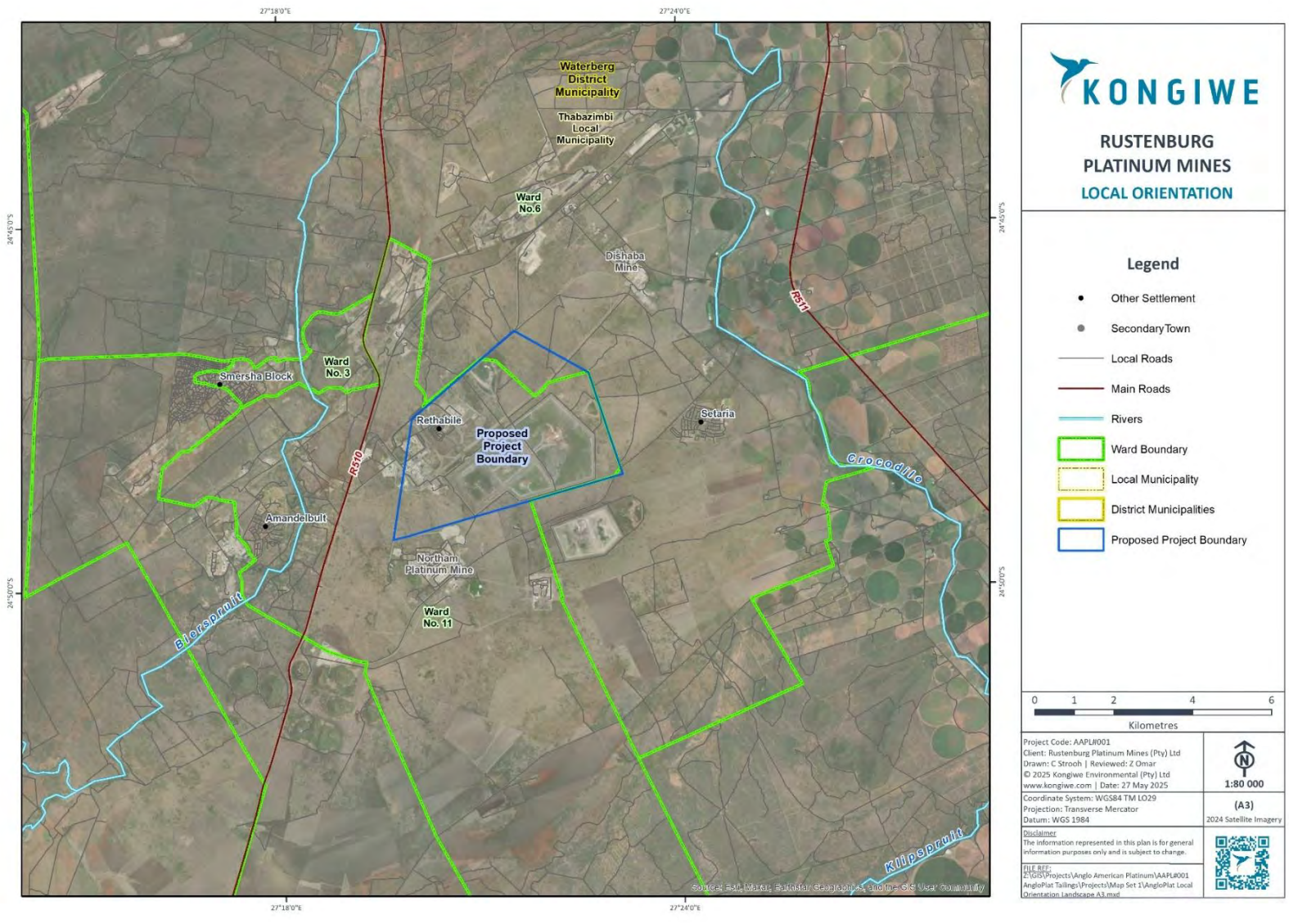
Khopi ya pampiri ya DSR e nne teng kwa mafelong a botlhe a a latelang: Amandelbult Social Performance Office le Thabazimbi Public Library.

Khopi ya pampiri ya DSR e e seng ya botegeniki (BID) e nne teng kwa mafelong a botlhe a a latelang: Smash Block Community (Thabong Children Centre), mabating a dikitsiso a Amandelbult Mine (Mlanje Hostel), Dishaba Mine Entrance (baagi ba Jabulani), Kgoro, Klabong ya Boithabiso, Setaria (Motse wa Northam Platinum) le mo Kopanong ya Batho.

KOPANO YA DIPUISANO TSA BANALESEABE: Banaleseabe ba Mantserre ba lalediwa go tsaya karolo mo dipuisanong tsa namana. Dikopano tsa dipuisano di tla tshwarwa ka nako ya tshekatsheko ya morafe. Boikaelelo jwa dikopano tseno ke go buisana ka porojeke e e kopelwang, tshedimosetso ya Scoping Report, le go naya banaleseabe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke. Tsweetswee bona fa tlase thulaganyo ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Nako	Mofuta wa Puisano
Kopano ya ka Namana: Open Day		
Lebotlhano, 11 Phukwi 2025	10:00-12:30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380 Dibuss ditlilo go tsea baagi go tlo ga ka 08:00 goseng ko

Gore o ikwadise jaaka I&AP tsweetswee ikgolaganye le: Setlhopha sa Kongiwe sa Dipuisano le Banaleseabe ka Porojeke
Ms Vanessa Viljoen / Mogala: (10) 140 1725 - Ms Thuli Phakathi/ Mogala: (10) 140 1726 kgotsa
Imeile: stakeholders@kongiwe.com
Setlhopha sa rona se amogela go tsaya karolo ga gago mme se lebile pele go nna le seabe ga gao mo tirong eno yotlhe.



Mmapa wa lefelo la porojeke e e kopelwang

Appendix C6: Correspondence

Kongiwe Stakeholder Engagement

From: Kongiwe Stakeholder Engagement
Sent: Thursday, 12 June 2025 11:24
To: Foord Ceronio; Thuli Phakathi; Benjamin Dunn
Cc: Vanessa Viljoen
Subject: Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Prov
Attachments: 120625_AMB_Project_BID_V4.pdf; 120625_AMB_Project_BID_V4_Setswana.pdf; 110625_AMB_Reg_Form_V3.pdf

Dear Stakeholder

This email serves to inform you that Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB) is applying for an Environmental Authorisation, Waste Management Licence, Water Use Licence and Section 102 Amendment for the proposed Amandelbult Tailings Storage Facility, Dam 2 reclamation and processing project in the Thabazimbi Local Municipality, Limpopo Province.

AMB aims to reclaim and process the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and Platinum Group Metals (PGMs) using both hydraulic and mechanical reclamation processes, while ensuring continued stability of the surrounding Dams in the TSF complex. The proposed reclamation and processing project is located on the AMB surface rights footprint, which is located in the Thabazimbi Local Municipality of the Waterberg District Municipality in the Limpopo Province. It is located approximately 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

In terms of the environmental legislation, Kongiwe has been appointed by AMB to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Proposed Project as well as the Water Use Licence Application.

AVAILABILITY OF THE SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

The Draft Scoping Report (DSR) for the proposed project will be made available for public review and comment for a period of 30 days, from **Wednesday, 18 June 2025, to Thursday, 17 July 2025.**

INVITATION TO AN OPEN DAY AND ONLINE MEETING

Interested and Affected Parties (I&APs) are invited to attend an Open Day and Online Meeting. Once registered the relevant date and time slot will be provided. The purpose of these meetings is to discuss the proposed project, contents of the Scoping Report, to provide I&APs with an opportunity to raise their comments and to interact with the project team.

Proposed dates	Method of Engagement
In-Person Meeting: Open Day	
Monday, 23 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Tuesday, 24 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:	
Friday, 27 June 2025	Microsoft Teams – Virtual meeting

Any person affected by or who may be interested in the proposed project is asked to register as an I&AP by completing the attached Stakeholder Registration and Comment Form or by contacting the stakeholder engagement team.

Contact Details:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Please refer to the attached Background Information Document for further information.

Kind Regards,

Stakeholder Engagement Team | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Email: stakeholders@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Kongiwe Stakeholder Engagement

From: Kongiwe Stakeholder Engagement
Sent: Thursday, 19 June 2025 08:55
To: Vanessa Viljoen
Subject: REMINDER: EA, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Pro
Attachments: 120625_AMB_Project_BID_reduced.pdf; 120625 _AMB_Project_BID_Setswana_reduce.pdf; 110625_AMB_Reg_Form_V3.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Tracking:

Recipient	Read
Vanessa Viljoen	Read: 2025/06/19 09:51

Dear Stakeholder

This email serves to remind you that Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB) is applying for an Environmental Authorisation, Waste Management Licence, Water Use Licence and Section 102 Amendment for the proposed Amandelbult Tailings Storage Facility, Dam 2 reclamation and processing project in the Thabazimbi Local Municipality, Limpopo Province.

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In terms of the environmental legislation, Kongiwe has been appointed by AMB to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Proposed Project as well as the Water Use Licence Application.

AVAILABILITY OF THE SCOPING REPORT FOR PUBLIC REVIEW AND COMMENT

The Draft Scoping Report (DSR) for the proposed project are available for public review and comment for a period of 30 days, from **Wednesday, 18 June 2025, to Thursday, 17 July 2025.**

INVITATION TO AN OPEN DAY AND ONLINE MEETING

Interested and Affected Parties (I&APs) are invited to attend an Open Day and Online Meeting. Once registered the relevant date and time slot will be provided. The purpose of these meetings is to discuss the proposed project, contents of the Scoping Report, to provide I&APs with an opportunity to raise their comments and to interact with the project team.

Proposed dates	Method of Engagement
In-Person Meeting: Open Day	
Monday, 23 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

Proposed dates	Method of Engagement
Tuesday, 24 June 2025	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:	
Friday, 27 June 2025	Microsoft Teams – Virtual meeting

Any person affected by or who may be interested in the proposed project is asked to register as an I&AP by completing the attached Stakeholder Registration and Comment Form or by contacting the stakeholder engagement team.

Contact Details:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Please refer to the attached Background Information Document for further information.

Kind Regards,

Stakeholder Engagement Team | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Email: stakeholders@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Kongiwe Stakeholder Engagement

From: Kongiwe Stakeholder Engagement
Sent: Monday, 28 July 2025 12:28
To: Vanessa Viljoen; Thuli Phakathi
Subject: Availability of the Final Scoping Report for the for the Rustenburg Platinum Mines Limited Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project, Limpopo Province
Attachments: 28July25_FSR_Notif_Let.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Tracking:

Recipient	Read
Vanessa Viljoen	Read: 2025/07/28 12:28
Thuli Phakathi	Read: 2025/07/28 12:40

Dear Stakeholder

This email hereby gives notice to stakeholders of the availability of the Final Scoping Report (FSR) for the Rustenburg Platinum Mines Limited Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project, Limpopo Province, for review.

The report has been made available on the following website:

- Kongiwe's website: https://kongiwe.com/projects/

Attached please find the letter for details.

Please do not hesitate to contact us if you have any queries.

Kind Regards,

Stakeholder Engagement Team | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Email: stakeholders@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Monday, 28 July 2025

Environmental Authorisations, Waste Management Licence and Water Use Licence Application for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: WU42906

Availability of the Final Scoping Report

Kongiwe Environmental (Pty) Ltd (Kongiwe Environmental) hereby gives notice to stakeholders of the availability of the Final Scoping Report (FSR) for the Rustenburg Platinum Mines Limited Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project, Limpopo Province. Kongiwe Environmental would like to share the report with all interested and affected parties on the Proposed Project.

The Final Scoping Report is available on Kongiwe's website: https://kongiwe.com/projects/

Should you have any comments/queries, please contact the stakeholder engagement team.

Contact Details:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Our team welcomes your participation and looks forward to your involvement throughout this process.

Yours faithfully

Ms Vanessa Viljoen
Stakeholder Engagement Consultant

Kongiwe Environmental (Pty) Ltd.
Reg No 2016 / 135562 / 07
Tel: +27 (10) 140 6508 | Fax: +27 (86) 476 6438 Email: info@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

Friday, 19 September 2025

Environmental Authorisations, Waste Management Licence Application, and Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMPR reference number: LP 30/5/1/2/2/48 MR

Availability of the Draft Environmental Impact Assessment Report and the Environmental Management Programme and Engagement

Kongiwe Environmental (Pty) Ltd (Kongiwe) hereby gives notice that the **Draft Environmental Impact Assessment (EIA) Report and the Draft Environmental Management Programme Report (EMPr) and engagement** for the Amandelbult Mine (AMB) Tailings TSF Dam 2 Reclamation and Processing Project, are available for review. Kongiwe wishes to share the reports with all Interested and Affected Parties and stakeholders who have contributed comments on the proposed project.

The purpose of this notification is to provide you with important information regarding the following:

- The availability of the Draft EIA/EMPr;
- How you can provide comments on the Draft EIA/EMPr; and
- Invitation to Stakeholders to participate through online and in-person engagements.

Availability of the Draft EIA/EMPr:

The Draft EIA/EMPr have been compiled and will be made available for a 30-day public review and comment period from **Friday, 26 September 2025 until Monday, 27 October 2025.**

The reports will be made available as follows:

- Copies of the reports will be made available for public review and comment on the following website: Kongiwe's website: **https://kongiwe.com/projects/**
- A hard copy of the reports will be made available at the following public places:

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Amandelbult Mine, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Social Performance Mon – Fri: 08h00-16h00
Thabazimbi Public Library	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, Assistant Librarian Mon – Fri: 8:30 am–4:30 pm

Kongiwe Environmental (Pty) Ltd.
Registration Number 2016/135562/07
Telephone: +27 (10) 140 6508 / Email: info@kongiwe.com
Registered Address: 150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
Mailing Address: PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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- A hard copy of the Draft EIR/EMPr non-technical summary will be made available at the following public place as indicated in the table below:

Location	Physical Adress	Contact Person
Amandelbult Mine Corporate Affairs and Sustainability Office (previously social performance)	Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti Mon – Fri: 08h00-16h00
Smash Block Community (Thabang Children Centre)	Smashblock – Front-opposite Chromite Primary School Thabang Dropping Centre Main street Smashblock, Stan no 001, Sekwane Street	Ms Gloria Vilakazi (Centre Manager) Mon – Fri: 08h00-16h00
Amandelbult Mine notice boards, Mlanje Hostel	Amandelbult Mine Mlanje Sav, Behind Chrome-Plant R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00
Dishaba Mine Entrance (Jabulani residents)	Amandelbult Mine- Front Opposite Dishaba Gate at the Farm Site	Ms Lydia Sikhwari Sun – Sat: 06h00-22h00
Rethabile village entrance and Recreation Club	Amandelbult Mine- Behind Mlanje SAV R510 Thabazimbi Road, Amandelbult, 0362	Mr Jerry Motshedi- Mon – Fri: 08h00-16h00
Setaria (Northam Platinum's Village)	Main Office, Farm Zondereinde 384KQ, District of Thabazimbi, (Front Opposite Amandelbult Mine)	Mr Kaitumela Letebele Mon – Fri: 08h00-16h00
Mantserre Traditional Authority	Mantserre Tribal Hall	Mr Paul Ramokoka Mon – Fri: 08h00-16h00
Ramokokastad	Ramokoka Clinic, and Traditional Office	Mr Desmond Ramokoka Mon – Fri 08h00 - 16h00

- An electronic copy of the non-technical summary of the Draft EIR/EMPr will be distributed to all stakeholders on the database.

You can comment on the Draft EIA/EMPr in any of the following ways:

- By providing comments at the Public Meeting / Open Days - please see details below;
- By writing a letter or sending an email to stakeholders@kongiwe.com; and
- By contacting our stakeholder engagement team – please see details below.

Invitation to Stakeholder Consultation Meetings:

Stakeholders are invited to participate through online and in-person engagements. Stakeholder meetings will be held using Microsoft Teams and Public Meetings / Open Days.

The purpose of these Stakeholder Meetings is to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/EMPr and interact with the project team. Please see table below for the proposed stakeholders' meeting schedule.

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Stakeholder Consultation Meetings:

Proposed Dates	Available Time Slots	Method Of Engagement
In-Person Meeting: Public Meeting / Open Days		
Thursday, 9 October 2025	09H00 - 12H00 13H00 - 15H30	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Friday, 10 October 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
Online Meeting:		
Tuesday, 7 October 2025	10H00 - 11H30	Microsoft Teams – Online meeting

Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPIA) is taken into consideration.

Should you have any comments/queries, please contact the stakeholder engagement team below.

Contact Details:		
Ms Vanessa Viljoen	+27 (10) 140 1725	stakeholders@kongiwe.com
Ms Thuli Phakathi	+27 (10) 140 1726	stakeholders@kongiwe.com

Our team welcomes your participation and looks forward to your involvement throughout this process.

Yours faithfully

Ms Vanessa Viljoen
Stakeholder Engagement Consultant

Kongiwe Stakeholder Engagement

From:	Kongiwe Stakeholder Engagement
Sent:	Friday, 19 September 2025 14:47
To:	Thuli Phakathi
Cc:	Phathutshedzo Munyai; Umeshree Naicker
Subject:	Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project: Availability of the Draft EIA/EMPr
Attachments:	19Sep25_DEIR_Notification.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Tracking:

Recipient	Read
Thuli Phakathi	Read: 2025/09/19 14:56
Phathutshedzo Munyai	
Umeshree Naicker	Read: 2025/09/19 14:49

Dear Stakeholder,

Kongiwe Environmental (Pty) Ltd (Kongiwe) hereby gives notice that the Draft Environmental Impact Assessment (EIA) and Environmental Management Programme Report (EMPr) for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project, are available for public review.

Availability of the Draft EIA/EMPr

The Draft EIA/EMPr have been compiled and will be made available for a **30-day** Public Review and Comment Period from **Friday, 26 September 2025 until Monday, 27 October 2025**.

Invitation to Public Meeting / Open Day

Interested and Affected Parties (I&APS) are invited to attend a Public Meeting / Open Day which will be held at the **AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380 on Thursday, 9 and Friday, 10 October 2025**. Please register and a time slot will be allocated. The purpose of the Public Meeting / Open Day is to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/EMPr and interact with the project team.

Please do not hesitate to contact us if you have any queries.

Kind Regards,

Stakeholder Engagement Team | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Email: stakeholders@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Kongiwe Stakeholder Engagement

From: Kongiwe Stakeholder Engagement
Sent: Thursday, 02 October 2025 08:54
To: Umeshree Naicker; Grant Cornish-Bowden; Vanessa Viljoen; Thuli Phakathi
Subject: REMINDER: Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project: Availability of the Draft EIA/EMPr
Attachments: 19Sep25_DEIR_Notification.pdf; AAPL_001_NON_TECH_SUMMARY FINAL.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Tracking:

Recipient	Read
Umeshree Naicker	Read: 2025/10/02 09:05
Grant Cornish-Bowden	
Vanessa Viljoen	Read: 2025/10/02 08:55
Thuli Phakathi	Read: 2025/10/02 13:05

Dear Stakeholder,

This email serves to **remind** you that the Draft Environmental Impact Assessment (EIA) and Environmental Management Programme Report (EMPr) for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project, are available for public review.

Availability of the Draft EIA/EMPr

The Draft EIA/EMPr have been compiled and are available for a 30-day Public Review and Comment Period from **Friday, 26 September 2025 until Monday, 27 October 2025**.

Invitation to Public Meeting / Open Day

Interested and Affected Parties (I&APS) are invited to attend a Public Meeting / Open Day which will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380 on Thursday, 9 and Friday, 10 October 2025. Please register and a time slot will be allocated. The purpose of the Public Meeting / Open Day is to discuss the Draft EIA/EMPr, present findings from the specialist studies, provide stakeholders with a platform to raise comments on the Draft EIA/EMPr and interact with the project team.

Attached please find the **non-technical summary** for your perusal.

Please do not hesitate to contact us if you have any queries.

Kind Regards,

Stakeholder Engagement Team | Kongiwe Environmental (Pty) Ltd.
Tel: +27 (10) 140 1725 | Email: stakeholders@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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Appendix C7: Authority Correspondence

mineral & petroleum resources
Department:
Mineral and Petroleum Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 9467, Polokwane, 0700, Tel: 015 287 4700, Fax: 015 297 7230
DME Building, 101 Dorp Street, Polokwane, 0699

Enquiries: Ms. Mphaphuli R.R. Ref: LP 30/5/1/2/3/2/1(00048) EM
E-Mail Address: Reshoketswe.Mphaphuli@dmre.gov.za
Sub-Directorate: Mine Environmental Management

E-MAIL

Executive Head: Mineral Processing
Rustenburg Platinum Mine (Pty) Ltd – Amandelbult Mine Complex
144 Oxford Road
Rosebank
Melrose
2916

For attention: Hazel Fiehn E-mail: Platinum.Environmental@angloamerican.com
CC: rmacevele@kongiwe.com

APPLICATION FOR INTEGRATED ENVIRONMENTAL AUTHORISATION LODGED IN TERMS OF SECTION 24 OF NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) READ WITH REGULATION 21 OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 FOR A MINING RELATED INFRASTRUCTURAL ACTIVITIES ON PORTION REMAINING EXTENT & PORTION 1 OF THE FARM AMANDELBULT 383 KQ AND PORTION REMAINING EXTENT OF THE FARM FARM MIDDELLAAGTE 383 KQ, SITUATED WITHIN THABAZIMBI LOCAL MUNICIPALITY: LIMPOPO REGION.

I refer to the abovementioned matter and confirm that your application for integrated Environmental Authorisation herein referred to as "EA" received on 17 June 2025 is hereby acknowledged.

You are requested in terms of Section 24 K of National Environmental Management Act, Act 107 of 1998, as amended to consult with any organ of state responsible for administering legislation relating to matters affecting the environment and submit two (2) copies of Scoping Report (SR) in terms of Regulation 21 of 2014 EIA Regulation. The said SR must also include proof and results of consultation undertaken with Limpopo Department of Economic Development Environment and Tourism, Eskom Holding, Department of Water and Sanitation, Department of Agriculture Rural Development and Land Reform, South African Heritage Resources Agency, District and Local Municipality where the proposed development project is situated and give them 30 days commenting period.

The SR reflected above must be submitted within 44 Calendar days from the date on this acknowledgement letter, failure to submit such reports as prescribed your application for EA will be considered being lapsed and would not be processed further.

Acknowledgement of your application does not grant you permission to commence with the activities applied for. Commencement of a listed activity without Granted Environmental Authorisation constitutes an offence in terms of Section 49A (1) (a) of NEMA, 1998 (Act 107 of 1998) as amended and upon conviction for such an offence, a person is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment.

Yours Faithfully,

pp Reshoketswe Mphaphuli

REGIONAL MANAGER:
MINERAL AND PETROLEUM REGULATION- LIMPOPO REGION
DATE: 19 JUNE 2025

mineral & petroleum resources
Department:
Mineral and Petroleum Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 9467, Polokwane, 0700, Tel: 015 287 4700, Fax: 086 7101 045
DME Building, 101 Dorp Street, Polokwane, 0699

Enquiries: Ms. Mphaphuli R.R. Ref: LP 30/5/1/2/3/2/1(00048) EM
E-Mail Address: Reshoketswe.Mphaphuli@dmre.gov.za
Sub-Directorate: Mine Environmental Management

BY E-MAIL

Executive Head: Mineral Processing
Rustenburg Platinum Mine (Pty) Ltd – Amandelbult Mine Complex
144 Oxford Road
Rosebank, Melrose
2916

For attention: Hazel Fiehn E-mail: Platinum.Environmental@angloamerican.com
CC: rmacevele@kongiwe.com

APPLICATION FOR AN ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AS AMENDED (NEMA) AND THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 IN RESPECT OF THE REMAINING EXTENT & PORTION 1 OF THE FARM AMANDELBULT 383 KQ AND REMAINING EXTENT OF THE FARM MIDDELLAAGTE 383 KQ, SITUATED WITHIN THABAZIMBI LOCAL MUNICIPALITY: LIMPOPO REGION.

The Scoping Report (SR) and Plan of Study for Environmental Impact Assessment received by the Department on the 28th of July 2025 refers.

1. The Department has evaluated the submitted SR and Plan of Study for Environmental Impact Assessment and it was found that the said documents comply with the minimum requirements of Appendix 2(2) of National Environmental Management Act, 1998 (as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations, 2014. The SR is hereby accepted by the Department in terms of regulation 22(a) of the NEMA EIA Regulations, 2014.

2. You may proceed with the environmental impact assessment process in accordance with the tasks contemplated in the Plan of Study for Environmental Impact Assessment as required in terms of the NEMA EIA Regulations, 2014.

3. Please ensure that comments from all relevant stakeholders are submitted to the Department with the Environmental Impact Assessment Report (EIAR). This includes but is not limited to the Provincial Environmental Department (LEDET), Department of Agriculture (DA), Department of Water and Sanitation (DWS), SAHRA and the District/ Local Municipality. Proof of correspondence with the various stakeholders must be included in the EIAR. Should you be unable to obtain comments, proof of the attempts that were made to obtain comments should be submitted to the Department.

4. In addition, the following information are required for the EIAR and EMP which needs to be submitted to this office as prescribed:

   a) Consultation with all Interested and affected parties and provide proof that the concerns have been raised, addressed and incorporated into the EIAR and EMP. Include the proof of detailed participation and the results thereof. Notwithstanding the geographical location (i.e. in relation to town and communities/farmlands) and ownership of the area applied for, please note that as part of the results of Public Participation the following details must be indicated:
      - Date of public meetings,
      - Minutes of the meetings,
      - Attendance register with name of the organisation, contact number and the signature thereof,
      - Views and concerns of the interested and affected parties, etc

   b) Also note that you may employ different methods to inform interested and affected parties about the public participation such as newspaper advert, notification letters, public notices, etc. However, these methods shall not be viewed as results of public participation rather means of notifying different parties.

   c) A specialist must investigate the impact of the proposed project on surface and ground water resources and deduce mitigation measures thereof and performance monitoring standards.

   d) An Archaeological Impact Assessment must be conducted to determine if there will be any graves, old houses, signs of historical significance and/or materials of archaeological importance. Incorporate recommendations of such report into the EIAR and EMP.

   e) Measures to mitigate visual impacts of the activities must be developed.

   f) Commitment on monitoring and indication of the standards, methods and the frequency of submission of an environmental audit report/performance assessment report to this department.

g) Clear and specific standards for noise, particulate matter and dust levels and commitment to monitoring levels.
h) The inclusion of the procedures that relate to emergencies and proposed remediation hereto, for example: discuss he contingency plans with respect to floods, accidental spills and management of hazardous materials such as oil, diesel, etc; in the proposed mining area.
i) Details of the future land use for the site and infrastructure after decommissioning in 20-30 years.
j) Provide soil quality monitoring programme to minimise or eliminate identified impacts.
k) The total footprint of the proposed development should be indicated.
l) Should a Water Use License be required, proof of application for a license needs to be submitted.
m) Possible impacts and effects of the development on the vegetation ecology, especially the protected trees identified on the proposed project.
n) The impacts of the proposed facility on wildlife must be assessed in the EIAR phase.
o) Possible impacts and effects of the development on the surrounding industrial area.
p) A construction and operational phase EMP to include mitigation and monitoring measures.
q) Should blasting be required, appropriate mitigation measures should be provided.
r) You are advised to also undertake any studies which may be relevance during the impact analysis.

5. The applicant is hereby reminded to comply with the requirements of regulation 3 of the EIA Regulations, 2014 with regards to the time period allowed for complying with the requirements of the Regulations.

6. Please ensure that the EIAR includes the A3 size locality maps of the area and illustrates the exact location of the proposed development. The maps must be of acceptable quality and as a minimum, have the following attributes:
    - Maps are relatable to one another;
    - Co-ordinates;
    - Legible legends;
    - Indicate alternatives;
    - Scale and
    - Vegetation types of the study area.

7. Further, it must be reiterated that, should an application for Environmental Authorisation be subjected to any permits or authorisations in terms of the provisions of any Specific Environmental Management Acts (SEMAs), proof of such application will be required.

8. You are requested to submit two (2) hard copies of the EIAR and EMPr on prescribed time frames in terms of Regulation with at least one electronic copy of the complete EIAR and EMPr to this Regional Office. Please note that such copies are not including the hardcopies which to be forwarded to organs of state administering

a law relating to matters affecting the environment. The EIAR and EMPr must be submitted within 106 days of acceptance of the scoping report.

You are therefore requested to consult with every organ of state that administers a law relating to a matter affecting the environment relevant to this application of environmental authorisation and submit the comments to this department.

9. Your attention is brought to Section 24F of the NEMA which stipulates "*that no activity may commence prior to an environmental authorisation being granted by the competent authority".*

This Department reserves the right to change the content of this letter based on any additional information which may be submitted.

Yours faithfully,

pp Reshoketswe Mphaphuli
REGIONAL MANAGER: MINERAL AND PETROLEUM REGULATION
LIMPOPO REGION
DATE: 02 SEPTEMBER 2025

Please quote this office file number as reference for any correspondence.

mineral & petroleum resources
Department:
Mineral and Petroleum Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 9467, Polokwane, 0700, Tel: 015 287 4700, Fax: 086 7101 045
DME Building, 101 Dorp Street, Polokwane, 0699

Enquiries: Ms. Mphaphuli R.R. Ref: LP 30/5/1/2/3/2/1(048) EM
E-Mail Address: Reshoketswe.Mphaphuli@dmre.gov.za
Sub-Directorate: Mine Environmental Management

BY E-MAIL

Executive Head: Mineral Processing
Rustenburg Platinum Mine (Pty) Ltd – Amandelbult Mine Complex
144 Oxford Road
Rosebank, Melrose
2916

For attention: Hazel Fiehn E-mail: Platinum.Environmental@angloamerican.com
CC: rmacevele@kongiwe.com

ACKNOWLEDGEMENT OF DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR ENVIRONMENTAL AUTHORISATION LODGED IN TERMS OF SECTION 24 OF NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) READ WITH REGULATION 23 OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 FOR MINING RIGHT AND RELATED INFRASTRUCTURAL ACTIVITIES ON PORTION REMAINING EXTENT & PORTION 1 OF THE FARM AMANDELBULT 383 KQ AND PORTION REMAINING EXTENT OF THE FARM FARM MIDDELLAAGTE 383 KQ, SITUATED WITHIN THABAZIMBI LOCAL MUNICIPALITY: LIMPOPO REGION.

The above refers and confirm that the draft environmental impact report for an Environmental Authorisation herein referred to as "EA" submitted on the 25th of September 2025 is hereby acknowledged.

Acknowledgement of the environmental impact assessment report does not grant you permission to commence with the activities applied for. Commencement of a listed activity without Granted Environmental Authorisation constitutes an offence in terms of Section 49A (1) (a) of NEMA, 1998 (Act 107 of 1998) as amended and upon conviction for such an offence, a person is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment.

Yours faithfully,

pp Reshoketswe Mphaphuli
REGIONAL MANAGER:
MINERALS AND PETROLEUM REGULATION- LIMPOPO REGION
DATE: 09 OCTOBER 2025

Appendix C8: Meeting Minutes

Environmental Authorisations, Waste Management Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Stakeholder Meeting Schedule – Final EIA/EMPr Phase

Date of the meeting	Time	Meeting Type / Format	Organisation / Address	Invited / Attended / Apologies	Resources Used	Who Presented (EAP / AMB)	Project Team Attendance (AMB and Kongiwe)
Thursday, 13 March 2025	09H00 – 10H00	**Pre-Application** **In-Person**	**Leadership Accountability Forum** ❖ Traditional Authorities and Local Municipalities Physical address: AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Attended:** ❖ Refer to the attendance register. **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register ❖ Agenda ❖ Background Information Document	Mr Foord Ceronio, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Thabo Moyo, Stakeholder Engagement Manager, AMB Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Johanna Mashiatshiti, Stakeholder Relations Officer, AMB Ms Vanessa Viljoen, Kongiwe Ms Thuli Phakathi, Kongiwe
Wednesday, 26 March 2025	09H00 – 10H00	**Pre-Application** **Online (Microsoft Teams)**	**Competent Authority Limpopo:** ❖ Department of Minerals and Petroleum Resources (DMPR)	**Invited:** ❖ Mr Thivhulawi Kolani, Regional Manager **Attended:** ❖ Mr Telly Mashau, Environmental Scientist **Apologies:** ❖ Mr Thivhulawi Kolani, Regional Manager	❖ Presentation ❖ Attendance Register	Mr Foord Ceronio, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Roshaan Dejager, AMB Ms Mardulate Chuene, AMB Mr Thanyani Davhana, Project Engineer, AMB Ms Thuli Phakathi, Kongiwe Mr Ben Dunn, Kongiwe
Friday, 06 June 2025	08H00 – 09H00	**Pre-Application** **In-Person**	**Focus Group Meeting with Traditional Authority** King of Baphalane Ba Ramokoka **Physical address:** Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	**Attended:** ❖ Mr J.E.M. Ramokoka, Kgosi (Chief) ❖ Mr Tshepo Kgasago, Advisor to the King ❖ Mr Bongani Pearce, Personal Assistant to the King **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register	Mr Foord Ceronio, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Thuli Phakathi, Kongiwe
Friday, 06 June 2025	10H00 – 11H00	**Pre-Application** **In-Person**	**Focus Group Meeting with Traditional Authority** Indirectly Affected Landowner Mantserre Development Trust	**Attended:** ❖ Mr Paul Ramokoka, Royal Family ❖ Mr S Ramokoa, Royal Family **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register	Mr Foord Ceronio, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Thabo Moyo, Stakeholder Engagement Manager, AMB

Date of the meeting	Time	Meeting Type / Format	Organisation / Address	Invited / Attended / Apologies	Resources Used	Who Presented (EAP / AMB)	Project Team Attendance (AMB and Kongiwe)
			Physical address: Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362				Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Thuli Phakathi, Kongiwe
Monday, 23 June 2025	13H00 – 15H00	**Broder Stakeholder Meeting** **In-Person**	**Broader Stakeholder Meeting** ❖ All sectors of society / Broader Public **Thabazimbi Communities and the Local Municipality** **Physical address:** Amandelbult Complex, Main Office R510, Off Thabazimbi Road, Amandelbult, 0362	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to the attendance register. (**Appendix C**) **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register ❖ Comments Register ❖ Maps ❖ Posters ❖ Non-Technical Summaries (BIDs) English and Setswana	Mr Foord Ceronio, Kongiwe (English presentation) Ms Thuli Phakathi, Kongiwe (Tswana Translation of the presentation) Ms Anela Fixi, Kongiwe (Xhosa Translation of the presentation)	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Thanyani Davhana, Project Engineer, AMB Mr Thabo Moyo, Stakeholder Engagement Manager, AMB Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Johanna Mashiatshiti, Stakeholder Engagement, AMB Ms Tebogo Masipa, Stakeholder Engagement, AMB Ms Vanessa Viljoen, Kongiwe
Tuesday, 24 June 2025	12H00 – 15H00	**Broader Stakeholder Meeting** **In-Person**	**Broader Stakeholder Meeting** ❖ All sectors of society / Broader Public **Baphalane Ba Ramokoka Community** **Physical address**: AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to the attendance register. (**Appendix C**) **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register ❖ Comments Register ❖ Maps ❖ Posters ❖ Non-Technical Summaries (BIDs) English and Setswana	Mr Foord Ceronio, Kongiwe (English presentation) Ms Thuli Phakathi, Kongiwe (Tswana Translation of the presentation) Ms Anela Fixi, Kongiwe (Xhosa Translation of the presentation)	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Thanyani Davhana, Project Engineer, AMB Mr Thabo Moyo, Stakeholder Engagement Manager, AMB Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Johanna Mashiatshiti, Stakeholder Engagement, AMB Ms Tebogo Masipa, Stakeholder Engagement, AMB Ms Vanessa Viljoen, Kongiwe
Friday, 27 June 2025	10H00 – 11H00	**Online Meeting (Microsoft Teams)**	**Broader Stakeholder Meeting** ❖ All sectors of society / Broader Public	**Invited:** All sectors of society / Broader Public Ward Committee members, community leaders and relevant departments **Attended:** ❖ Ms Mariette Liefferink, CEO, FSE ❖ Mr Mpho Mutobvu, Environmental Specialist, Northam Platinum ❖ Mr Thabo Seleke, Mantserre Community Development Trust ❖ Ms Dineo Peta, Independent Trustee, Community Development Trust	❖ Presentation ❖ Attendance Register	Mr Foord Ceronio, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Tshepo Monyaka, AMB, Valterra Mr Thabo Moyo, Stakeholder Engagement Manager, AMB Mr Grant Cornish-Bowden, Kongiwe

Date of the meeting	Time	Meeting Type / Format	Organisation / Address	Invited / Attended / Apologies	Resources Used	Who Presented (EAP / AMB)	Project Team Attendance (AMB and Kongiwe)
				Apologies: ❖ None			
Friday, 11 July 2025	10H00 – 12H00	**Broader Stakeholder Meeting** **In-Person**	**Broader Stakeholder Meeting (Consultation)** ❖ All sectors of society / Broader Public **Mantserre Community** Physical address: AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to the attendance register. (**Appendix C**) **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register ❖ Comments Register ❖ Maps ❖ Posters ❖ Non-Technical Summaries (BIDs) in English and Setswana	Ms Thuli Phakathi, Kongiwe (Presentation in Setswana)	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Kaitumela Letebele, Stakeholder Engagement Manager, AMB Ms Johanna Mashiatshiti, Stakeholder Engagement, AMB Ms Tebogo Masipa, Stakeholder Engagement, AMB Mr Grant Cornish-Bowden, Kongiwe Ms Vanessa Viljoen, Kongiwe Ms Anele Fixi, Kongiwe
Tuesday, 7 October 2025	13H00 – 14H00	**DMPR EIA Project Discussion.** **Online Meeting (Microsoft Teams)**	**Competent Authority Limpopo:** ❖ Department of Minerals and Petroleum Resources (DMPR)	**Invited:** ❖ Ms Reshoketswe Mphaphuli, Case Officer. **Attended:** ❖ Ms Reshoketswe Mphaphuli, Case Officer. **Apologies:** ❖ None	❖ Presentation ❖ Attendance Register	Mr Grant Cornish-Bowden, Kongiwe	Ms Umeshree Naicker, Kongiwe Ms Thuli Phakathi, Kongiwe
Thursday, 9 October 2025	09H00 - 12h30	**Open Day** **In-Person**	**Open Day (Consultation)** ❖ All sectors of society / Broader Public **Thabazimbi Communities and the Local Municipality** **Physical address**: AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to the attendance register (Appendix C) **Apologise:** ❖ Mr Davhana Thayani, Engineer for Project, AMB ❖ Mr Molefe Mike, Safety, Health, Environmental and Permitting Manager, AMB	❖ Presentation ❖ Attendance Register ❖ Comments Register ❖ Maps ❖ Posters ❖ Non-Technical Summaries in English and Setswana	Mr Grant Cornish-Bowden, Kongiwe (English) Ms Thuli Phakathi, Kongiwe (Setswana) Mr Lubabalo Zongolo, Kongiwe (Xhosa)	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Kaitumela Letebele. Site Manager, AMB Ms Tebogo Priscah Masipa, Social Performance Team, AMB Ms Johanna Mashiatshiti, Social Performance Team, AMB Ms Elsie Galeboye, Environmental Officer, AMB Ms Galeboye Kgomotso, Environmental Officer, AMB Mr Moyo Thabo, Social Performance Team, AMB Ms Vanessa Viljoen. Kongiwe Ms Thuli Phakathi, Kongiwe Mr Lubabalo Zongolo, Kongiwe

Date of the meeting	Time	Meeting Type / Format	Organisation / Address	Invited / Attended / Apologies	Resources Used	Who Presented (EAP / AMB)	Project Team Attendance (AMB and Kongiwe)
Thursday, 9 October 2025	12H30 – 15H30	**Open Day** **In-Person**	**Open Day (Consultation)** ❖ **All sectors of society / Broader Public** **Baphalane Ba Ramokoka Community** **Physical address**: AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to the attendance register (Appendix C) **Apologise:** ❖ Mr Davhana Thayani, Engineer for Project, AMB ❖ Mr Molefe Mike, Safety, Health, Environmental and Permitting Manager, AMB	❖ Presentation ❖ Attendance Register ❖ Comments Register ❖ Maps ❖ Posters ❖ Non-Technical Summaries in English and Setswana	Mr Grant Cornish-Bowden, Kongiwe (English) Ms Thuli Phakathi, Kongiwe (Setswana) Mr Lubabalo Zongolo, Kongiwe (Xhosa)	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Kaitumela Letebele, Site Manager, AMB Ms Tebogo Priscah Masipa, Social Performance Team, AMB Ms Johanna Mashiatshiti, Social Performance Team, AMB Ms Elsie Galeboye, Environmental Officer, AMB Ms Galeboye Kgomotso, Environmental Officer, AMB Mr Moyo Thabo, Social Performance Team, AMB Ms Vanessa Viljoen. Kongiwe Ms Thuli Phakathi, Kongiwe Mr Lubabalo Zongolo, Kongiwe
Wednesday, 12 November 2025	10H00 – 12H00	**Open Day** **In-Person**	**Open Day (Consultation)** ❖ **All sectors of society / Broader Public** **Mantserre Community** **Physical address:** AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380	**Invited:** All sectors of society / Broader Public Ward Councillors, Committee members, community leaders and members **Attended:** ❖ Refer to attendance register (Appendix C) **Apologise:** ❖ Ms Hazel Fiehn, Authorisations and Permitting Principal, AMB ❖ Mr Davhana Thayani, Engineer for Project, AMB ❖ Mr Molefe Mike, Safety, Health, Environmental and Permitting Manager, AMB	❖ Previous meeting minutes	Mr Grant Cornish-Bowden, Kongiwe	Ms Ursula Marvey, Environmental Manager, AMB Mr Kaitumela Letebele, Site Manager, AMB Ms Johanna Mashiatshiti, Social Performance Team, AMB Mr Moyo Thabo, Social Performance Team, AMB Ms Vanessa Viljoen. Kongiwe Ms Thuli Phakathi, Kongiwe Mr Phathutshedzo Munyai, Kongiwe

Date of the meeting	Time	Meeting Type / Format	Organisation / Address	Invited / Attended / Apologies	Resources Used	Who Presented (EAP / AMB)	Project Team Attendance (AMB and Kongiwe)
Thursday, 13 November 2025	9H30 – 11H00	**DWS / DMPR EIA Project Discussion** **Online Meeting (Microsoft Teams)**	**Competent Authority Limpopo:** ❖ Department of Minerals and Petroleum Resources (DMPR) ❖ Department of Water and Sanitation (DWS)	**Invited:** ❖ Mr Noe Malise, Official, DWS ❖ Ms Reshoketswe Mphaphuli, Case Officer, DMPR **Attended:** ❖ Mr Noe Malise, Official, DWS ❖ Ms Reshoketswe Mphaphuli, Case Officer, DMPR **Apologies:** ❖ Ms Hazel Fiehn, Authorisations and Permitting Principal, AMB	❖ Presentation ❖ Attendance Register	Mr Grant Cornish-Bowden, Kongiwe	Ms Ursula Marvey, Environmental Manager, AMB Ms Umeshree Naicker, Kongiwe Ms Thuli Phakathi, Kongiwe Mr Phathutshedzo Munyai, Kongiwe
Monday, 24 November 2025	11H00 – 12H30	**Online Meeting (Microsoft Teams)**	**Broader Stakeholder Meeting** ❖ All sectors of society / Broader Public	**Invited:** All sectors of society / Broader Public Ward Committee members, community leaders and relevant departments **Attended:** ❖ Ms Mariette Liefferink, CEO, FSE ❖ Mr Thabo Seleke, Mantserre Community Development Trust ❖ Ms Dineo Peta, Independent Trustee, Community Development Trust **Apologies:** ❖ Mr Mpho Mutobvu, Environmental Specialist, Northam Platinum	❖ Presentation ❖ Attendance Register	Mr Grant Cornish-Bowden, Kongiwe	Ms Heizel Fiehn, Environmental Authorisations Principal, Corporate, AMB Ms Ursula Marvey, Environmental Manager, AMB Mr Tshepo Monyaka, AMB, Valterra Mr Thabo Moyo, Stakeholder Engagement Manager, AMB Ms Thuli Phakathi, Kongiwe Mr Phathutshedzo Munyai, Kongiwe

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes:

Date:	Thursday, 13 March 2025
Time:	09:00 – 10:00
Venue:	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Hazel Fiehn	Environmental Authorisations Principal
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Ursula Marvey	Section Manager Environmental at Amandelbult
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Mardulate Chuene	Environmental Specialist
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Mike Molefe	SHE Manager Amandelbult
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Thanyani Davhana	Project Engineer at Amandelbult
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Kaitumela Letebele	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Thabo Moyo	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Johanna Mosalatshidi	Stakeholder Relations Officer
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Stakeholder Engagement

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Additional attendees from Rustenburg Platinum Mines, Amandelbult, indicated in the attendance register		

Note: A list of stakeholders who attended the Forum Meeting are included in Appendix A to these minutes

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place. It must also be noted that this meeting formed part of the overall Leadership Accountability Forum Meeting* for the Amandelbult Operations.

1. **Welcome and Introductions**
   - ❖ The project team and attendees introduced themselves.

2. **The purpose of this presentation was:**
   - ❖ To act as a Pre-authorisation engagement with the local leadership and municipalities with regards to the proposed reclamation and processing project;
   - ❖ To provide information and project details on the proposed reclamation and processing project;

To present and discuss the proposed Environmental Authorisation process (EA) for the Amandelbult TSF, Dam 2 Reclamation and Reprocessing Project;

- ❖ Provide the stakeholders with an opportunity to raise comments/seek clarity and provide input into the proposed project; and
- ❖ Record comments raised and then include them in the Comments and Responses Report (CRR) which will be integrated into the Scoping and Environmental Impact Assessment (S & EIA) reports.

3. **Meeting Agenda:**

- ❖ Purpose of the meeting
- ❖ Important Notice under NEMA and NWA
- ❖ Introductions
- ❖ Kongiwe's Role as an independent Environmental Assessment Practitioner
- ❖ Project Location
- ❖ Project Background
- ❖ Project Description: The Process
- ❖ Project Infrastructure
- ❖ Specialist Studies
- ❖ Legislative Framework
- ❖ The Public Participation Process
- ❖ Kongiwe's Role in Terms of Public Participation
- ❖ Stakeholders' Role
- ❖ Public Participation
- ❖ The Project to Date

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- Comments and Discussions

Please refer to **Appendix B** for the presentation.

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4. Discussion

STAKEHOLDER	COMMENT	RESPONSE
Ms Bafedile Moselane, Head: Integrated Development Plan (Strategic Planning), Moses Kotane Local Municipality (MKLM)	Ms Moselane inquired whether Kongiwe was facilitating a public participation meeting. She expressed that proper notification should have been provided by the Amandelbult Social Performance (SP) team, enabling them to attend the meeting with Environmental Assessment Practitioners (EAPs) from Moses Kotane Local Municipality, as they were not specialists qualified to provide feedback.	Mr Ceronio clarified that the meeting was not a public participation session, but rather a pre-application meeting intended to inform the forum, particularly the traditional/community leaders, about the proposed project. He further emphasized that the application has not yet been submitted to the Department of Minerals and Petroleum Resources (DMPR) and once this has been done, the local authorities will be consulted. Additionally, a pre-application meeting will also be held with the DMPR.
Ms Bafedile Moselane, Head: Integrated Development Plan (Strategic Planning) MKLM	Ms Moselane requested clarification on the project area, specifically whether it is an existing area that has been rezoned or if it remains designated as agricultural land. She highlighted that some communities within the Moses Kotane Local Municipality are in close proximity to the Thabazimbi Local Municipality. Ms Moselane also requested that the project documentation be made accessible at the Moses Kotane Public Library and the Local Municipality offices.	Mr Ceronio explained to Ms Moselane that the proposed project area is located within the Amandelbult Mine Complex, which falls under the Thabazimbi Local Municipality. He further clarified that both directly and indirectly affected landowners are situated within the Thabazimbi Local Municipality. The proposed project area is not zoned as agricultural land as it is planned to be undertaken on the mine's current footprint. The Kongiwe team acknowledged the comment regarding the distribution of documents to the Moses Kotane Local Municipality.
Chairperson, Mantserre Traditional Authority	The Chairperson of Mantserre T.A. raised an inquiry regarding not being notified about the proposed project, highlighting that Mantserre had not been informed. He emphasized that, as Mantserre is leasing the land to Rustenburg Platinum Mine, notification should have been provided by the Amandelbult Social Performance team.	The AMB Social Performance team noted the comment. Ms Fiehn from Rustenburg Platinum Mines indicated that the project was on a farm adjacent to the leased land and that the Mantserre Community Development Trust had been identified as an Interested and affected party. She indicated that this was the first discussion/meeting on the project with all leadership being present.

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STAKEHOLDER	COMMENT	RESPONSE
Mr Karabo Sefora, Bakgatla-Ba-Kgalefele (BBK)	Mr Sefora inquired about the skills transfer and skills development initiatives, suggesting that Kongiwe and Rustenburg Platinum Mine should provide environmental studies and Engineering training to the communities. He noted that many community members might not comprehend the terminology used in the reports or fully understand the expectations placed on them. He further recommended that, in relation to skills development and transfer, the company should apply to the Department of Public Works and Infrastructure (DPWI), as they offer funding for intern stipends.	The Kongiwe team and the AMB Social Performance Team noted the comment.
Mr Kaitumela Letebele, Stakeholder Engagement Manager, Amandelbult Mine Complex	Mr Letebele recommended that the presentation be simplified for better understanding for the community members.	Kongiwe team noted the comment.
Ms Hazel Fiehn, Environmental Authorisations Principal, Amandelbult Mine Complex	Ms Fiehn confirmed that engaging stakeholders directly affected by the project is essential, as they are often local residents or neighbouring communities in areas where the project will be implemented. These parties, being directly impacted, should be prioritized in the consultation process. It was suggested that structured and formal engagement methods be adopted to address concerns and ensure effective communication with these key stakeholders throughout the project lifecycle.	All attendees noted Ms Fiehn's comment.

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5. Closing

COMMENT	RESPONSE
The project team thanked the attendees for their time and input.	All attendees thanked Kongiwe for the meeting.

Kongiwe and the Amandelbult Mine Complex team thanked the meeting attendees.

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Appendix A

Attendance Register

AngloAmerican

Amandelbult Complex: Local Accountability Forum Session

12-13 March 2025

Agenda

Day 1 (Part A) Welcome & Introduction (Social Performance) – 08h30 -09h00

- Welcome & Introductions
- Safety , Value and Commitments share- KK Letebele
- Context Setting - E Makgasane
- Consolidation of LAF Action Items – All

Part B- SED/ Ccompliance and Reporting/ SE(Social Performance) – 09h00-13h00

- UJUESS (15 mins)
- Social Impact Mitigation Plan Update - Keabetswe Diale (15 mins)
- SLP 3 Progress update - T Mafethe (20 mins)

Tea Break 10 mins

- SLP 4 Engagement Processes - E Makgasane (15 mins)
- IDP Presentation by TLM - L Monawa-Lesotho (30 mins)
- IDP Presentation by MKLM – B Moselane (30 mins)

Lunch 45 mins

Discussions and Prioritization (All) 13h45 – 14h50

AMB - State of the Complex 15h00

- AMB Business Case –J Van Tonder (SGM (10 mins)
- LoM and Production -Tom Van Der Nest (20 mins)
- Discussions and Engagements- All (30 mins)

Closing remarks & announcements 10 Mins

- Closing remarks & Announcements – T Moyo

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Day 2 Agenda

Day 2 Part A-Welcome & Introduction (All) – 08h30-09h00

- Welcome & Introductions
- Day one Reflections

Environmental Impact Assessment Presentations (Environment) 09h00-10h00

The Tailings Storage Facility (TSF) reclamation and processing project -Kongiwe

The decommissioning of certain infrastructure at the Amandelbult - Alto van DYK

Tea Break 10 Mins

SLP Engagements and Discussions (All) 10h00-12h30

Summary (All) 20 mins

Closing Remarks (T Moyo) 10 Mins

Lunch and Departure

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KONGIWE

Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Pre-Application Stakeholder Engagement Meeting – Amandelbult Mine Complex

DMPR reference number: LP 30/5/1/2/2/48 MR

Thursday, 13 March 2025

AGENDA

1. Purpose of the Meeting
2. Important Notice under NEMA and NWA
3. Introduction
4. Kongiwe's Role as an Independent Environmental Assessment Practitioner
5. Project Location
6. Project Background
7. Project Description: The Process
8. Project Infrastructure
9. Specialist Studies
10. Legislative Framework
11. Kongiwe's Role in terms of Public Participation
12. Stakeholders' Role
13. Public Participation Process
14. The Project To Date
15. Comments and Discussions

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PURPOSE OF THE MEETING

- Discuss the proposed Amandelbult TSF Reclamation and Reprocessing Project.
- To engage with the community leadership first to inform them of this project, before we engage the DMPR (DMRE) and the DWS or any other community members – Pre-application process.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Provide an overview of the specialist studies to be undertaken.
- Record comments raised and include in the Comments and Responses Report.

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IMPORTANT NOTICE UNDER NEMA AND NWA

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) for an Application for an Environmental Authorisation (EA) for listed activities triggered in Listing Notices GN R983, GN R984 and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations of December 2014, as amended. The Department of Mineral and Petroleum Resources (DMPR) Limpopo is the Competent Authority to assess the EA for the proposed project.
  - National Water Act, 1998 (Act No.36 of 1998) (NWA) for an Integrated Water Use License Application (IWULA) in accordance with the Act. The Department of Water and Sanitation (DWS) Limpopo is the Competent Authority to assess the IWULA for the proposed project.

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INTRODUCTION

- **Kongiwe Environmental**
  - Foord Ceronio – Project Manager and Senior Environmental Consultant
  - Vanessa Viljoen – Stakeholder Engagement
  - Thuli Phakathi – Stakeholder Engagement

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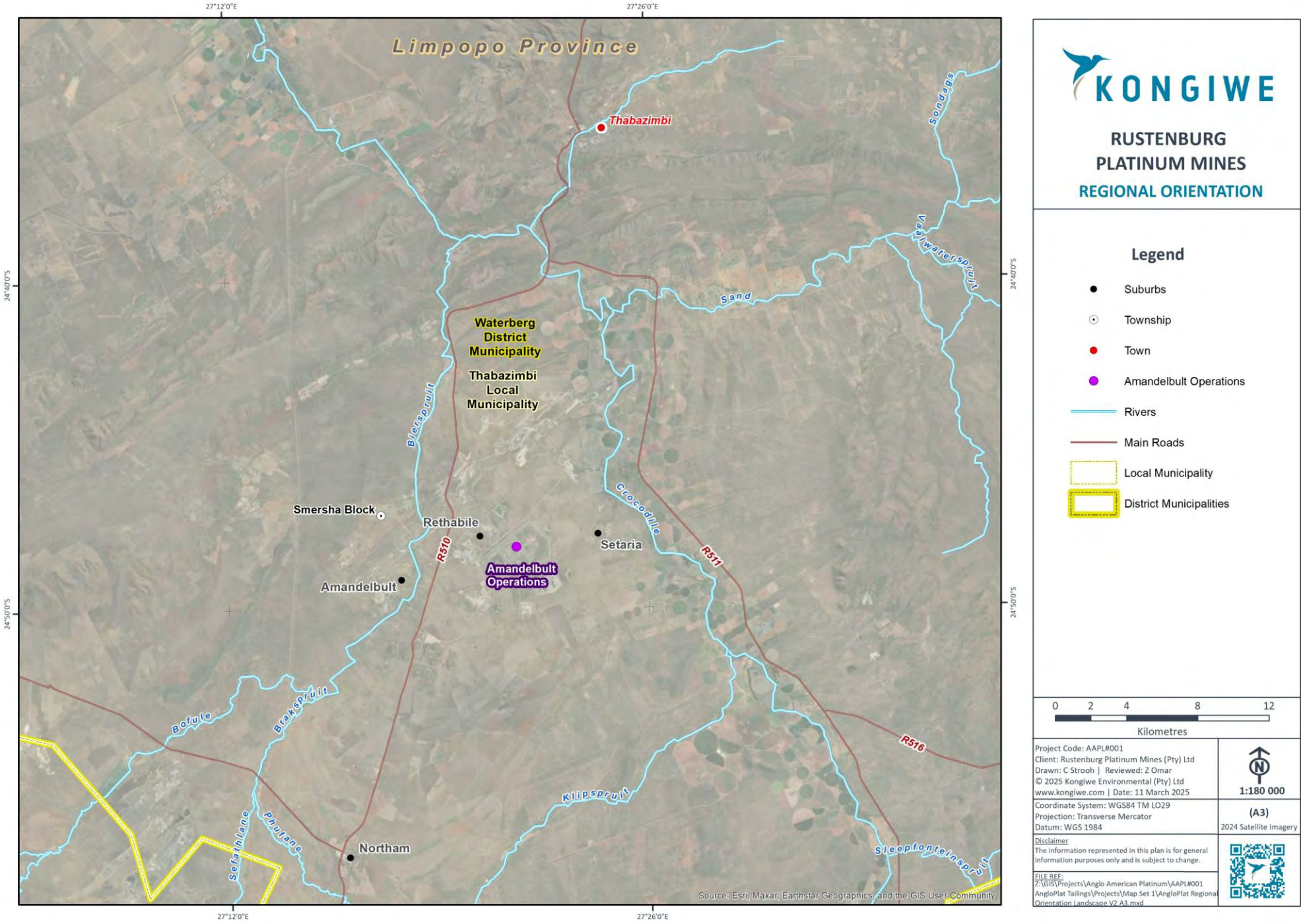
KONGIWE'S ROLE

- As an independent Environmental Assessment Practitioner (EAP), it is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to both the surrounding water resources and the environment, to quantify these, describe possible mitigations, collect public comment and supply both the DMPR and the DWS with the documentation so that they can determine if the project should proceed or not.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27°26'0"E
24°40'0"S
24°50'0"S
Limpopo Province
Thabazimbi
Sondags
Vaalwaterspruit
Sand
Waterberg District Municipality
Thabazimbi Local Municipality
Biespruit
Crocodile
Smersha Block
Rethabile
Setaria
R510
R511
Amandelbult Operations
Amandelbult
Bofule
Brakspruit
R516
Klipspruit
Sefathlane
Phufane
Northam
Sleepfontein Spruit
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
KONGIWE
RUSTENBURG PLATINUM MINES
REGIONAL ORIENTATION
Legend
Suburbs
Township
Town
Amandelbult Operations
Rivers
Main Roads
Local Municipality
District Municipalities
0 2 4 8 12
Kilometres
Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 11 March 2025
1:180 000
Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984
(A3)
2024 Satellite Imagery
Disclaimer
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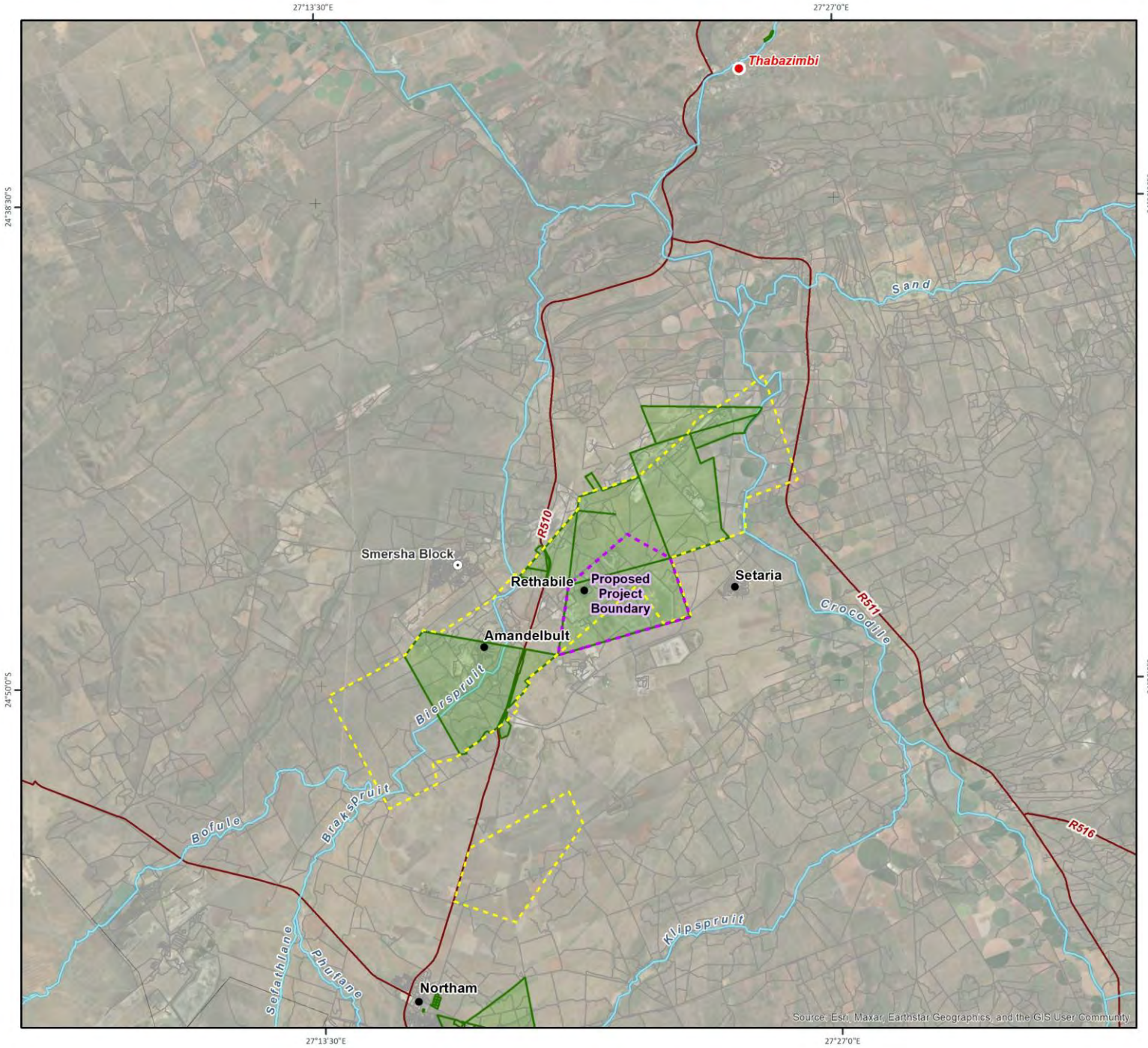

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS EXTENT

Legend

- Township
- Suburbs
- Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 11 March 2025

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Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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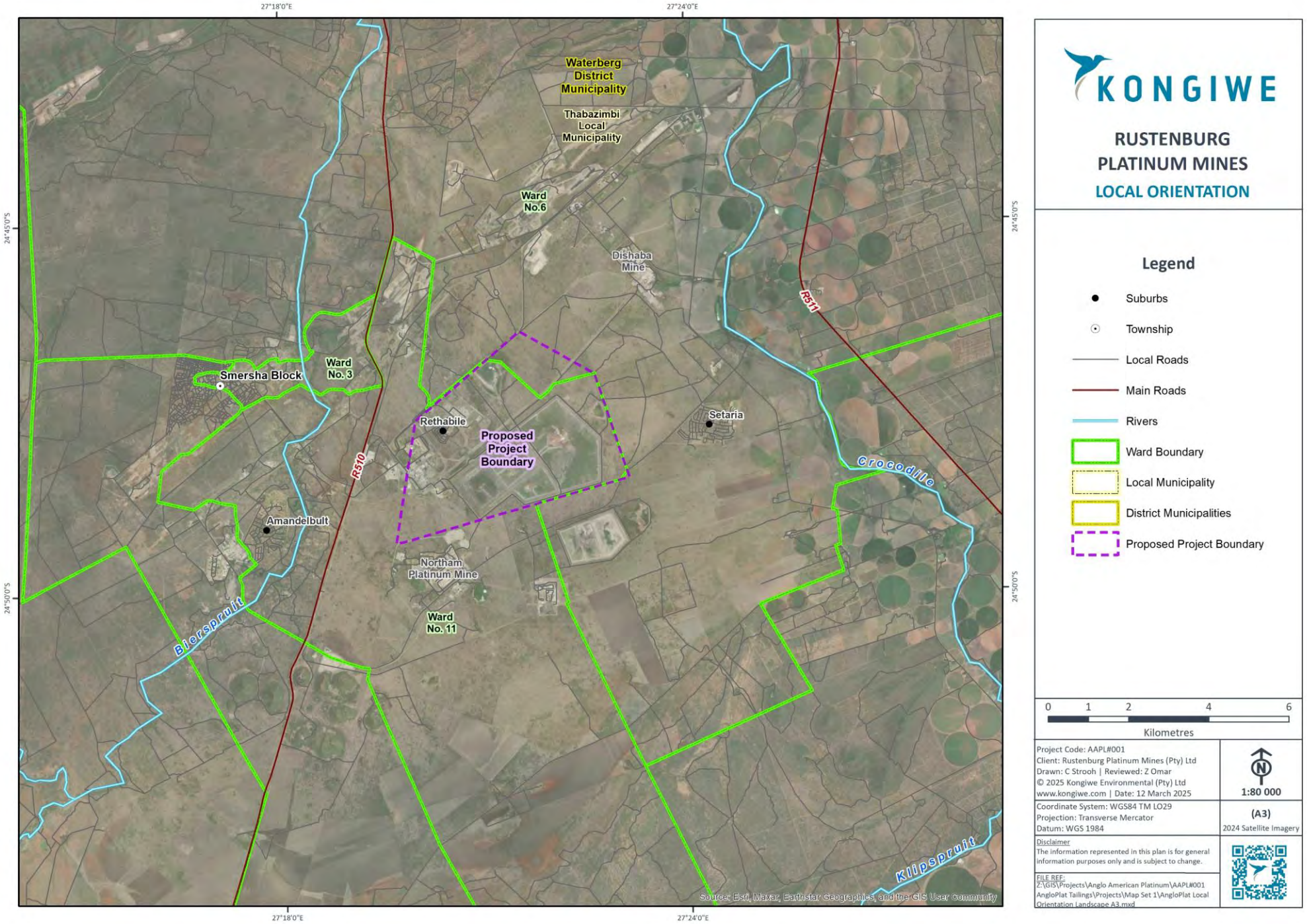

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Suburbs
- Township
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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1:80 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex (AMB)
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex, 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt, in the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new PGM and Chrome Processing plant for further processing.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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PROJECT DESCRIPTION: THE PROCESS

- Amandelbult aims to reclaim and reprocess tailings from the Amandelbult Tailings Storage Facility Dam 2, with the objective of recovering Chrome and PGMs using both mechanical and hydraulic reclamation processes. While undertaking this process AMB will ensure continued stability of the Tailings Dam for the continued operation of the remaining Dams located within the TSF complex.
- The reclaimed material will be transported from the TSF Dam 2 to the repulping/Scrubber plant.
  - Mechanically removed tailings will be trucked to the repulping plant.
  - Hydraulically reclaimed material will be piped to the Scrubber plant.

- From here the reclaimed material will be pumped to a new beneficiation plant located near the existing Amandelbult concentrator plant area. The transportation of the reclaimed material/Slurry will be via newly constructed pipelines placed within an existing pipeline route.

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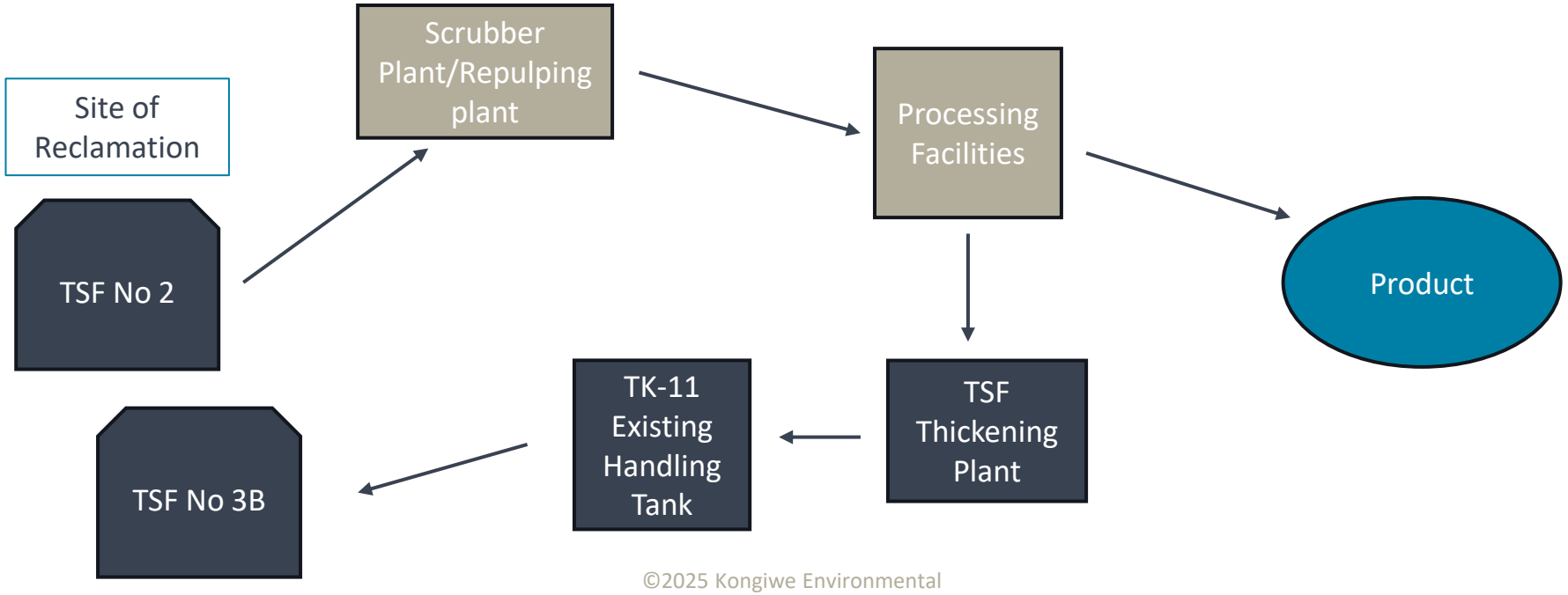
PROJECT DESCRIPTION: THE PROCESS

- Process water for the reclamation will be pumped to the reclamation site via new pipelines in an existing pipeline route. The proposed water source options are the Return Water Dam and the Holding dam. Residual tailings waste, after treatment at the plants at the Concentrator, will be transported via existing pipelines to the existing operational TSF 3B dam for deposition.
- In terms of environmental legislation, the project requires authorisation in terms of the
  - NEMA – National Environmental Management Act
  - NEM:WA – National Environmental Management Waste Act, and
  - NWA – The National Water Act.



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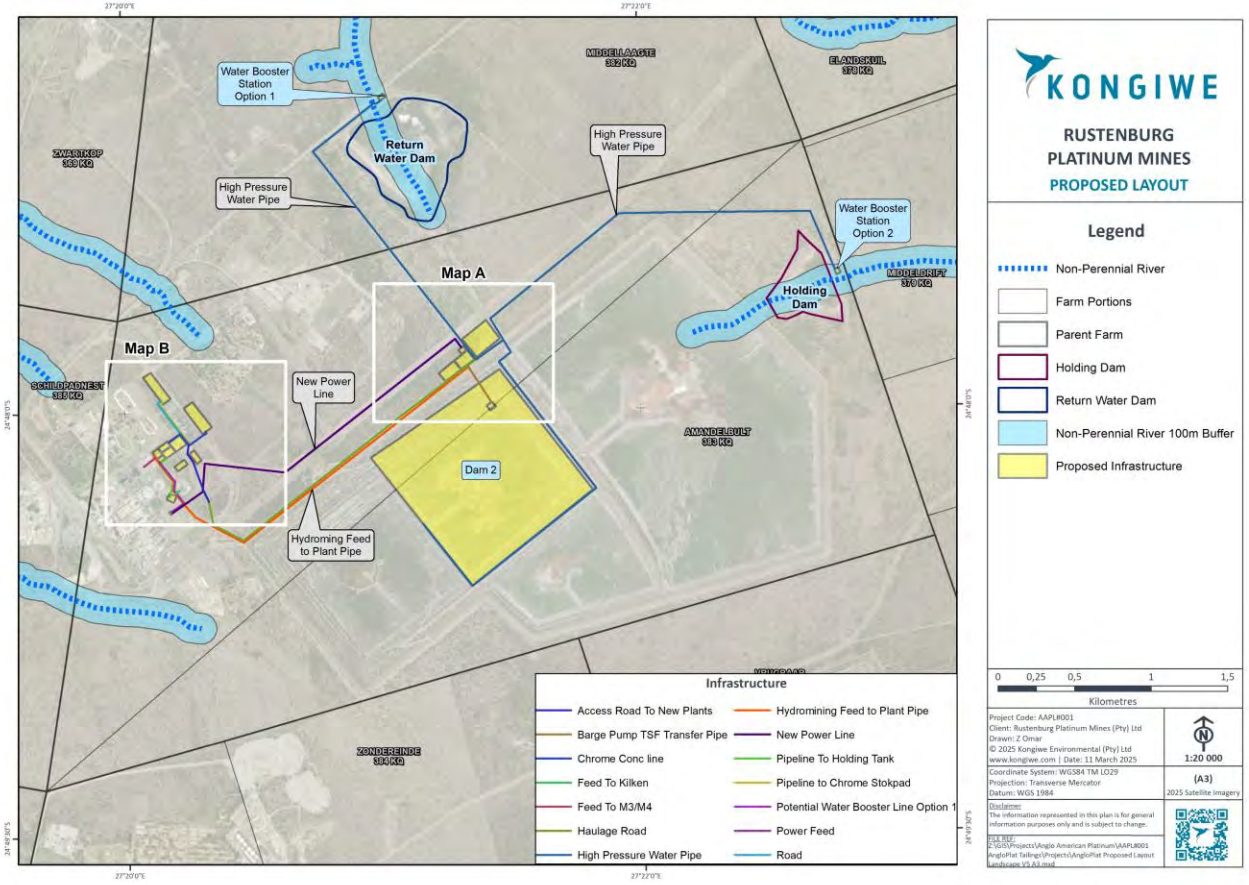
PROJECT INFRASTRUCTURE

Required infrastructure will be included on site:

Table 1: Infrastructure required

Site Infrastructure	
❖ Hard Park, Laydown and Administrative Areas.	❖ Water Booster Stations
❖ Barge Pump	❖ Pipelines and Water reticulation
❖ Haul Roads.	❖ PCDs
❖ Reclamation Equipment (Both Hydraulic and Mechanical)	❖ Plant Processing Facilities
❖ Electricity Reticulation and associated infrastructure	❖ Stormwater Management infrastructure
❖ Scrubber Plant and Repulping plant	❖ Various Stockpile areas



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SPECIALIST STUDIES

Proposed Specialist Studies	
Biodiversity Impact Assessment	Wetlands Impact Assessment
Surface Water Impact Assessment	Groundwater Impact Assessment
Air Quality Impact Assessment	Socio-Economic Impact Assessment
Noise Impact Assessment	Heritage Impact Assessment

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LEGISLATIVE FRAMEWORK

- An integrated Environmental Authorisation (EA) application will be submitted to the DMPR (Limpopo) as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMPR are as follows:
  - Application for an Environmental Authorisation for listed activities triggered in Listing Notices GN R983, GN R984, and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, as promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.

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KONGIWE'S ROLE IN TERMS OF PUBLIC PARTICIPATION

- As an **independent** Environmental Assessment Practitioner, it is our role to perform an **objective assessment** of what the possible **environmental impacts** of the proposed project may be, to quantify these and to describe **possible mitigations.**
- We will collect and respond to **public comment** and supply the Competent Authority with the documentation so that **it can determine** if the project should proceed or not.
- We will also engage with the community and provide details of the project, Provide responses to questions and document concerns, queries and questions.

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STAKEHOLDERS' ROLE

❖Any stakeholder who is interested or affected in the proposed project should **register as an I&AP** and should:

- Inform and encourage other stakeholders who may be affected or interested in the proposed project.
- Submit comments within the allowed timeframes (according to legislation) to the Kongiwe Stakeholder Engagement Office.
- Contribute information and/or knowledge of the environment in relation to the proposed project
- Attend meetings scheduled throughout the Scoping and EIA/EMPR processes to access information and raise comments.

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THE PUBLIC PARTICIPATION PROCESS (PPP)

The PPP objectives are to:

- Ensure that stakeholders are informed about the proposed development of for the Amandelbult Tailings Reclamation and Reprocessing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

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THE PUBLIC PARTICIPATION PROCESS (PPP)

- The (PPP) will be undertaken in compliance with the South African legislative requirements for PPP.
- **The process is** as follows:
  1. Registration of Stakeholders
  2. The required **Environmental Application** will be submitted to the DMPR.
  3. The Draft Scoping Report will be made available for public review and comment. Dates to be confirmed.
  4. Thereafter the Draft Scoping report will be finalised and submitted to the Competent authority for review and decision.
  5. Thereafter the EIA phase of the project will commence with a further public participation process.

Activity
Identification of stakeholders and development of a Public Participation Plan
Pre-application meetings with key stakeholders
Announcement of the proposed project: ❖ Distribution of the Background Information Document (BID); ❖ Placement of media adverts and site notices; ❖ Consultation with the directly affected and indirectly affected landowners
Availability of the Draft Scoping Report for public review and comment. The report will be available at various public places including Kongiwe's website.
Open Day

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THE PROJECT TO DATE

- The required **Environmental Application** will be submitted to the DMPR **(These dates to be confirmed).**
- The **Draft Scoping Report** will be submitted to the DMPR and Public Places **(These dates to be confirmed)**,
  - Thabazimbi Local Municipality (Public Library);
  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .
- An **Open Day** will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(These dates will be confirmed).**
- The **Draft Scoping Report** will then be finalized and submitted after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted, and the process is ongoing.

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COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Pre-Application Meeting
Meeting Minutes: Department of Mineral Resources and Energy

Date	Wednesday, 26 March 2025
Time:	09:00 – 10:00
Venue:	Microsoft Teams Online Meeting

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Hazel Fiehn	Environmental Authorisation Principal
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Mardulate Chuene	Environmental Specialist
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Thanyani Davhana	Project Engineer
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Roshaan De Jager	Project Manager
Department of Mineral Resources and Energy (DMRE)	Mr Telly Mashau	Environmental Case Officer
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Mr Benjamin Dunn	Environmental Intern
No apologies		
N/A		

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.*

1. **Welcome and Introductions**
   - Mr Ceronio greeted the attendees and provided an opportunity for an overview of the meeting's agenda.
   - All in attendance introduced themselves and Mr Ceronio commenced with the presentation.
2. **The purpose of this meeting:**
   - To act as a Pre-application engagement with the Department of Mineral Resources and Energy with regards to the proposed reclamation and processing project;
   - To provide information and project details on the proposed reclamation and processing project;

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- To present and discuss the proposed Environmental Authorisation process (EA) for the Amendelbult TSF, Dam 2 Reclamation and Reprocessing Project;

3. Meeting Agenda:

- Purpose of the Meeting
- Introduction
- Project Background
- Project Description: The Process
- Project Infrastructure
- Specialist Studies
- Legislative Framework
- Kongiwe's Role in terms of Public Participation
- Stakeholders' Role
- Public Participation Process
- The Project to Date
- Comments and Discussions

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4. Discussion

STAKEHOLDER	COMMENT	RESPONSE
Mr Foord Ceronio	Inquired about the number of draft reports that needed to be submitted to the department.	Mr Mashau clarified that the DMRE no longer accepts draft documents and only deals with the final reports.
Mr Foord Ceronio	Mr Ceronio sought confirmation regarding the draft documents and inquired if the DMRE no longer provides feedback on them. He indicated that draft copies would be made available to the commenting authorities.	Mr Mashau stated that DMRE will give comments on the final.
Mr Telly Mashau	Stated that when the final EIA/EMPr is submitted to the DMRE, they can not provide a finalised decision without the record of decision provided by the Department of Water and Sanitation (DWS). The required information will have to be provided to the DWS in accordance with the relevant process. Mr Mashau further enquired if the application was an integrated application.	Mr Ceronio confirmed that the application is an integrated application.
Mr Foord Ceronio	Inquired if Mr Mashau would be the case officer for this project.	Mr Mashau stated that it would depend on the allocation of the project by the DMRE Management.
Ms Hazel Fiehn	Enquired about submission process based on feedback which was received on a prior project which required a Waste Management Licence and record of decision. Ms Fiehn stated that the DWS had requested the Waste License documentation to be submitted by the DMRE on behalf of the applicant rather than the applicant approaching the DWS independently with the letter and provided by the DMRE, and the associated waste license documentation. Ms Fiehn sought clarity on whether this remained the case, as previously, the DWS refused to accept the submission unless it came from the DMRE.	Mr Mashau stated he was unsure if the process has changed as typically DMRE provides a letter, which is attached to the submission for the ROD to DWS. Mr Mashau further stated that he will find out the specific details regarding the application Ms Fiehn referenced.

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STAKEHOLDER	COMMENT	RESPONSE
Mr Telly Mashau	Inquired about the timeframe for the submission of the application.	Mr Ceronio stated that documents are in the process of being finalised and that submission is targeted for next couple of weeks.
Mr Foord Ceronio	Inquired if the application is required as a hard copy or if it should be submitted over an email.	Mr Mashau stated that the application should be a hard copy with the proof of payment attached.
Mr Foord Ceronio	Inquired about how many copies would be required for the application.	Mr Mashau stated that one copy is sufficient for the application.
Mr Foord Ceronio	Inquired about whether the department should be referred to as the DMRP or DMRE.	Mr Mashau stated that he is unsure when the DMRP title would come into effect and that it would be fine to continue referring to the department as the DMRE.
Mr Telly Mashau	Stated that once the application has been submitted, a site visit would be requested.	Mr Ceronio asked for clarification on when the site visit would be requested.
Mr Telly Mashau	Mr Mashau stated that a site visit can be requested at any point; however, it is typically not done at the beginning of the application process and would occur at a later stage.	Mr Ceronio thanked Mr Mashau for the clarity.

5. Closing

COMMENT	RESPONSE
Mr Foord Ceronio thanked everyone for their attendance and the meeting was concluded.	

The meeting adjourned at around 9:40 am.

After the conclusion of the meeting Mr Kolani tried to join the online meeting. A follow up phone call was held with Mr Kolani. In this phone call the contents of the online meeting was discussed.

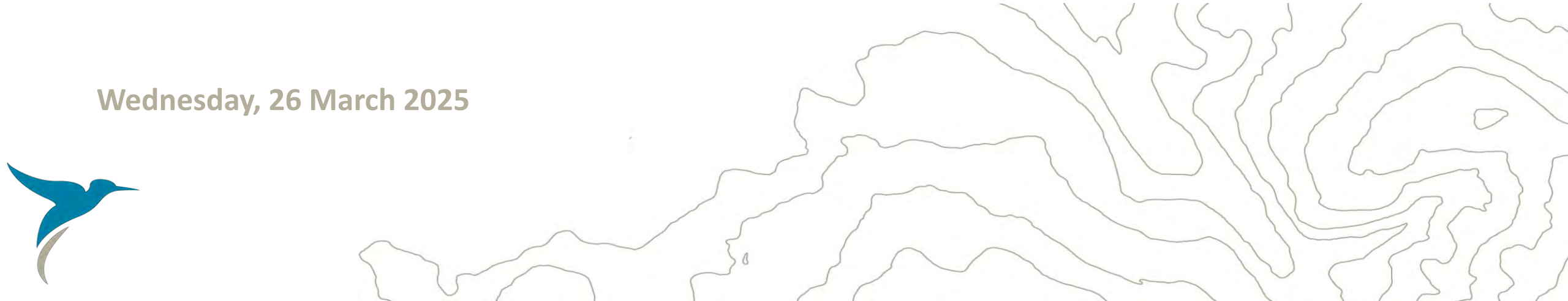
KONGIWE

Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Pre-Application DMPR Meeting – Amandelbult Mine Complex

DMPR reference number: LP 30/5/1/2/2/48 MR

Wednesday, 26 March 2025



AGENDA

1. Purpose of the Meeting
2. Introduction
3. Project Background
4. Project Description: The Process
5. Project Infrastructure
6. Specialist Studies
7. Legislative Framework
8. Kongiwe's Role in terms of Public Participation
9. Stakeholders' Role
10. Public Participation Process
11. The Project To Date
12. Comments and Discussions

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PURPOSE OF THE MEETING

- Discuss the proposed Amandelbult TSF Reclamation and Reprocessing Project.
- To engage with the Competent Authority prior to the application to inform them of this project.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Provide an overview of the specialist studies to be undertaken.
- Record comments raised and include in the Comments and Responses Report.

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INTRODUCTION

- **Kongiwe Environmental**
  - Foord Ceronio – Project Manager and Senior Environmental Consultant
  - Vanessa Viljoen – Stakeholder Engagement
  - Thuli Phakathi – Stakeholder Engagement

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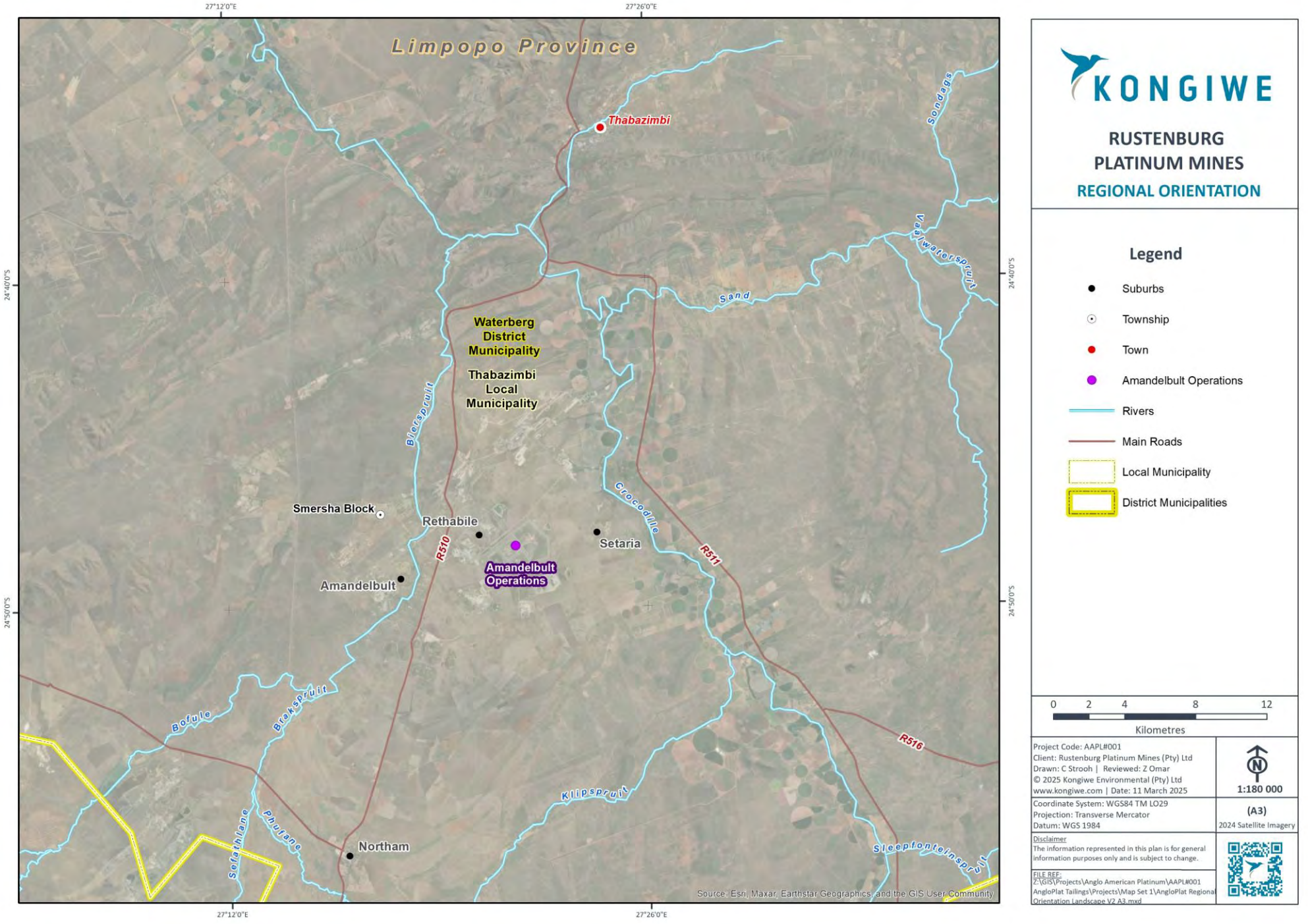

KONGIWE

RUSTENBURG PLATINUM MINES

REGIONAL ORIENTATION

Legend

- Suburbs
- Township
- Town
- Amandelbult Operations
- Rivers
- Main Roads
- Local Municipality
- District Municipalities

0 2 4 8 12

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 11 March 2025

1:180 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Map Set 1\AngloPlat Regional Orientation Landscape V2 A3.mxd

PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex (AMB).
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2.
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex.
- The site is approximately 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt.
- The site is within the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new PGM and Chrome Processing plant for further processing.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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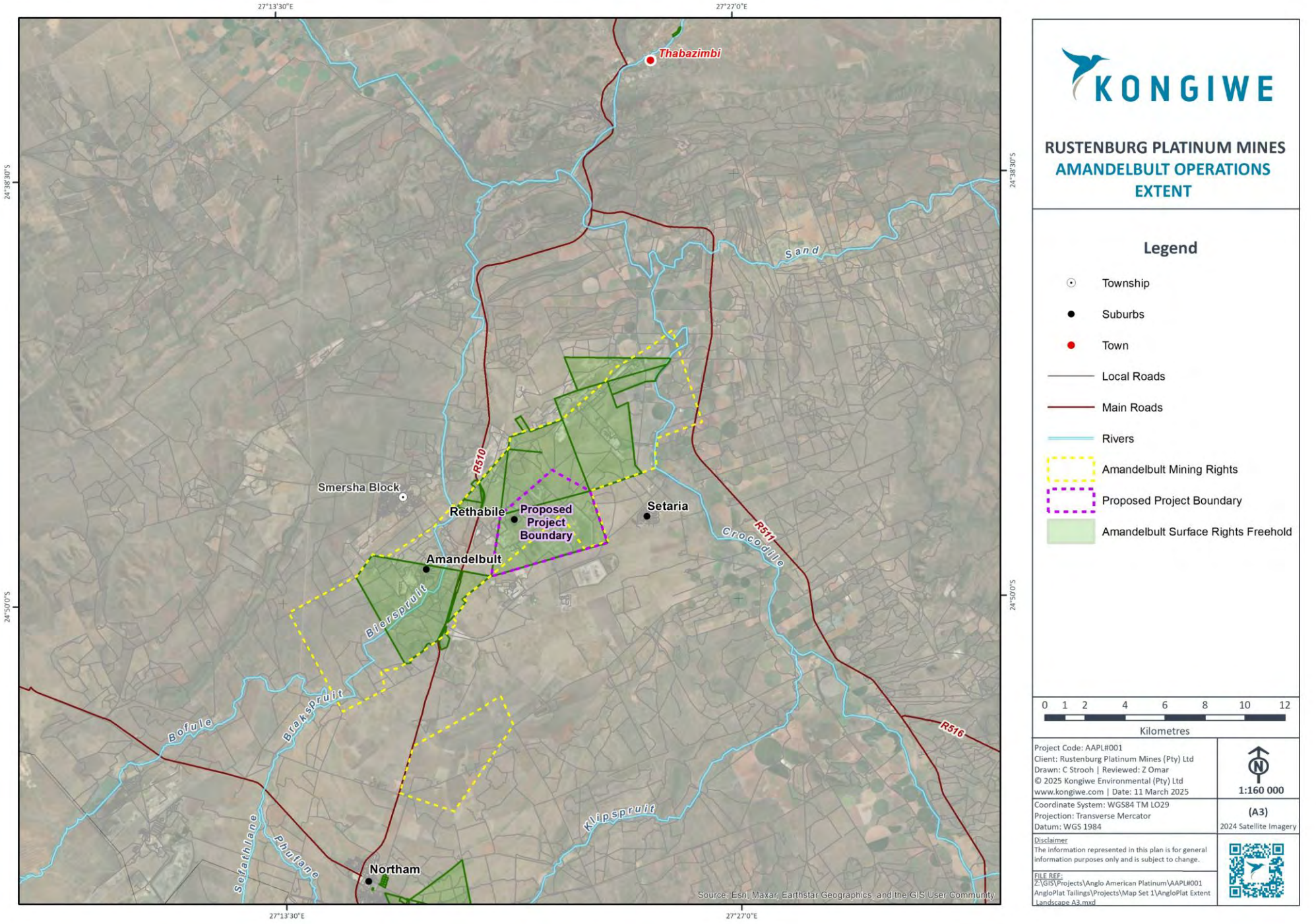

KONGIWE

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Township
- Suburbs
- Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 11 March 2025

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1:160 000

Coordinate System: WGS84 TM LO29
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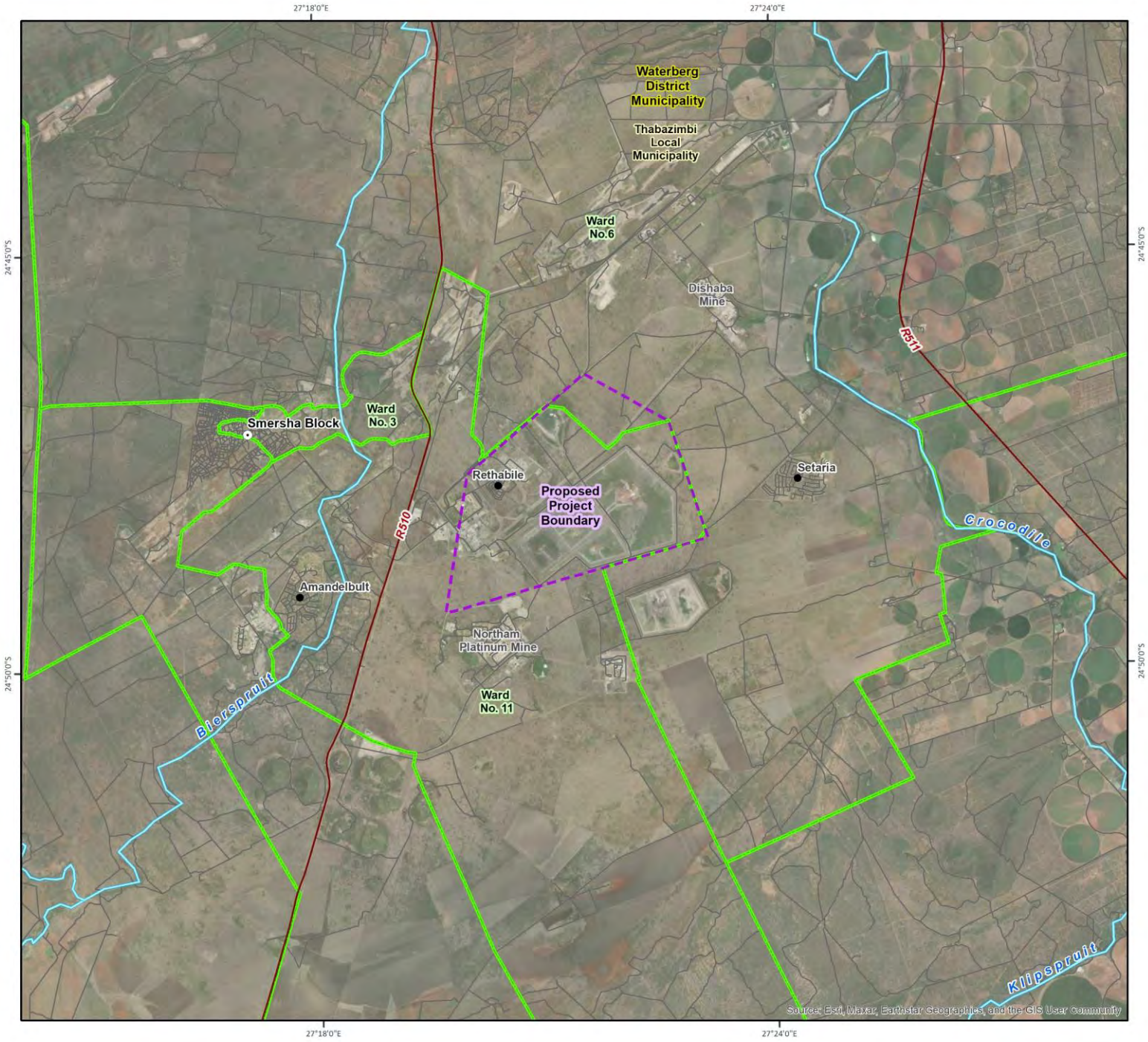

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Suburbs
- Township
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 12 March 2025

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Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

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2024 Satellite Imagery

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PROJECT DESCRIPTION: THE PROCESS

- While undertaking this process AMB will ensure continued stability of the Tailings Dam for the continued operation of the remaining Dams located within the TSF complex.
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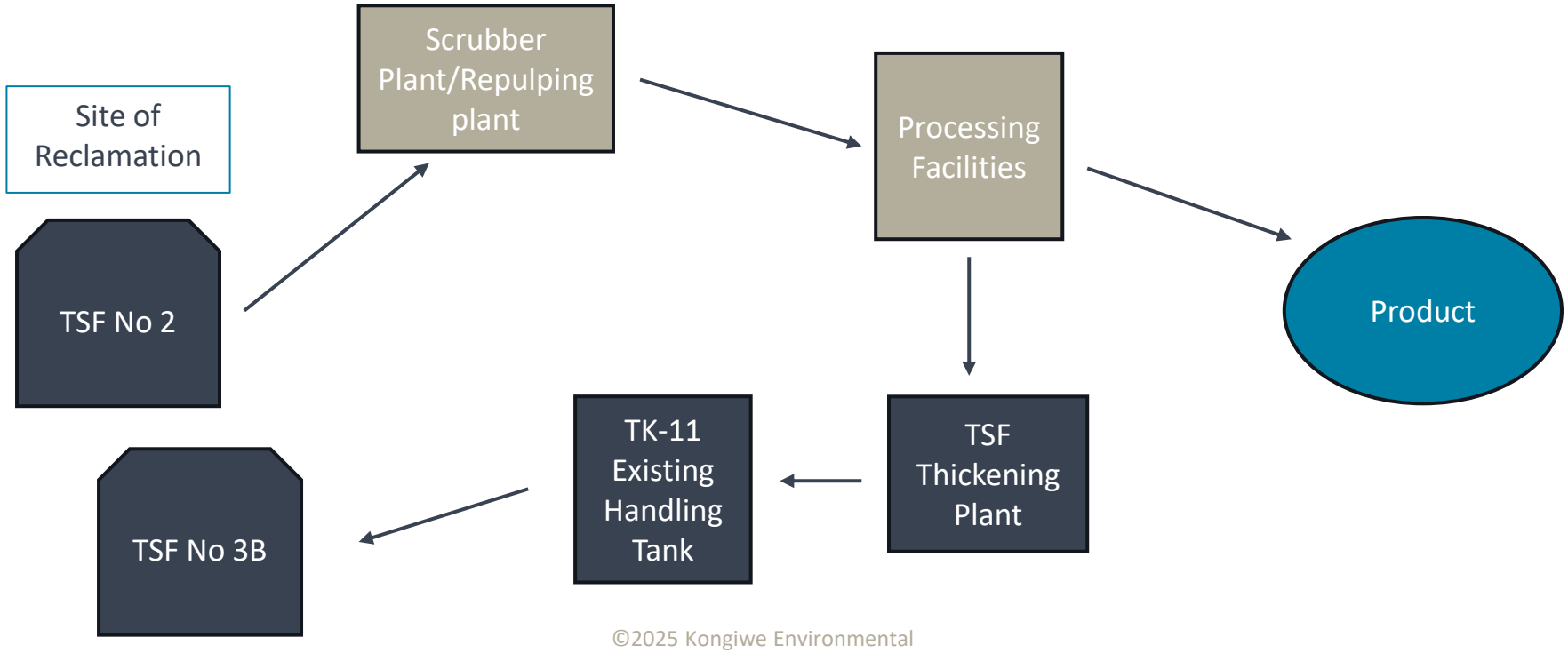

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PROJECT INFRASTRUCTURE

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Site Infrastructure	
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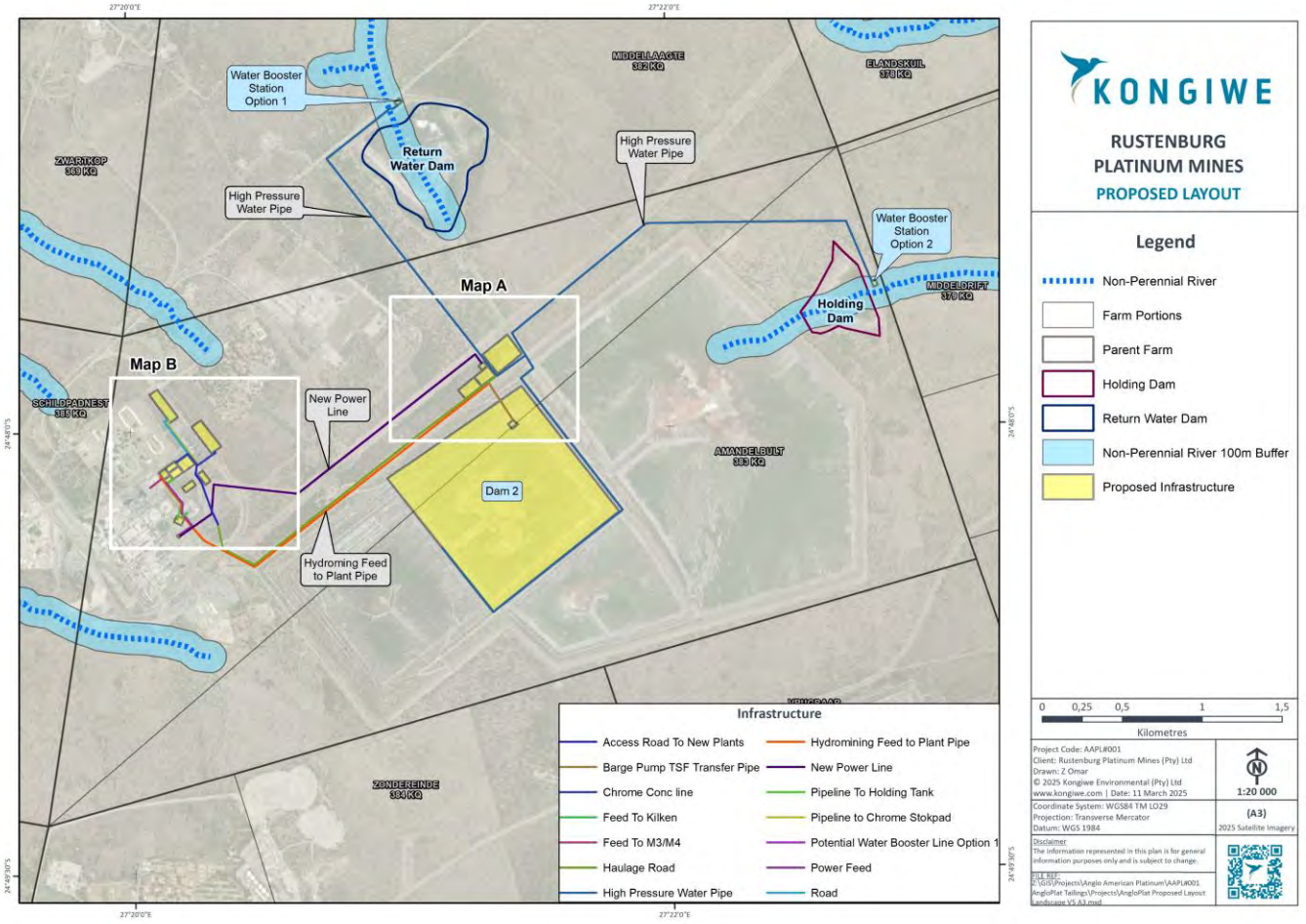

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  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA).
  - Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMPR in terms of amending the Mining Right and Mine Works Programme.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.

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  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .
- An **Open Day** will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(These dates will be confirmed).**
- The **Draft Scoping Report** will then be finalized and submitted after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted, and the process is ongoing.

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COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Baphalane Ba Ramokoka, Pre-Application Meeting.

Date	06 June 2025
Time:	08H00-10H00
Venue:	Amandelbult Mine, Main Office,R510, Off Thabazimbi Road, Amandelbult, 0362

List of attendees:

Organisation	Name of attendee	Designation
Baphalane Ba Ramokoka	Kgosi Ramokoka	King of Baphalane Ba Ramokoka
Baphalane Ba Ramokoka	Tshepo Kgasago	Advisor to the King
Baphalane Ba Ramokoka	Mr B. Pearce	Personal Assistant of the King
Valterra Platinum Limited	Mr Kaitumela Letebele	Amandelbult: Social Performance
Valterra Platinum Limited	Ms Ursula Marvey	Amandelbult Section Manager: Environmental
Valterra Platinum Limited	Ms Hazel Fiehn	Environmental Permit Principal
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
No apologies		
N/A		

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.*

1. **Welcome and Introductions**
   - ❖ Mr Foord Ceronio greeted the attendees and provided an opportunity for all in attendance to introduce themselves. Mr Foord Ceronio then commenced with his presentation.

2. **Meeting Purpose:**
   - ❖ Discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project and its relevant authorisations and licencing.
   - ❖ Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.

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- Provide the meeting attendees with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised and include these in the Comments and Responses Report.

3. Meeting Agenda:

- Important Notice under NEMA and NWA
- Introduction
- Kongiwe's Role as an Independent Environmental Assessment Practitioner
- Project Location
- Project Background
- Project Description: The Process
- Project Infrastructure
- Specialist Studies
- Legislative Framework
- Stakeholders' Role
- Public Participation Process
- Comments and Discussions

Please refer to Appendix A for the presentation and Appendix B for the attendance register.

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4. Discussion

Mr Tshepo Kgasago, Advisor to the King	Enquired about whether the reclamation process would include Dam 1 and Dam 2.	Mr Foord Ceronio confirmed that only Dam 2 would be reclaimed. Ms Hazel Fiehn stated that while it is still early in the process, investigations have been conducted into the value of each tailings dam and the feasibility of their respective reclamations. Ms Hazel Fiehn stated that Dam 1 would not be feasible.
Kgosi Ramokoka, King of the Ramokoka	Enquired about the timelines associated with the EIA process.	Mr Foord Ceronio explained the various timelines related to the EIA process and what each stage of the process would require concerning public engagement.
Mr Kaitumel Letebele, Velterra	Highlighted some of the questions which he anticipates the community might raise, specifically relating to employment opportunities for community members. Furthermore, he added that community members may enquire as to why Kongiwe was appointed rather than a local Environmental Impact Assessment Practitioner.	Ms Hazel Fiehn explained that when selecting an independent consultant, the experience of the company was considered heavily due to the scale and complexity of the work which is required to be undertaken. The requirement to be a registered Environmental Assessment Practitioner (EAP) as per legislation is also a pre-requisite. This is why Kongiwe was appointed. The team noted the comments relating to employment opportunities.
Kgosi Ramokoka, King of the Ramokoka	Enquired about the scale of public participation which would be undertaken.	Ms Hazel Fiehn explained that from an environmental authorisation perspective, the focus would primarily be on the communities closest to the project area. Ms Hazel Fiehn explained that no other parties would be excluded from taking part in the process if they would like to be involved, which is why adverts would be placed to inform the broader community. Mr Foord Ceronio explained that the public participation process, would be undertaken by Kongiwe.
Mr Tshepo Kgasago, Advisor to the King	Enquired about how the negative potential environmental impacts would be managed and what the strategy would be behind that.	Mr Foord Ceronio explained that the specialist studies would provide recommendations as to ways to deal with the potential negative impacts and provide potential mitigation measures. Mr Foord Ceronio explained that as the Environmental Impact Assessment Practitioner, Kongiwe would also include mitigation measures to reduce the potential impacts associated with the proposed project. Mr Foord

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		Ceronio explained that the report which includes the mitigation measures would also be available for public review and that would provide the opportunity for any additional inputs from the community to be made. Mr Foord Ceronio explained that the report would be made available to the public and this would also be communicated to the stakeholder database.

5. Closing

COMMENT	RESPONSE
Mr Foord Ceronio thanked everyone for their time and the meeting was concluded.	

The meeting adjourned at around 10:00 am.

KONGIWE

Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Pre-Application Stakeholder Engagement Meeting

DMRE reference number: LP 30/5/1/2/2/48 MR

Friday, 06 June2025

AGENDA

1. Important Notice under NEMA and NWA
2. Introduction
3. Kongiwe's Role as an Independent Environmental Assessment Practitioner
4. Project Location
5. Project Background
6. Project Description: The Process
7. Project Infrastructure
8. Specialist Studies
9. Legislative Framework
10. Stakeholders' Role
11. Public Participation Process
12. Comments and Discussions

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IMPORTANT NOTICE UNDER NEMA AND NWA

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) for an Application for an Environmental Authorisation (EA) for listed activities triggered in Listing Notices GN R983 and GN R984 in terms of the Environmental Impact Assessment (EIA) Regulations of December 2014, as amended. The Department of Mineral Resources and Energy (DMRE) Limpopo is the Competent Authority to assess the EA for the proposed project.
  - National Water Act, 1998 (Act No.36 of 1998) (NWA) for a Water Use License Application (WULA) in accordance with the Act. The Department of Water and Sanitation (DWS) Limpopo is the Competent Authority to assess the WULA for the proposed project.

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INTRODUCTION

- **Kongiwe Environmental**
  - Foord Ceronio – Project Manager and Senior Environmental Consultant
  - Thuli Phakathi – Stakeholder Engagement

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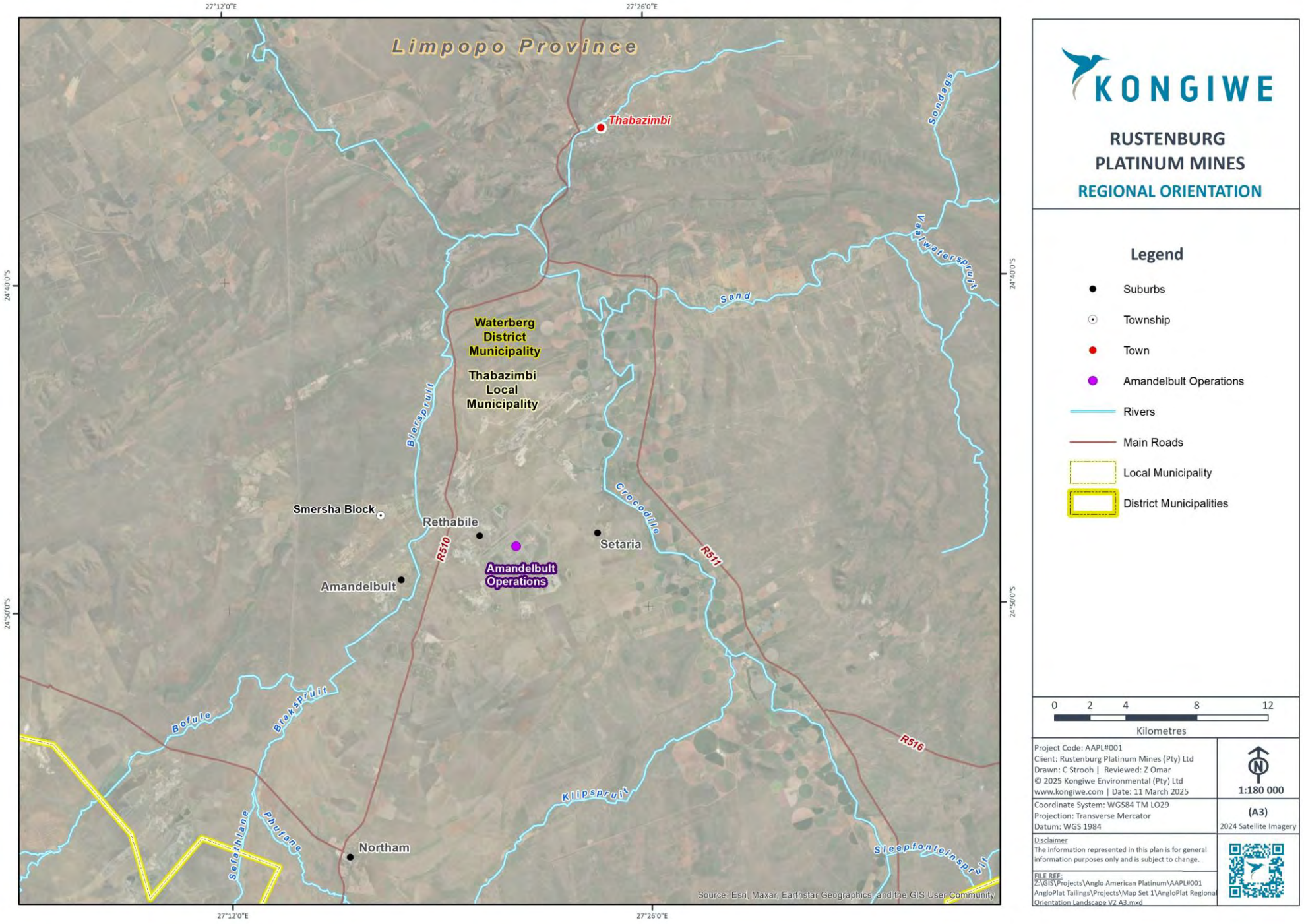
KONGIWE'S ROLE

- As an independent Environmental Assessment Practitioner (EAP), it is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to both the surrounding water resources and the environment, to quantify these, describe possible mitigations, collect public comment and supply both the DMRE and the DWS with the documentation so that they can determine if the project should proceed or not.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Limpopo Province
Thabazimbi
Sondags
Vaalwaterspruit
Sand
Waterberg District Municipality
Thabazimbi Local Municipality
Biespruit
Crocodile
Smersha Block
Rethabile
Setaria
R510
R511
Amandelbult Operations
Amandelbult
Bofule
Brakspruit
R516
Klipspruit
Sefathlane
Phufane
Northam
Sleepfontein Spruit
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
KONGIWE
RUSTENBURG PLATINUM MINES
REGIONAL ORIENTATION
Legend
Suburbs
Township
Town
Amandelbult Operations
Rivers
Main Roads
Local Municipality
District Municipalities
0 2 4 8 12
Kilometres
Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 11 March 2025
1:180 000
Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984
(A3)
2024 Satellite Imagery
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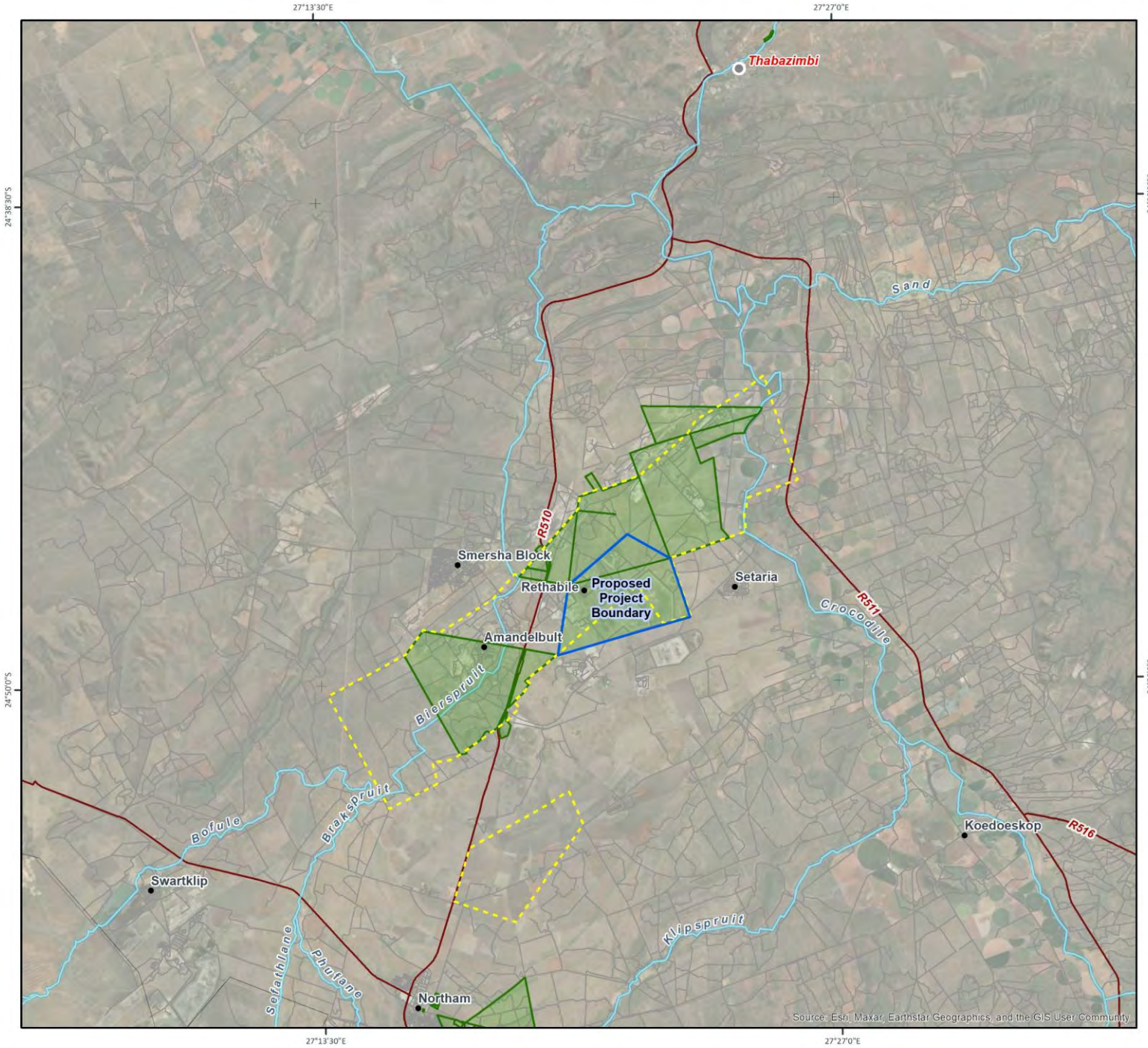

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 27 May 2025

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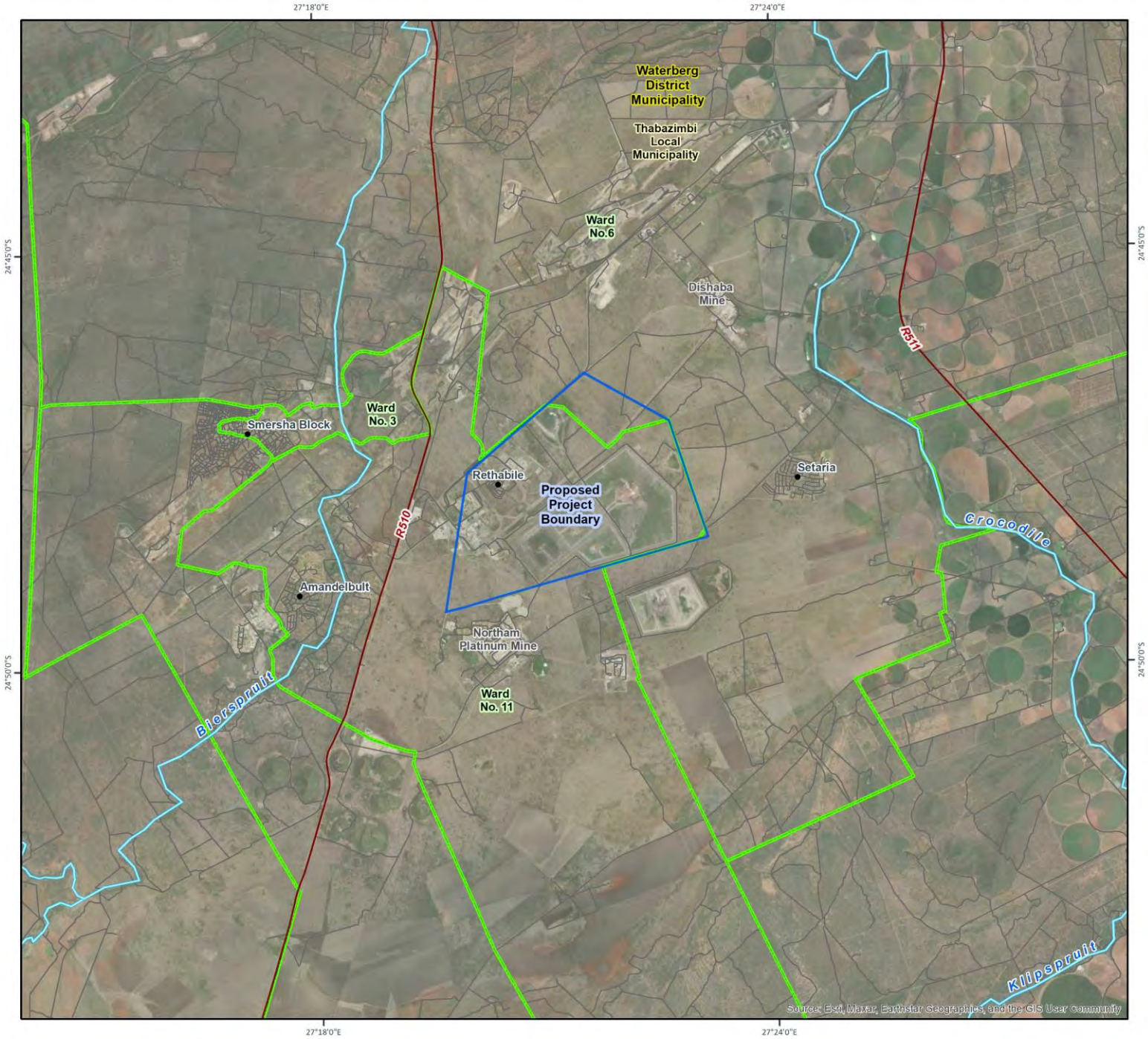

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 27 May 2025

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PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Complex (AMB)
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex, 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt, in the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new or the existing PGM and Chrome Processing plant for further processing.
- The waste material from the process will be disposed back onto the operational TSF Dam No. 3B.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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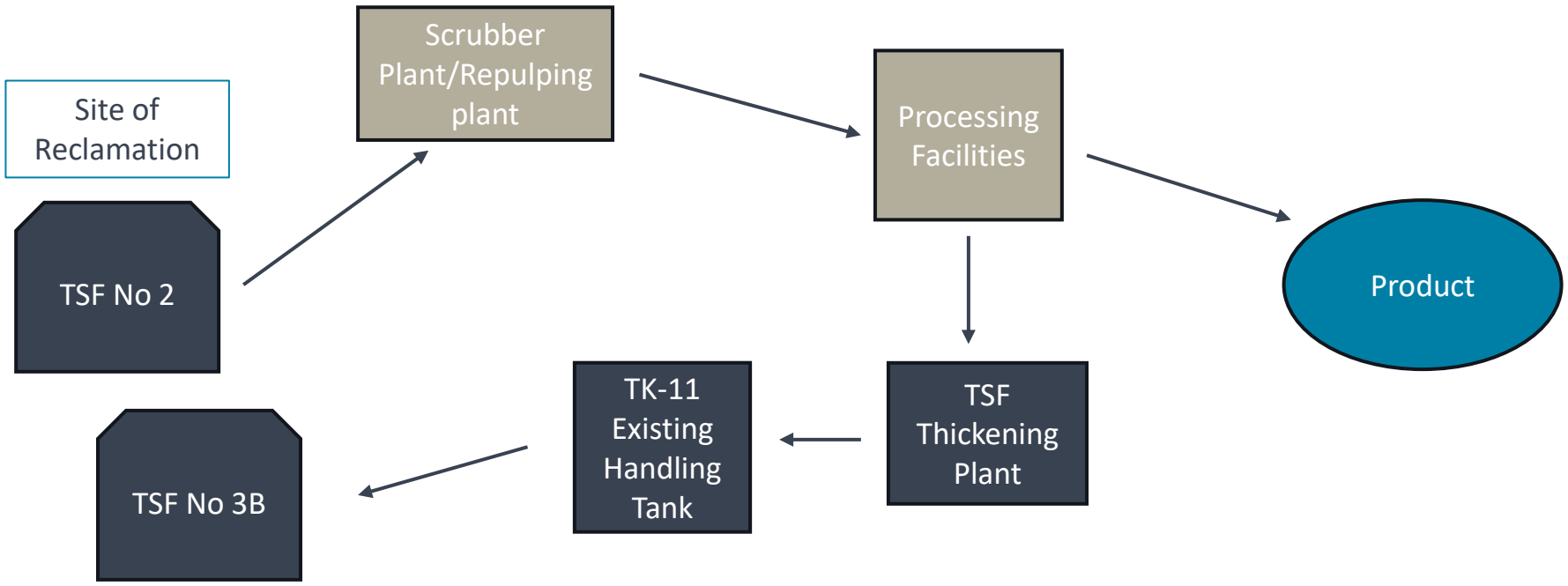
PROJECT DESCRIPTION: THE PROCESS



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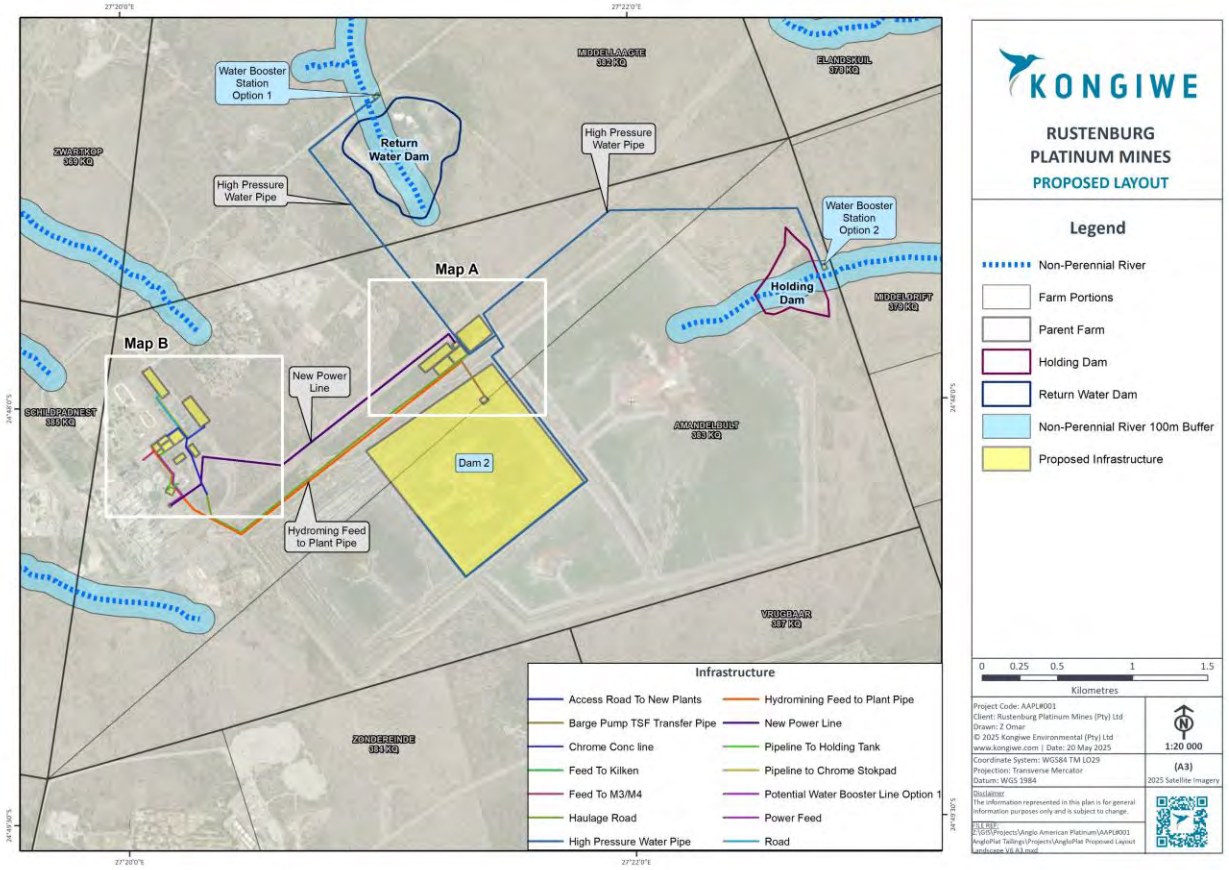
PROJECT INFRASTRUCTURE

Required infrastructure will be included on site:

Table 1: Infrastructure required

Site Infrastructure	
❖ Hard Park, Laydown and Administrative Areas.	❖ Water Booster Stations
❖ Barge Pump	❖ Pipelines and Water reticulation
❖ Haul Roads.	❖ PCDs
❖ Reclamation Equipment (Both Hydraulic and Mechanical)	❖ Plant Processing Facilities
❖ Electricity Reticulation and associated infrastructure	❖ Stormwater Management infrastructure
❖ Scrubber Plant and Repulping plant	❖ Various Stockpile and topsoil stockpile areas



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SPECIALIST STUDIES

Proposed Specialist Studies	
Biodiversity Impact Assessment	Wetlands Impact Assessment
Surface Water Impact Assessment	Groundwater Impact Assessment
Air Quality Impact Assessment	Socio-Economic Impact Assessment
Noise Impact Assessment	Heritage Impact Assessment
Financial Provisioning	

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LEGISLATIVE FRAMEWORK

- An integrated Environmental Authorisation (EA) application will be submitted to the DMRE (Limpopo) as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMRE are as follows:
  - Application for an Environmental Authorisation for listed activities triggered in Listing Notices GN R983, GN R984, and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, as promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA; and
  - Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) Will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.

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PUBLIC PARTICIPATION PROCESS (PPP)

The PPP objectives are to:

- Ensure that stakeholders are informed about the proposed development of for the Amandelbult Tailings Reclamation and Reprocessing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

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PUBLIC PARTICIPATION PROCESS (PPP)

- An advert indicating the availability of the documentation for public review and the Public Meeting dates will appear in the Platinum Bosvelder on **Thursday, 12 June 2025.** This advert will be both in English and Setswana.
- An announcement of the project will occur on **Thursday, 12 June 2025.** This will be emailed and SMSed to all stakeholders on our stakeholder database. This will include announcement material and a Stakeholder Registration form.
- Notices providing information of where the public documentation will be accessible and when the public meetings will be held will be placed around site at key locations. From the **Tuesday 17 June 2025.** These notices will be in both English and Setswana.
- The required **Environmental Application** will be submitted to the DMRE on the **17 June 2025.**
- The DSR and other Public Participation material will be made available for 30 Days from **18 June 2025 – 17 July 2025.**
- The **Draft Scoping Reports** will be submitted to the Public Places **on the 18 June 2025**,
  - Thabazimbi Local Municipality (Public Library);
  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .

PUBLIC PARTICIPATION PROCESS (PPP)

- Hard copies of the DSR Non-technical Summary (BID) will be made available at the following public places:
  - Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).
- The required mobilization will be in place to inform and aid communities in getting them to the Open Day.
- **Open Days** will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(23 and 24 June 2025).**
- **An Online meeting** will also be held with stakeholders who would prefer an online meeting. **(27 June 2025)**
- The **Draft Scoping Report** will then be finalized and submitted after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted, and the process is ongoing.

COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Baphalane Ba Mantserre - Indirectly Affected Landowner

Date	Friday, 06 June 2025
Time:	10H00 – 11H00
Venue:	Amandelbult Mine, Main Office, R510, Off Thabazimbi Road, Amandelbult, 0362

List of attendees:

Organisation	Name of attendee	Designation
Baphalane Ba Mantserre Traditional Council (BBMTC)	Mr R.P. Ramokoa	Royal Family Member
Baphalane Ba Mantserre Development Trust (BBMDT)	Mr S. Ramokoa	Royal Family Member
Valterra Platinum Limited	Mr Kaitumela Letebele	Amandelbult: Social Performance
Valterra Platinum Limited	Ms Ursula Marvey	Amandelbult Section Manager: Environment
Valterra Platinum Limited	Ms Hazel Fiehn	Environmental and Permitting Principal
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
No apologies		
N/A		

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.*

1. **Welcome and Introductions**
   - ❖ Mr Foord Ceronio greeted the attendees and provided an opportunity for all in attendance to introduce themselves. Mr Foord Ceronio then commenced with his presentation.

2. **Meeting Purpose:**
   - ❖ Discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
   - ❖ Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.

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- Provide indirectly affected landowners with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

3. Meeting Agenda:

- Important Notice under NEMA and NWA
- Introduction
- Kongiwe's Role as an Independent Environmental Assessment Practitioner
- Project Location
- Project Background
- Project Description: The Process
- Project Infrastructure
- Specialist Studies
- Legislative Framework
- Stakeholders' Role
- Public Participation Process
- Comments and Discussions

Please refer to Appendix A for the presentation and Appendix B for the attendance register.

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4. Discussion

	COMMENT	RESPONSE
Mr Paul Ramokoka, Royal Family member	Stated that he has no issues or comments in relation to the EIA process. He stated that the concerns he has have been discussed in a previous meeting and fall outside the scope of the current meeting agenda as they relate to the ownership of the facilities.	Ms Hazel Fiehn stated that the project is currently in the pre-feasibility stage, and due to that, there are multiple alternatives as there is still a lack of clarity as to how the project is going to take shape. Ms Hazel Fiehn stated that due to the timeframes associated with the various applications, the decision was made in order to begin the process. Ms Hazel Fiehn explained that there is a process running parallel to the various environmental authorisations and licensing processes, which focuses on the feasibility of the potential options as well as how these would shape aspects such as skills development and employment opportunities.
Mr Paul Ramokoka, Royal Family member	Thanked Ms Hazel Fiehn for her comments and stated that he wanted to be involved in the public participation process; however, further engagement would be required to address matters unrelated to the EIA process. He stated that while they support the process, further action would need to take place.	Ms Hazel Fiehn and the Kongiwe team noted these comments.

5. Closing

COMMENT	RESPONSE
Mr Foord Ceronio thanked everyone for their time and the meeting was concluded.	

The meeting adjourned at around 10H45 am.

KONGIWE

Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Pre-Application Stakeholder Engagement Meeting

DMRE reference number: LP 30/5/1/2/2/48 MR

Friday, 06 June2025

AGENDA

1. Important Notice under NEMA and NWA
2. Introduction
3. Kongiwe's Role as an Independent Environmental Assessment Practitioner
4. Project Location
5. Project Background
6. Project Description: The Process
7. Project Infrastructure
8. Specialist Studies
9. Legislative Framework
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  - National Water Act, 1998 (Act No.36 of 1998) (NWA) for a Water Use License Application (WULA) in accordance with the Act. The Department of Water and Sanitation (DWS) Limpopo is the Competent Authority to assess the WULA for the proposed project.

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INTRODUCTION

- **Kongiwe Environmental**
  - Foord Ceronio – Project Manager and Senior Environmental Consultant
  - Thuli Phakathi – Stakeholder Engagement

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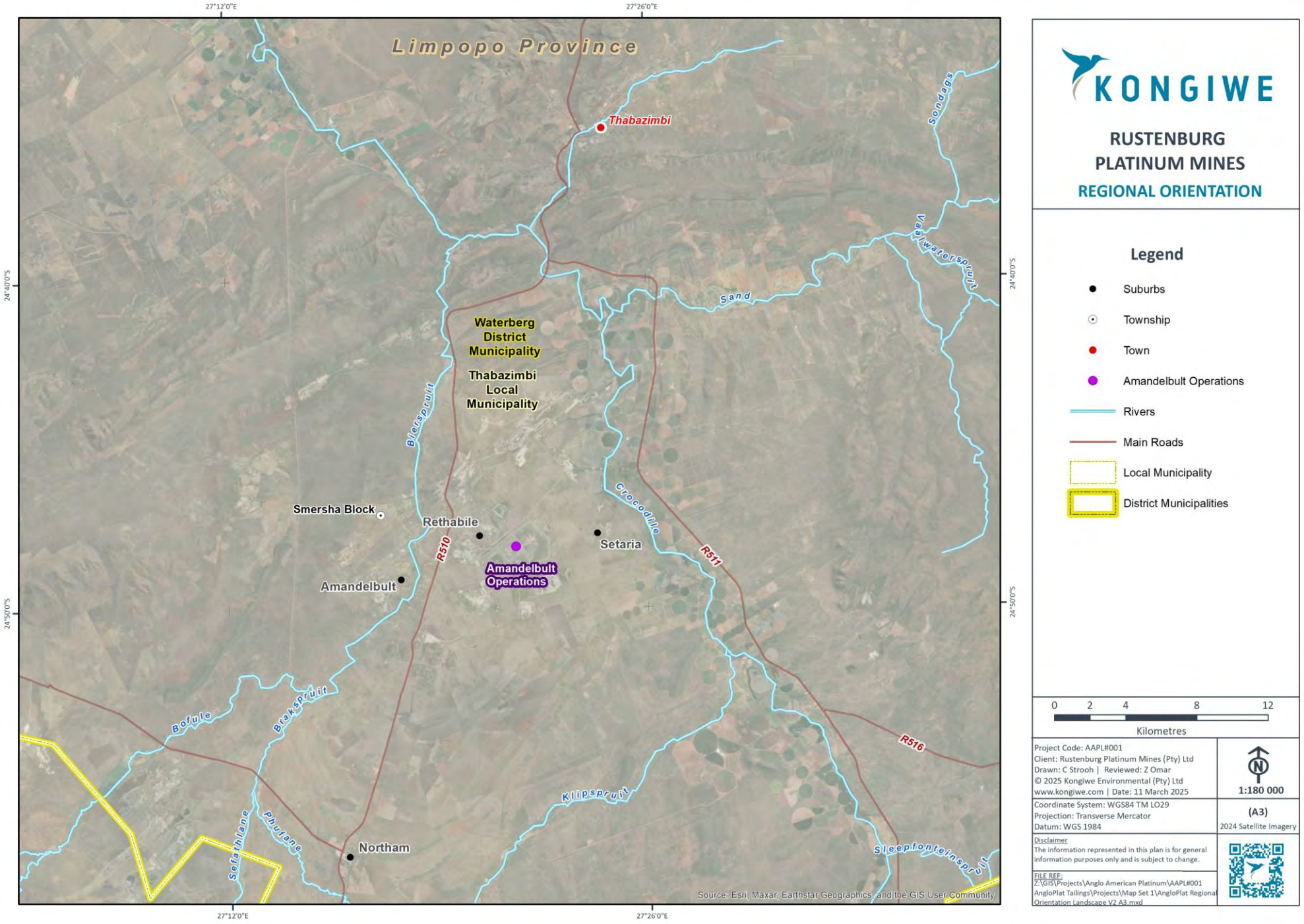
KONGIWE'S ROLE

- As an independent Environmental Assessment Practitioner (EAP), it is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to both the surrounding water resources and the environment, to quantify these, describe possible mitigations, collect public comment and supply both the DMRE and the DWS with the documentation so that they can determine if the project should proceed or not.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Crocodile
Smersha Block
Rethabile
Setaria
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R511
Amandelbult Operations
Amandelbult
Bofule
Brakspruit
R516
Klipspruit
Sefathlane
Phufane
Northam
Sleepfontein Spruit
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
KONGIWE
RUSTENBURG PLATINUM MINES
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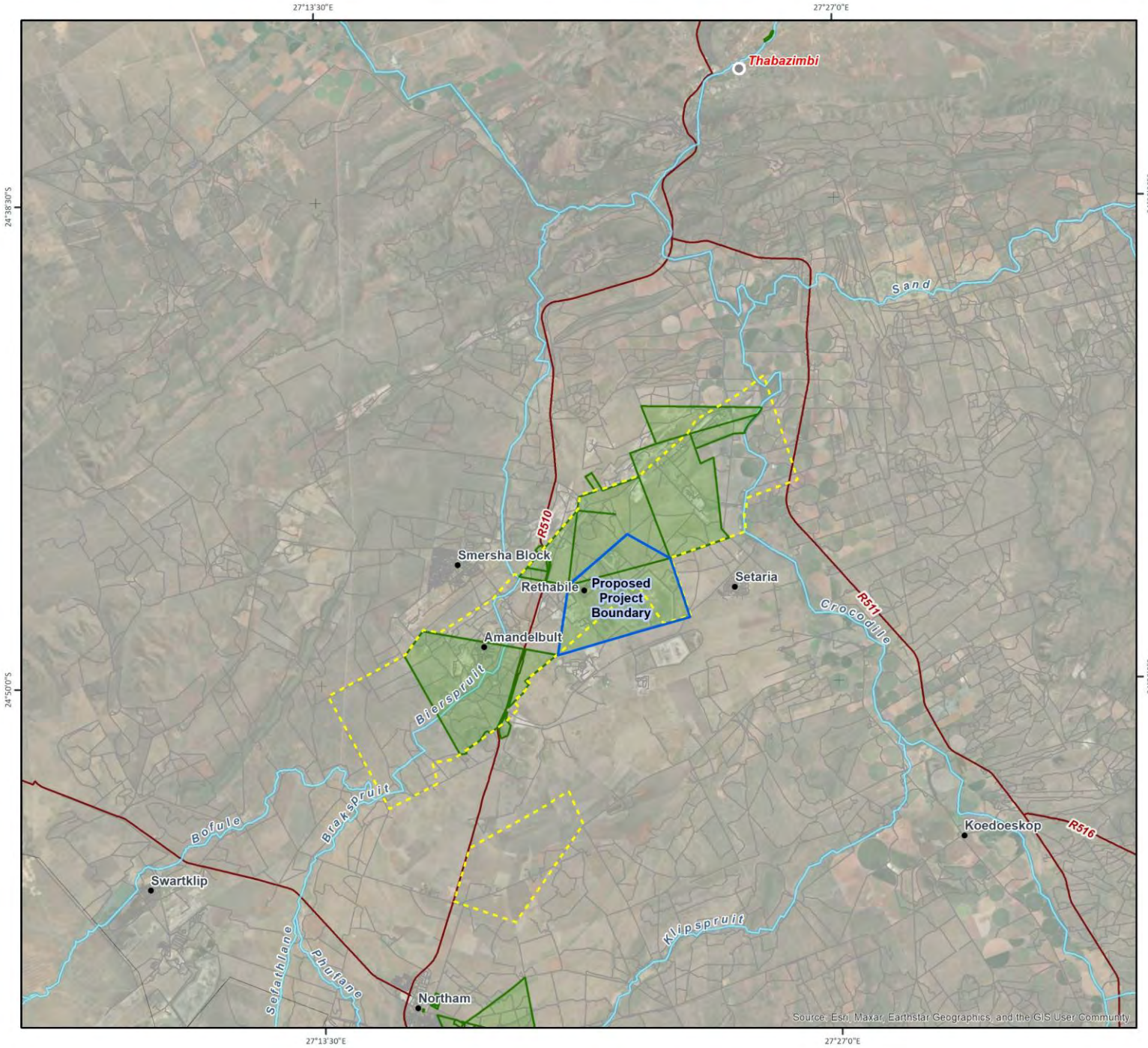

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 27 May 2025

1:160 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
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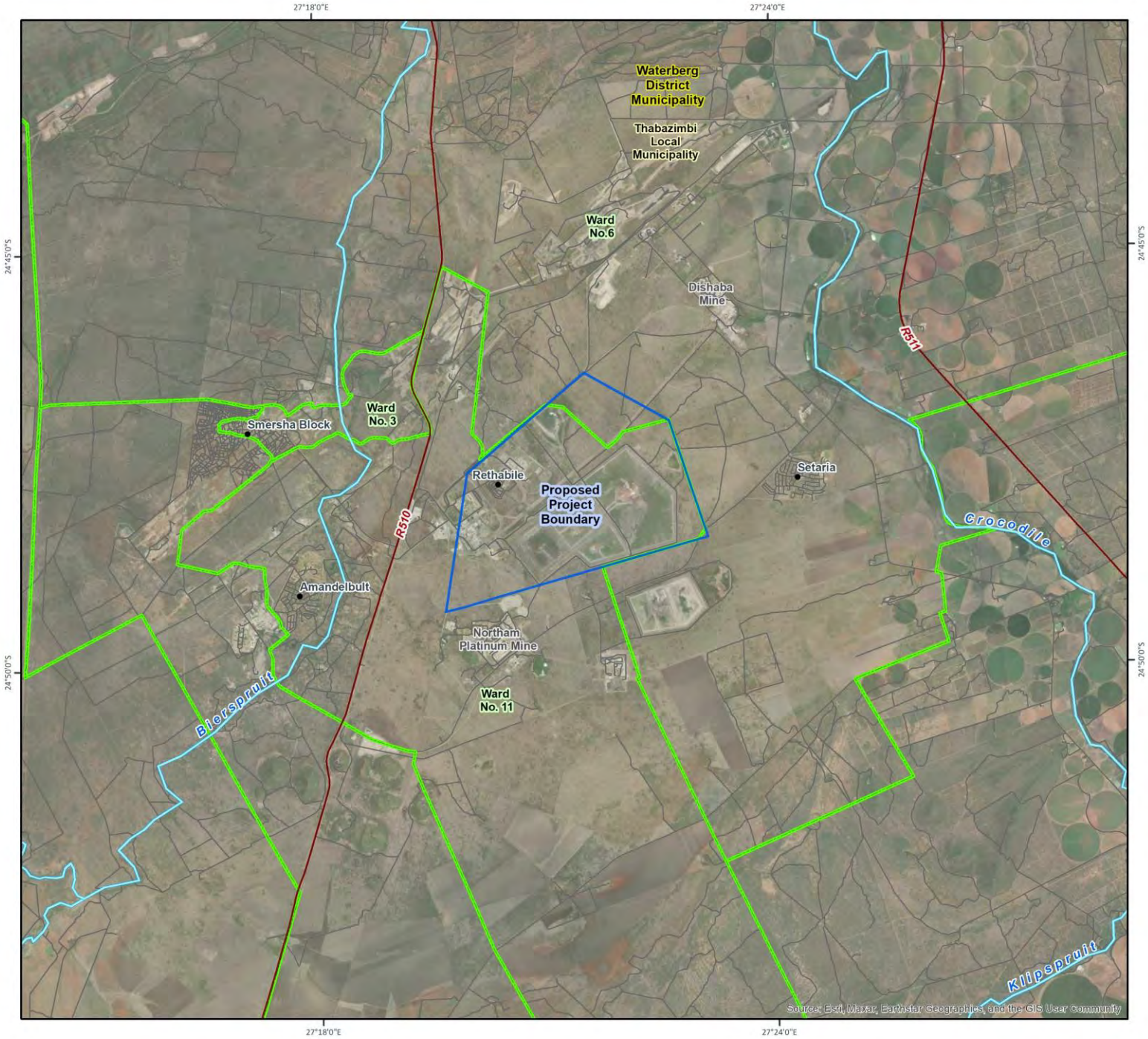

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 27 May 2025

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Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2024 Satellite Imagery

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FILE REF:
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PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Complex (AMB)
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex, 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt, in the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new or the existing PGM and Chrome Processing plant for further processing.
- The waste material from the process will be disposed back onto the operational TSF Dam No. 3B.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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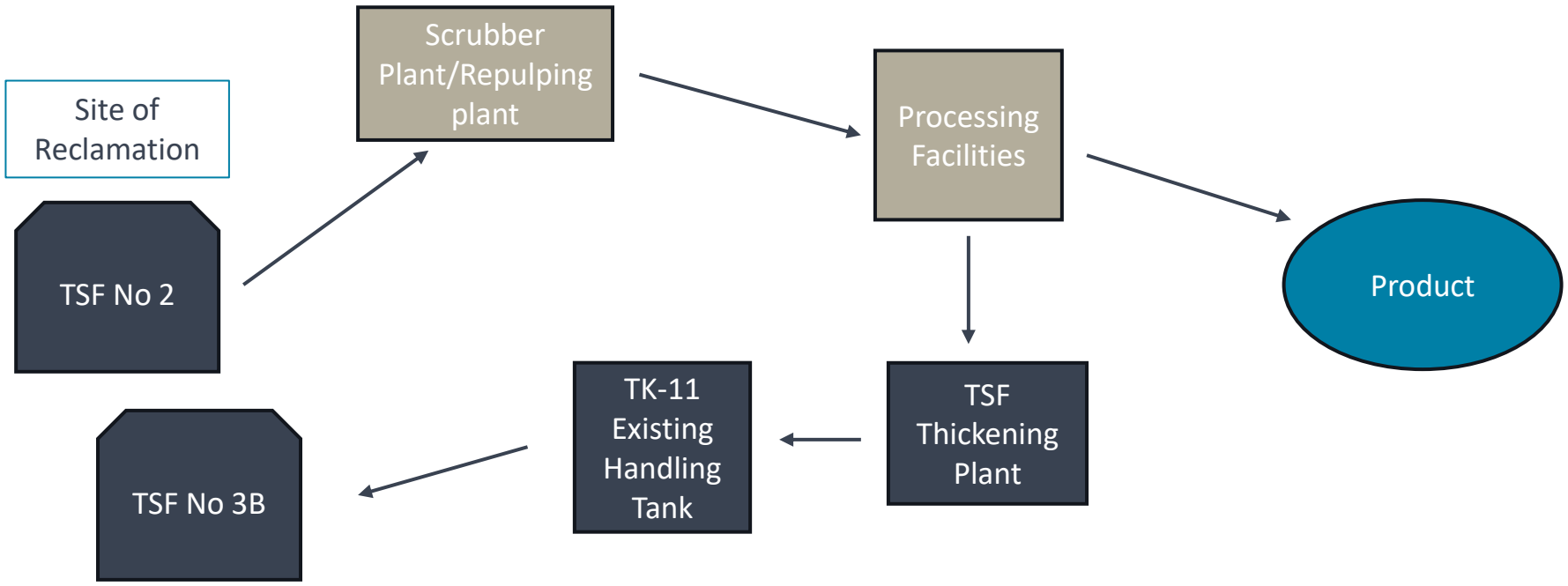
PROJECT DESCRIPTION: THE PROCESS



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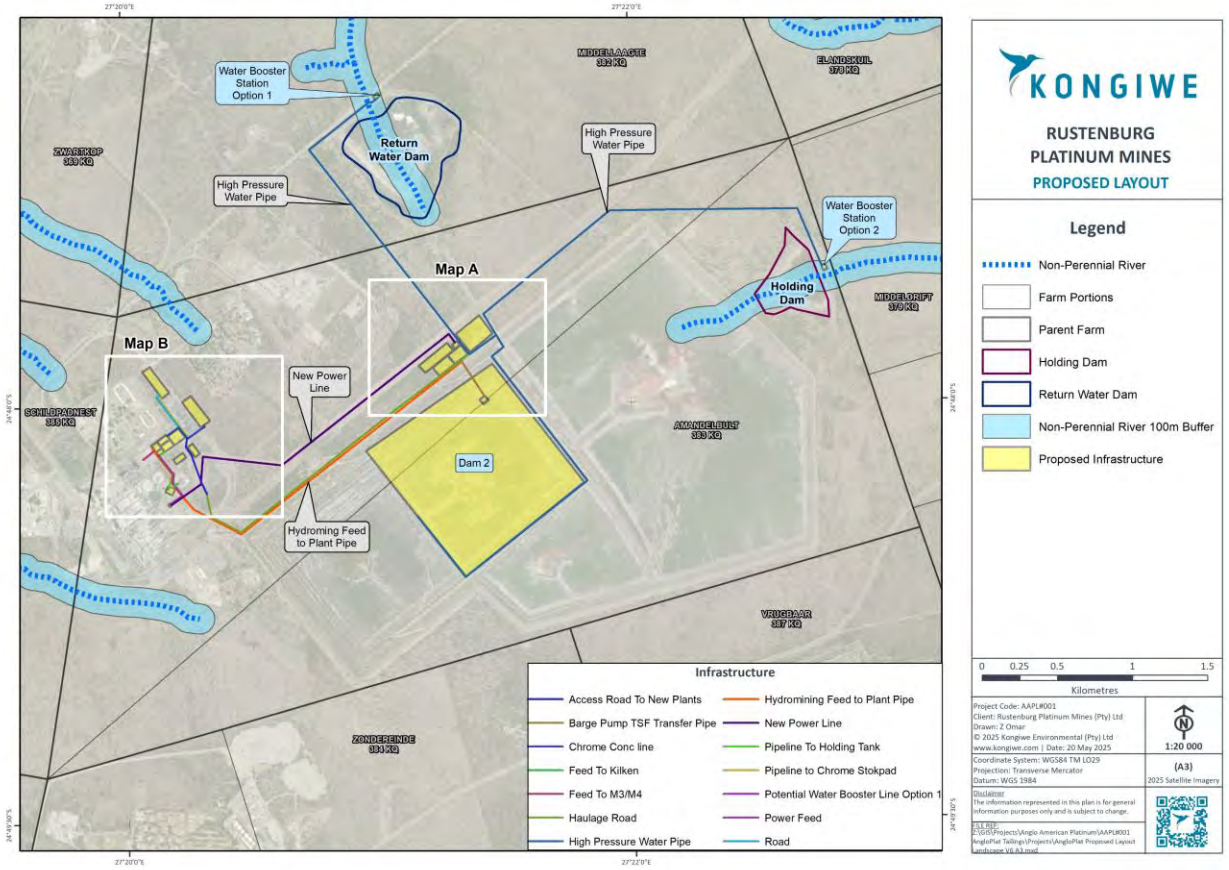
PROJECT INFRASTRUCTURE

Required infrastructure will be included on site:

Table 1: Infrastructure required

Site Infrastructure	
❖ Hard Park, Laydown and Administrative Areas.	❖ Water Booster Stations
❖ Barge Pump	❖ Pipelines and Water reticulation
❖ Haul Roads.	❖ PCDs
❖ Reclamation Equipment (Both Hydraulic and Mechanical)	❖ Plant Processing Facilities
❖ Electricity Reticulation and associated infrastructure	❖ Stormwater Management infrastructure
❖ Scrubber Plant and Repulping plant	❖ Various Stockpile and topsoil stockpile areas



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SPECIALIST STUDIES

Proposed Specialist Studies	
Biodiversity Impact Assessment	Wetlands Impact Assessment
Surface Water Impact Assessment	Groundwater Impact Assessment
Air Quality Impact Assessment	Socio-Economic Impact Assessment
Noise Impact Assessment	Heritage Impact Assessment
Financial Provisioning	

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LEGISLATIVE FRAMEWORK

- An integrated Environmental Authorisation (EA) application will be submitted to the DMRE (Limpopo) as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMRE are as follows:
  - Application for an Environmental Authorisation for listed activities triggered in Listing Notices GN R983, GN R984, and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, as promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA; and
  - Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) Will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.

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PUBLIC PARTICIPATION PROCESS (PPP)

The PPP objectives are to:

- Ensure that stakeholders are informed about the proposed development of for the Amandelbult Tailings Reclamation and Reprocessing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

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PUBLIC PARTICIPATION PROCESS (PPP)

- An advert indicating the availability of the documentation for public review and the Public Meeting dates will appear in the Platinum Bosvelder on **Thursday, 12 June 2025.** This advert will be both in English and Setswana.
- An announcement of the project will occur on **Thursday, 12 June 2025.** This will be emailed and SMSed to all stakeholders on our stakeholder database. This will include announcement material and a Stakeholder Registration form.
- Notices providing information of where the public documentation will be accessible and when the public meetings will be held will be placed around site at key locations. From the **Tuesday 17 June 2025.** These notices will be in both English and Setswana.
- The required **Environmental Application** will be submitted to the DMRE on the **17 June 2025.**
- The DSR and other Public Participation material will be made available for 30 Days from **18 June 2025 – 17 July 2025.**
- The **Draft Scoping Reports** will be submitted to the Public Places **on the 18 June 2025**,
  - Thabazimbi Local Municipality (Public Library);
  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .

PUBLIC PARTICIPATION PROCESS (PPP)

- Hard copies of the DSR Non-technical Summary (BID) will be made available at the following public places:
  - Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).
- The required mobilization will be in place to inform and aid communities in getting them to the Open Day.
- **Open Days** will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(23 and 24 June 2025).**
- **An Online meeting** will also be held with stakeholders who would prefer an online meeting. **(27 June 2025)**
- The **Draft Scoping Report** will then be finalized and submitted after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted, and the process is ongoing.

COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Online Broader Stakeholder

Date	Friday, 27 June 2025
Time:	10H00 – 11H00
Venue:	Online Virtual Meeting – MS Teams

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, (Amandelbult Mine Complex (AMB) Valterra Platinum Limited)	Mr Thabo Moyo	Stakeholder Engagement Manager
Valterra Platinum Limited	Ms Ursula Marvey	Environmental Manager
Valterra Platinum Limited	Ms Hazel Fiehn	Environmental Permit Principal
Valterra Platinum Limited	Mr Tshepo Monyaka	Environmental specialist
Federation for a Sustainable Environment (FSE)	Ms Mariette Liefferink	CEO
Northam Platinum	Mr Mpho Mutobvu	Environmental Specialist
Baphalane Ba Mantserre Community Development Trust	Mr Thabo Seleke	Independent trustee
Baphalane Ba Mantserre Community Development Trust	Ms Dineo Pete	Independent trustee
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Anela Fixi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Mr Grant Cornish-Bowden	Project Director
No apologies		
N/A		

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.*

1. **Welcome and Introductions**
   - ❖ Mr Ceronio welcomed all attendees to the meeting and provided everyone present with an opportunity to introduce themselves.
   - ❖ Mr Ceronio indicated that Rustenburg Platinum Mines would be the application to the project and started the presentation.

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2. **Meeting Purpose:**
   - Present and discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
   - Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.
   - Provide present stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
   - Record comments raised and included in the Comments and Responses Report.

3. **Meeting Agenda:**
   - Important Notice under NEMA and NWA
   - Introduction
   - Kongiwe's Role as an Independent Environmental Assessment Practitioner
   - Project Location
   - Project Background
   - Project Description: The Process
   - Project Infrastructure
   - Specialist Studies
   - Legislative Framework
   - Stakeholders' Role
   - Public Participation Process
   - Comments and Discussions

The presentation was finalised whereafter questions were put forward from the stakeholders in the meeting.

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4. Discussion

	COMMENT	RESPONSE
Ms Mariette Liefferink	Ms Liefferink enquired whether Valterra Platinum Limited is the applicant for the proposed project.	Ms Fiehn acknowledged that the applicant is Valterra Platinum and explained that they are part of a holding company, Rustenburg Platinum Mines. She further clarified that the company was previously known as Anglo American Platinum and now is operating as Valterra Platinum.
Ms Mariette Liefferink	Ms Liefferink complimented the presentation, stating that it was concise, and proceeded to ask, since the project is currently in the draft scoping phase, would ground quality assessment and air quality assessment be conducted.	Mr Ceronio confirmed that groundwater and air quality assessments would be conducted for the proposed project and proceeded to highlight all the specialist studies that would form part of this project.
Ms Mariette Liefferink	Ms Liefferink acknowledged the proposed specialist studies and informed attendees that she is part of a dialogue on Public Participation with Good Governance Africa. She noted that Public Participation was a key issue discussed and believes there is a universal agreement that the process remains flawed. She clarified that the comment was not directed at Kongiwe nor the current project. She further explained the process is often viewed as a tick-box exercise, lacking engagement with marginalised and vulnerable communities. Ms Liefferink added that many communities remain disempowered and emphasize the need to educate them on both potential benefits and risks of the project. Specifically, she cautioned against creating unrealistic expectations around job creation, pointing out that, as this is a reprocessing activity, significant job opportunities are unlikely. Ms Liefferink suggested that these concerns be taken into consideration and acknowledged Kongiwe's efforts to prepare non-technical reports, which she supports, especially for the benefit of disempowered communities.	Mr Ceronio acknowledged Ms Liefferink's comments and assured her that the project team had taken note of them. Mr Ceronio informed Ms Liefferink that the Background Information Document (BID) had been distributed to the local communities surrounding the project area and that multiple community engagements had taken place in alignment with project information. Mr Ceronio further explained that two public meetings had already been held with local communities, during which the presentation was translated into Setswana and Xhosa, as required. Additionally, the team had engaged directly with those communities and had placed site notices and distributed BIDs where possible.

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	COMMENT	RESPONSE
Ms Mariette Liefferink	Ms Liefferink acknowledged that Mr Ceronio had addressed the points on his presentation and clarified that she was not criticising Kongiwe's Public Participation Process (PPP). Instead, she was highlighting common gaps that often occur during consultation, particularly when engagement is limited to gatekeepers or politicians, while the broader community's voice is often not adequately heard or considered. Ms Liefferink added that she wanted to raise a point discussed during the meeting she previously had that communities should be empowered to consider not only short-term benefits, but also at medium and long-term opportunities. These include sustainable land use after the life of mine, and intergenerational equity issues, and livelihood opportunities beyond the life of mine. She added that she noted from the presentation that the life of mine is 20 years. Ms Liefferink reiterated that her comments were not intended as criticism of PPP. She raised concern regarding the acquisition of Rustenburg Platinum, the holding company, of Valterra Platinum, from Anglo-American. She explained in the past, there have been concerns about a practice referred to as ''pass the parcel', where large mining companies, near closure, sell operations to smaller entities to avoid fulfilling their closure obligations. She expressed hope that Valterra Platinum, under Rustenburg Platinum, would possess the necessary skills and financial resources, such as those of major mining companies like Anglo, to close operation responsibly at the end of life of mine. She also referenced the broader complex what is often referred to as the ''complex corporate case''.	Mr Ceronio confirmed that the life of mine is indeed 20 years. Mr Ceronio requested to give Ms Fiehn the opportunity to respond to concern about mine closure. Ms Fiehn explained the history of Rustenburg Platinum Mines, dating back to its registration in 1931. She noted that following the demerger from Anglo American, Rustenburg Platinum Mines and Anglo-American Platinum transitioned into what is now known as Valterra Platinum. Ms Fiehn clarified that Valterra is not a new company, nor sold by Anglo American Platinum. Rather, it resulted from a demerger from the larger Anglo-American group, where Anglo American Platinum changed its name to Valterra Platinum. Ms Fiehn emphasised that they still operate as Anglo American Platinum did, and closure objectives and requirements remain unchanged. She further stated that the values and standards associated with Anglo American Platinum are still upheld by Valterra Platinum, and there has been no change in their mine closure objectives.

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	COMMENT	RESPONSE
Ms Mariette Liefferink	Ms Liefferink acknowledged Ms Fiehn's response and mentioned that it was both helpful and encouraging. Ms Liefferink asked who would ultimately be responsible for mine closure and rehabilitation objectives, noting that such responsibilities are often unclear within complex corporate structure. Specifically, she asked whether it would be Valterra or the holding company that holds accountability	Ms Fiehn clarified that Rustenburg Platinum Mines is the official applicant and that Valterra Platinum is the subsidiary. All operations are registered under Rustenburg Platinum Mines. She further confirmed that Rustenburg Platinum Mines, operating as Valterra Platinum, will be fully responsible for all closure and rehabilitation obligations.
Mr Foord Ceronio	Mr Ceronio suggested that Ms Liefferink is welcome to submit her concerns in writing, assuring her that will be thoroughly addressed and that more detailed responses can be provided.	Ms Liefferink responded that the answers provided were sufficient. She explained that, as an NGO, they receive a high volume of applications and often lack capacity to submit written comments or address each matter comprehensively. She expressed appreciation for the opportunity to participate in virtual meetings and noted that her questions are not intended to be difficult, and she is confident that the team will be able to respond to them.
Ms Dineo Peta	Ms Peta raised a point regarding consultations with specifically affected communities, noting that the meeting scheduled with the Baphalane Ba Mantserre community on Monday, the 23rd, did not proceed. She pointed out that during this presentation, there was no mention of when this meeting had been rescheduled. Her understanding is that it has been moved to 12 July, and she requested confirmation of this date.	Mr Ceronio confirmed that the meeting was to be rescheduled to the 12th of July 2025.
Ms Mariette Liefferink	Ms Liefferink stated that, with regards to the reclamation operations, she assumes that there is no mining right required, only a waste license and water use license. She further assumed that the materials to be reclaimed would include residual chrome and platinum group metals, including platinum.	Mr Ceronio responded by explaining that a mining right amendment is currently being undertaken to incorporate the reclamation activities into the mining works program. He further confirmed that Ms Liefferick assumptions were correct, that the material reclaimed include PGM metals and chrome.
Ms Mariette Liefferink	Ms Liefferink stated that a mining right is not necessary for reclamation activities. She explained that, under the National Policy for the Reuse of Deposited Residue and Associated Activities (NPRDA), reclamation is not considered mining. she referenced a Constitutional Court case that supported this interpretation and noted that, at present, such activities still fall	The project team noted this. Ms Fiehn, explained that a Social and Labour plan is in place and would be implemented for this project.

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	COMMENT	RESPONSE
	under the Waste Act. She further mentioned that while the Industrial Council has proposed that these materials be classified as resources rather than waste, that the debate is still ongoing. She proceeded to explain that the issue is important because, if no mining right is required, there would be no requirement to develop a social and labour plan (SLP). For this reason, she encouraged the applicant to consider pursuing initiatives under Corporate Social Investment (CSI) to support and benefit the surrounding communities.	
Mr Mpho Mutobvu	Mr Mutobvu inquired whether the tailings dams are located left of their Northam Platinum shaft. Mr Mutobvu noted their interest in reviewing the potential impacts of the proposed activity, particularly concerning their operation and the stability of the area. He mentioned that they are aware that Valterra had conducted a dam break failure mode assessment and the report was shared with them. Additionally, he enquired whether any new infrastructure would be constructed that might affect their property. He further requested that any relevant details be shared with them.	Mr Ceronio demonstrated on the map the location of the proposed project in relation to Northam Platinum shaft. Ms Fiehn responded that, as part of their pre-feasibility studies, they are actively considering stability aspect to ensure compliance with GISTM (Global Industry Standard on Tailings Management) requirements. She also noted that as the remining activity progresses, ongoing assessments will be conducted to monitor and manage stability throughout the project. Mr Ceronio stated that all infrastructure would be situated within the existing mining area of Amandelbult. He further stated that he does not believe the proposed infrastructure will have any impact on Northam Platinum operations. He also informed Mr Mutobvu that the draft scoping report, which contains more detailed information, is available for review on Kongiwe's website.
Ms Mariette Liefferink	Ms Liefferink raised a general concern regarding the format of public participation meetings in general, stating that they are often conducted in a formalistic manner. She noted that stakeholders are typically given only 10 minutes for questions and	Mr Ceronio assured Ms Liefferink that she should feel free to take as much time as she needs for her questions and that he is more than happy to respond to all of them as thoroughly as possible.

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	COMMENT	RESPONSE
	answers, which they object. She emphasized that serendipitous input, unplanned but valuable contributions, should be encouraged, as previously mentioned. She added that this view is supported by the recommendations of Dr Lippert, a social scientist.	
Mr Thabo Moyo	Mr Moyo added to Mr Ceronio's response, stating that he completely disagrees with the claim about a 10-minute limit for questions. He explained that, from the start of the session, the audience were informed that they were welcome to raise their hands and ask questions at any time, and the presentation would pause to address them. According to him, attendees are given ample opportunity to engage, and the process is designed to encourage active participation. He emphasized that, while these are termed public participation meetings, they are intended to be two-way dialogues, not one-sided presentations. He concluded by stating that he is unsure where the idea of a 10-minute limit originated.	Mr Ceronio apologised and clarified that it was not his intention to interrupt the meeting or limit participation in any way. Ms Liefferink responded by assuring Mr Moyo that there was no issue at all. She acknowledged that she has always been given the opportunity to raise her organisations questions and concerns.
Ms Mariette Liefferink	Ms Liefferink noted that, since Valterra and Rustenburg Platinum mine are aligned with or subscribing to GISTM principles, meaningful consultation is expected, and she believe such dialogue is indeed taking place. However, she emphasized that GISTM also highlights the importance of incorporating suggestions from project-affected communities into the actual decision-making process. She expressed hope that some of the community's input will meaningfully influence decisions going forward. Regarding mining methods, she noted that while hydraulic mining may help reduce dust fallout, mechanical mining could potentially worsen it. She mentioned that she is a member of the Bojanala Waterberg Air Priority Stakeholder Group and is aware of existing	Mr Ceronio agreed with Ms Liefferink's comments and confirmed that an air quality impact assessment is currently being undertaken. He stated that the assessment will specifically evaluate PM2.5 and PM10 dust fallout resulting from both hydraulic and mechanical reclamation methods. ***Post meeting comment:*** *RPR AMB does not have an Air Emissions Licence as this Licence is not required for this operation.*

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	COMMENT	RESPONSE
	non-compliances, adding that the air quality in the region remains a concern. Ms Liefferink added that she would like to ask whether the applicant has an abatement plan in place. She also enquired if it would be possible to receive information on the air quality monitoring results, or whether that information will be shared at the next Bojanala Air Quality Priority Area stakeholder group meeting. In addition, she expressed interest in the project's air emissions licence and requested clarity on the monitoring parameter; specifically, whether they include PM2.5, PM10, ozone, NOx, and sulphur dioxide. She further asked whether the proposed mechanical mining process might exacerbate dust fallout, although she acknowledged that this issue may be addressed during the Environmental Impact Assessment (EIA) phase.	
Ms Mariette Liefferink	Ms Liefferink noted that since the project involves reprocessing or reclamation and the footprint may be reused for re-dumping, the activity cannot be classified as a rehabilitation project. It should be regarded strictly as a reclamation process. She further referenced Mr Foord's earlier statement indicating that the re-dumping aspect will still be assessed, suggesting that there is currently some uncertainty surrounding it. She then asked whether this uncertainty will be reflected in the EIA as a gap or issue requiring further clarification.	Mr Ceronio stated that by the time of the EIA, there will hopefully be a clearer direction regarding the proposed post-activity land use. He confirmed that, at present, re-deposition onto the same footprint is being considered. He also agreed with Ms Liefferink 's point, clarifying that this is not viewed as a rehabilitation activity, but rather as a reclamation activity.
Ms Mariette Liefferink	Ms Liefferink acknowledged Mr Ceronio response and further explained that she observed gold mines involved in the reprocessing activities often incorrectly classified reprocessing as rehabilitation. She emphasized that this classification raises significant concerns. She noted that Sibanye has recently developed a blueprint for nature-positive projects within the Magaliesberg Biosphere, an	Ms Fiehn stated that the applicant does not sell material to chrome washing plants. She assured that the matter will be further investigated to confirm this with 100% certainty. She emphasised that, as it currently stands, all material is directed to credible and authorised facilities. She added that detailed information regarding this will be included in the Comments and Response Report.

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	COMMENT	RESPONSE
	effort that highlights the importance of responsible post-mining land use. She also pointed out that the area is facing challenges, including the presence of numerous illegal chrome washing plants, which further complicates environmental management and regulatory compliance. Ms Liefferink clarified that while the project is not located within the Magaliesberg Biosphere but rather in the Waterberg area, she would still like to raise a related concern. She asked whether the applicant sells any of its material to chrome washing plants. If so, and if those plants are operating illegally, she emphasized that the applicant has a responsibility under the cradle-to-grave principle to ensure that its materials are not sold to unlicensed or non-compliant chrome washing operations. Alternatively, she asked for clarification on whether the applicant does not sell to chrome washing plants at all.	**Post Meeting comment**: the chrome product is exported and sold to various credible Chrome buyers within the global Chrome market. It is not sold to chrome washing plants. Our Marketing department deals with this
Ms Mariette Liefferink	Ms Liefferink noted that, although the National Mine Closure Strategy is still in draft form, its objective is to promote a regional approach to managing cumulative impacts, while also encouraging the development of economic diversification and succession during the life of mine. She asked whether the applicant is taking this into consideration and whether they are proposing any economic succession or diversification initiatives as part of their project planning. Ms Liefferink continued by referencing the NPRDA regulations, emphasizing that closure planning should begin at the start of operations and continue throughout the life of the mine. She stressed that, during the operational phase, there should be a focus on developing alternative economic activities so that, when the mine eventually closes, there are already viable livelihoods in place. These could include subsistence farming, artisanal, or small-scale mining, among others. She underlined that this	Ms Fiehn responded that they are busy with extensive closure planning focused on concurrent obligations and long-term closure. She mentioned that they previously worked with Anglo American on a project looking at alternative land uses to support local communities. While they are not yet doing regional engagements, it is a focus area that they are driving internally, and they regularly update their plans. Ms Marvey added that they have adopted the Anglo American Mine Closure Toolbox, which addresses the social, environmental, economic, and regulatory aspects raised by Ms Liefferink.

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	COMMENT	RESPONSE
	approach should be progressive and concurrent with the mine's lifespan, not left until the end. Ms Liefferink concluded by emphasizing that it is therefore essential to address economic diversification activities during the life of the mine, not just at closure. She highlighted that the Draft National Mine Closure Strategy encourages mining companies to collaborate regionally, particularly with other operators in the area—such as Sibanye and Impala—to align: ❖ Financial provisions ❖ Social and Labour Plans (SLPs) ❖ Environmental Management Programme Reports (EMPRs) ❖ Closure plans	
Ms Mariette Liefferink	Ms Liefferink asked where the reclaimed material will be deposited and queried whether it will be deposited on Dam 2.	Mr Ceronio confirmed that the material will be removed from tailings storage facilities (TSF) Dam 2 and deposited onto Dam 3B currently in operation.
Ms Mariette Liefferink	Ms Liefferink asked what the risk categorisation of Dam 3B will be with the additional deposition. She referred to the GISTM standards, noting that dams are classified by risk level—such as high or extreme. She specifically asked how the risk categorisation for catastrophic failure might change as a result of the added material.	Ms Fiehn informed Ms Liefferink that they will need to follow up on the specific risk categorisation. She explained that as part of the process, they are assessing additional rates of rise and any implications. She noted that they are not mining as intensively as when Dam 3B was initially developed, so the rates of rise may not exceed current limits. She said they will get feedback from MRM but confirmed that all impacts related to the remining process are being considered in line with GISTM requirements. **Post Meeting Comment:** The rate of rise for TSF No. 3B was assessed by SRK as part of the stability evaluation. This assessment informed the re-mining rate, which has been set at 325 ktpm to ensure that the rate of rise remains within an acceptable limit of 2.5 metres per year.

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	COMMENT	RESPONSE
Ms Dineo Peta	Ms Peta noted that page 12 of the BID refers to Section 102 amendments to the mining rights and mine works programme, while page 14 addresses infrastructure. She asked if the infrastructure development would require additional labor, either employees or contractors, and whether this would necessitate an amendment to the Social Labour Plan (SLP) to account for these additional human resources and supply development. She also inquired about the extent of the amendments to the mine works programme, as she understood it would include expanding the mining footprint, even if outside the current mining area.	Ms Fiehn responded that the infrastructure to be developed is already within their mining right footprint and that they will fulfil all SLP obligations, aligning construction work to be sourced from local entrepreneurs. She further explained that the mine works programme will be amended to include tailings reclamation as a resource source, confirming this as the basis for the programme change.
Ms Mariette Liefferink	Ms Liefferink thanked Ms Fiehn and her team for the applicant's direct involvement in the process, noting that applicants often do not attend meetings and only send their consultants.	Mr Ceronio thanked Ms Liefferink and asked if there were any further comments or discussions needed.
Mr Mpho Mutobvu	Mr Mutobvu asked if the presentation could be shared. He advised the project team that, historically, it was easier to first present to leadership structures such as business chambers, traditional leaders, and other groups before sharing information with the broader community. This approach helped them manage the community effectively, as informed leaders can help control distractions during meetings.	Mr Ceronio informed the attendees that the presentation will be shared and acknowledged Mr Mutobvu's advice. Ms Fiehn added that they had met with the leadership forum and presented the project to them two months ago, so the leadership is already informed about the project.

5. Closing

COMMENT	RESPONSE
The project team thanked the attendees for their time and input.	All attendees thanked Kongiwe for the meeting.

The meeting adjourned at 11:10 am.

Copy of Presentation appended to the minutes.

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KONGIWE

Rustenburg Platinum Mines Limited, Amandelbult Mine – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Online Meeting

DMRE reference number: LP 30/5/1/2/2/48 MR

27 June 2025

AGENDA

1. Important Notice under NEMA and NWA
2. Introduction
3. Kongiwe's Role as an Independent Environmental Assessment Practitioner
4. Project Location
5. Project Background
6. Project Description: The Process
7. Project Infrastructure
8. Specialist Studies
9. Legislative Framework
10. Stakeholders' Role
11. Public Participation Process
12. Comments and Discussions

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IMPORTANT NOTICE UNDER NEMA AND NWA

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) for an Application for an Environmental Authorisation (EA) for listed activities triggered in Listing Notices GN R983 and GN R984 in terms of the Environmental Impact Assessment (EIA) Regulations of December 2014, as amended. The Department of Mineral Resources and Energy (DMRE) Limpopo is the Competent Authority to assess the EA for the proposed project.
  - National Water Act, 1998 (Act No.36 of 1998) (NWA) for a Water Use License Application (WULA) in accordance with the Act. The Department of Water and Sanitation (DWS) Limpopo is the Competent Authority to assess the WULA for the proposed project.

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INTRODUCTION

- **Kongiwe Environmental**
  - Hazel Fiehn – Valterra Platinum
  - Foord Ceronio – Project Manager and Senior Environmental Consultant
  - Grant Cornish-Bowden – Project Director
  - Thuli Phakathi – Stakeholder Engagement
  - Anela Fixi – Stakeholder Engagement

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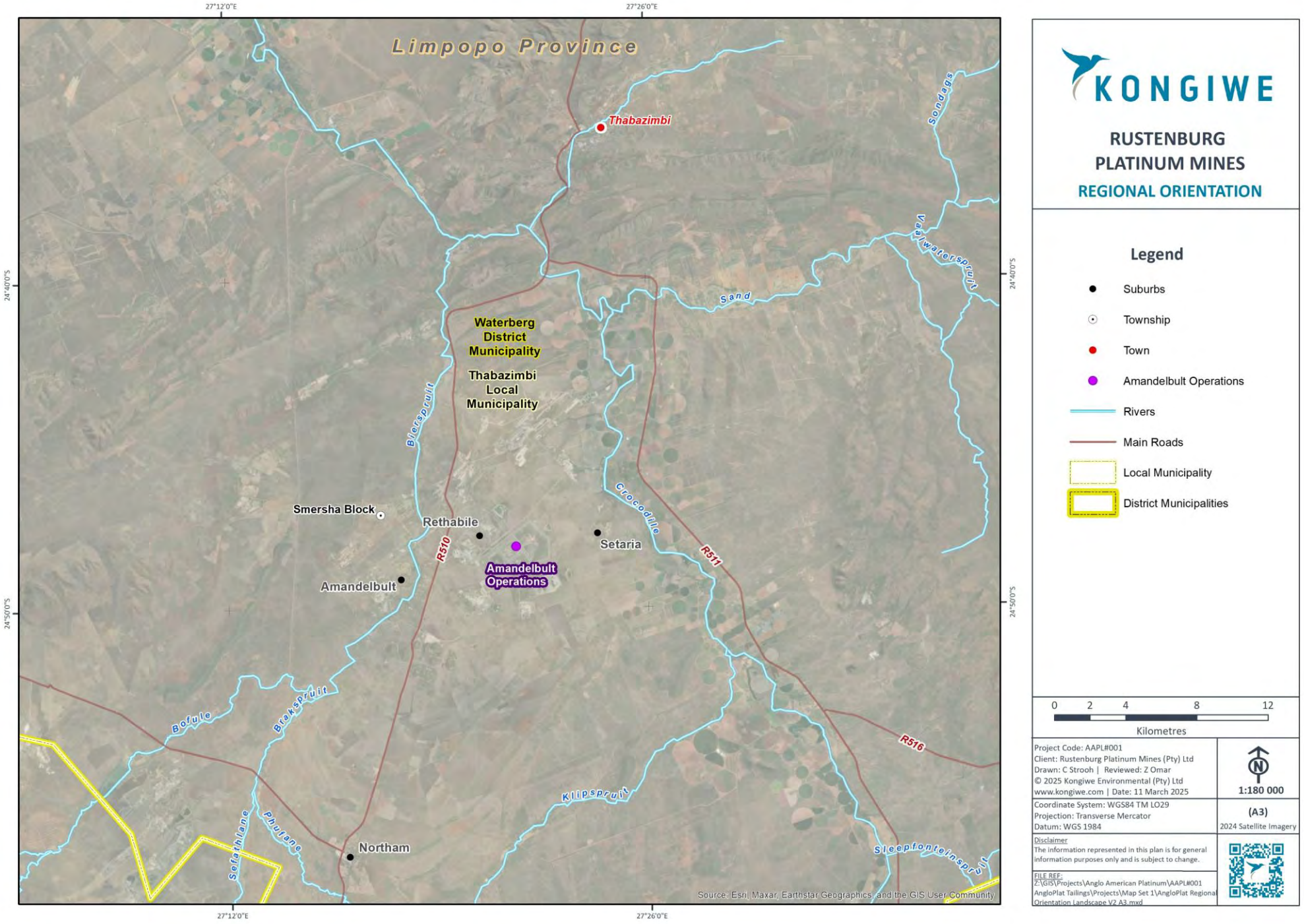
KONGIWE'S ROLE

- As an independent Environmental Assessment Practitioner (EAP), it is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to both the surrounding water resources and the environment, to quantify these, describe possible mitigations, collect public comment and supply both the DMRE and the DWS with the documentation so that they can determine if the project should proceed or not.


27°12'0"E
27°26'0"E
24°40'0"S
24°50'0"S
Limpopo Province
Thabazimbi
Sondags
Vaalwaterspruit
Sand
Waterberg District Municipality
Thabazimbi Local Municipality
Biespruit
Crocodile
Smersha Block
Rethabile
Setaria
R510
R511
Amandelbult Operations
Amandelbult
Bofule
Brakspruit
R516
Klipspruit
Sefathlane
Phufane
Northam
Sleepfontein Spruit
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
KONGIWE
RUSTENBURG PLATINUM MINES
REGIONAL ORIENTATION
Legend
Suburbs
Township
Town
Amandelbult Operations
Rivers
Main Roads
Local Municipality
District Municipalities
0 2 4 8 12
Kilometres
Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 11 March 2025
1:180 000
Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984
(A3)
2024 Satellite Imagery
Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.
FILE REF:
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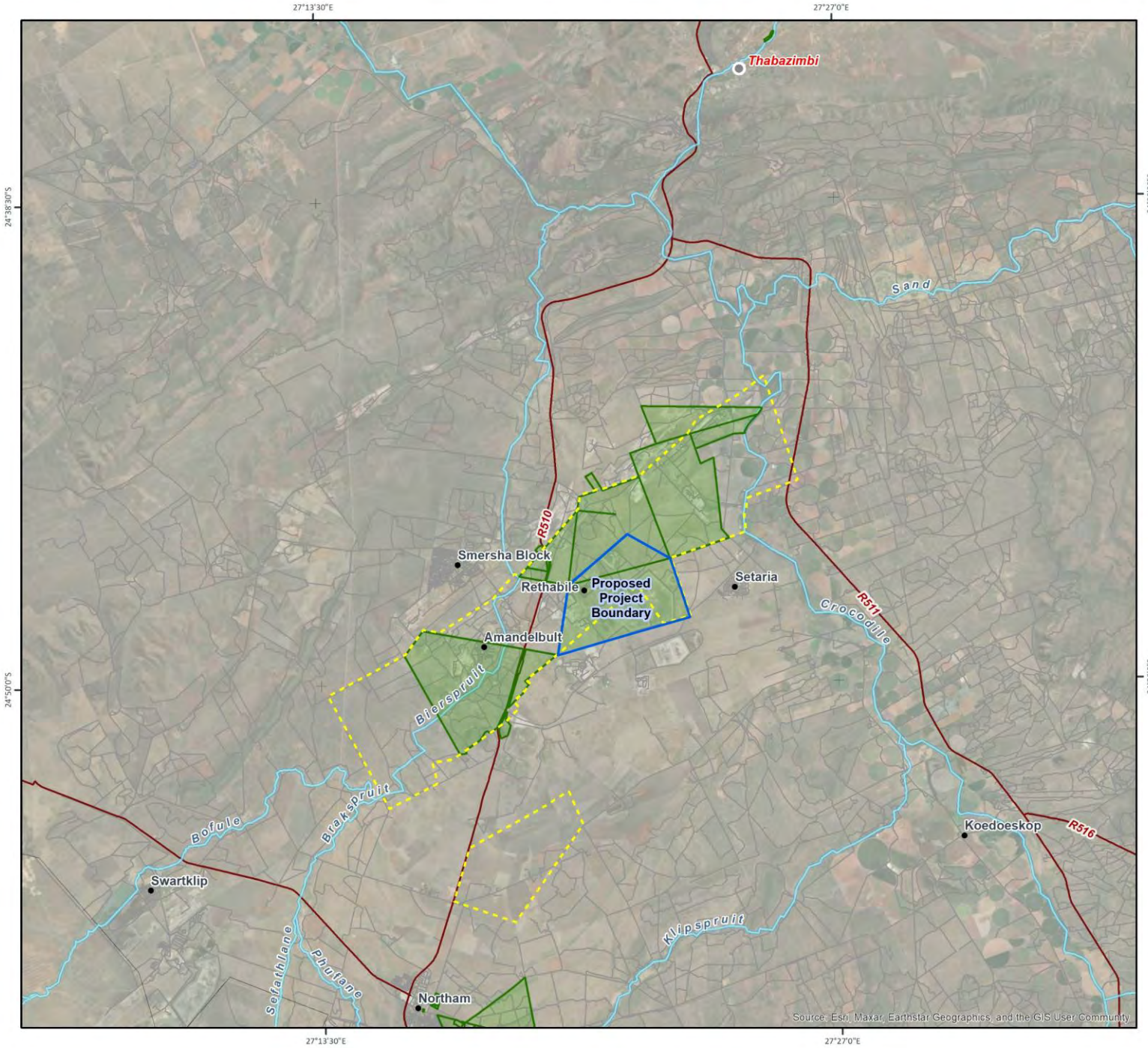

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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FILE REF:
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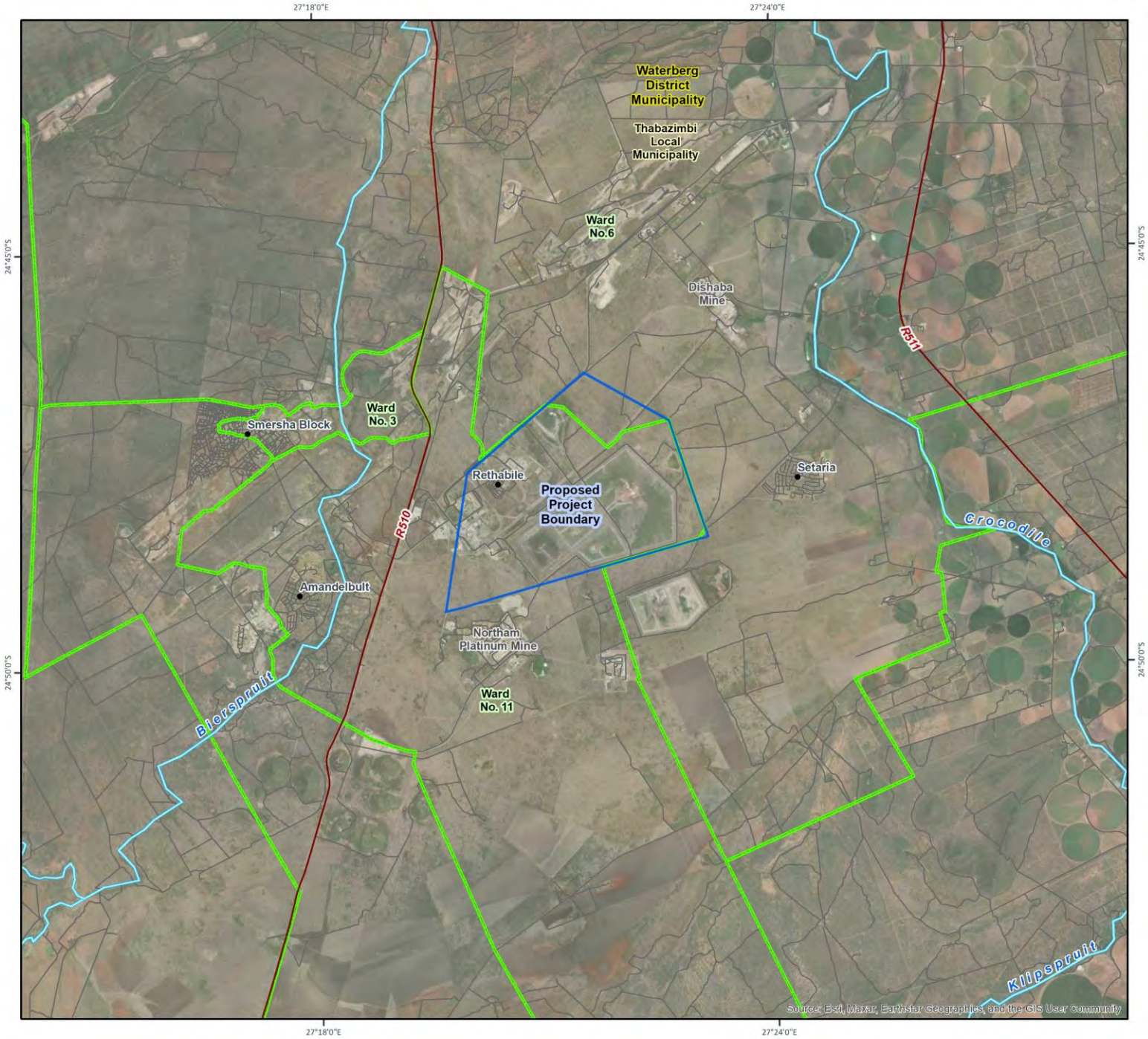

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 27 May 2025

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Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

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2024 Satellite Imagery

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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Map Set 1\AngloPlat Local Orientation Landscape A3.mxd

PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB)
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex, 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt, in the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new or the existing PGM and Chrome Processing plant for further processing.
- The waste material from the process will be disposed back onto the operational TSF Dam No. 3B.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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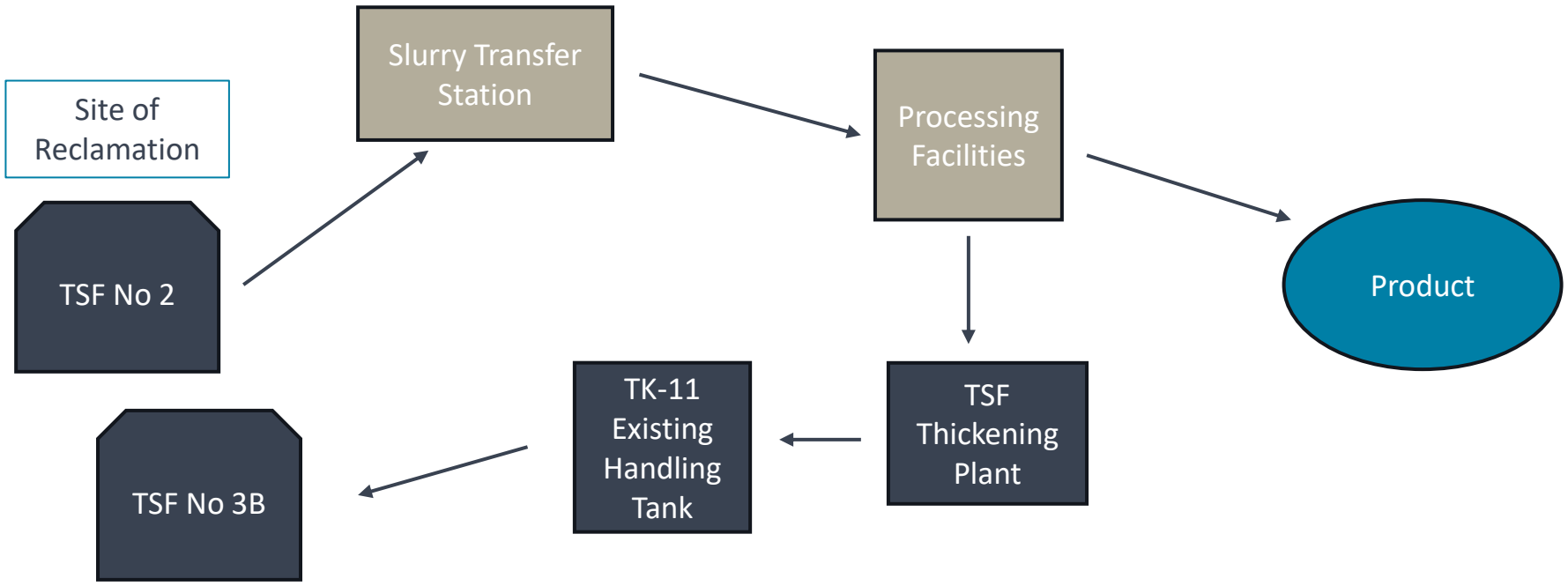
PROJECT DESCRIPTION: THE PROCESS



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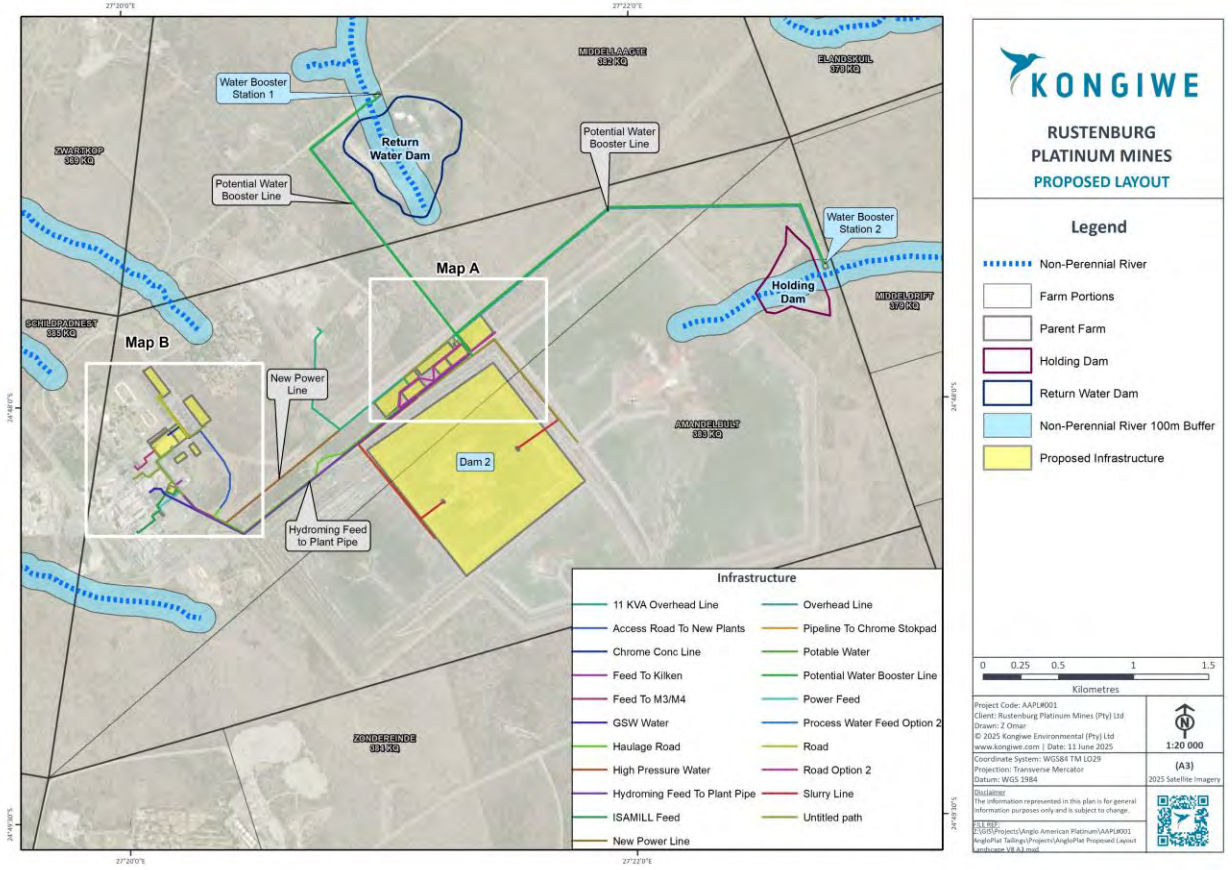
PROJECT INFRASTRUCTURE

Required infrastructure will be included on site:

Table 1: Infrastructure required

Site Infrastructure	
❖ Hard Park, Laydown and Administrative Areas.	❖ Water Booster Stations
❖ Barge Pump	❖ Pipelines and Water reticulation
❖ Haul Roads.	❖ PCDs
❖ Reclamation Equipment (Both Hydraulic and Mechanical)	❖ Plant Processing Facilities
❖ Electricity Reticulation and associated infrastructure	❖ Stormwater Management infrastructure
❖ Slurry Transfer Station	❖ Various Stockpile and topsoil stockpile areas



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SPECIALIST STUDIES

Proposed Specialist Studies	
Biodiversity Impact Assessment	Wetlands Impact Assessment
Surface Water Impact Assessment	Groundwater Impact Assessment
Air Quality Impact Assessment	Socio-Economic Impact Assessment
Noise Impact Assessment	Heritage Impact Assessment
Financial Provisioning	

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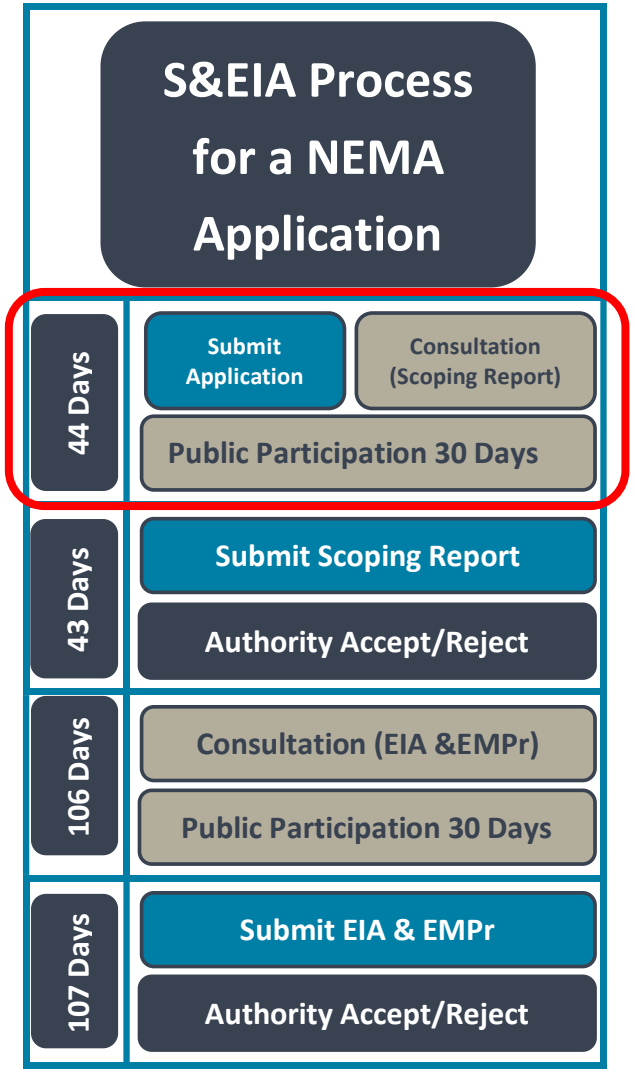
LEGISLATIVE FRAMEWORK

- An integrated Environmental Authorisation (EA) application will be submitted to the DMRE (Limpopo) as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMRE are as follows:
  - Application for an Environmental Authorisation for listed activities triggered in Listing Notices GN R983, GN R984, and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, as promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA; and
  - Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) Will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.



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PUBLIC PARTICIPATION PROCESS (PPP)

The PPP objectives are to:

- Ensure that stakeholders are informed about the proposed development of for the Amandelbult Tailings Reclamation and Reprocessing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

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PUBLIC PARTICIPATION PROCESS (PPP)

- An advert indicating the availability of the documentation for public review and the Public Meeting dates have been placed in the Platinum Bosvelder on **Thursday, 12 June 2025.** This advert was placed both in English and Setswana.
- An announcement of the project occurred on **Thursday, 12 June 2025.**
- Notices providing information of where the public documentation will be accessible and when the public meetings will be held have been placed around site at key locations. These notices will be in both English and Setswana.
- The required **Environmental Application** was submitted to the DMRE on the **17 June 2025.**
- The DSR and other Public Participation material will be made available for 30 Days public review from **18 June 2025 – 17 July 2025.**
- The **Draft Scoping Reports** will be submitted to the Public Places **on the 18 June 2025**,
  - Thabazimbi Local Municipality (Public Library);
  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .

PUBLIC PARTICIPATION PROCESS (PPP)

- Hard copies of the DSR Non-technical Summary (BID) will be made available at the following public places:
  - Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).
- **Open Days** will be held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(23 and 24 June 2025).**
- **An Online meeting** will also be held with stakeholders who would prefer an online meeting. **(27 June 2025)**
- The **Draft Scoping Report** will then be finalized and submitted to the DMRE after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted in parallel to the DWS, and the process is ongoing.

COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Public Participation

Date	Monday, 23 June 2025
Time:	13H00 – 15H00
Venue:	Amandelbult Mine, Recreation Club, Amandelbult, 0362
Community	Thabazimbi Local Municipality and associated communities (Smashblock, Northam, Jabulani and Sebilong)

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, (Amandelbult Mine Complex (AMB)	Mr Mike Molefe	SHE Manager
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Mr Thanyani Duvhana	Project Engineer
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Mr Thabo Moyo	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Ms Johanna Mashiatshiti	Stakeholder Relations Officer
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Tebogo Masipa	Stakeholder Relations Officer
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Omphile Molwantwa	Stakeholder Engagement - Communications
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Mr Kaitumela Letebele	Amandelbult: Social Performance
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Ms Ursula Marvey	Amandelbult Section Manager: Environment
Rustenburg Platinum Mine (Pty) Ltd (AMB)	Ms Hazel Fiehn	Environmental Permit Principal
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Anela Fixi	Stakeholder Engagement
The Thabazimbi Communities – signed attendance register		
No apologies		
N/A		

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Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.*

1. **Welcome and Introductions**
   - Mr Thabo Moyo welcomed all attendees to the meeting and formally opened the session.
   - Mr Thabo Moyo greeted the attendees and provided an opportunity for the team from Kongiwe Environmental and Valterra Platinum in attendance to introduce themselves. Mr Ceronio, from Kongiwe Environmental, then commenced with his presentation
   - The presentation was conducted in English and by Ms Phakathi into Setswana and by Ms Fixi into Xhosa.

2. **Meeting Purpose:**
   - Present and discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
   - Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.
   - Provide present stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
   - Record comments raised and included in the Comments and Responses Report.

3. **Meeting Agenda:**
   - Important Notice under NEMA and NWA
   - Introduction
   - Kongiwe's Role as an Independent Environmental Assessment Practitioner
   - Project Location
   - Project Background
   - Project Description: The Process
   - Project Infrastructure
   - Specialist Studies
   - Legislative Framework
   - Stakeholders' Role
   - Public Participation Process

   Comments and Discussions

The presentation was finalised whereafter questions were put forward from the communities present.

Please refer to **Appendix A** for the posters that were displayed and presented and **Appendix** B for the attendance register.

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4. Discussion

	COMMENT	RESPONSE
Mr Steven Lerumo	Mr Lerumo expressed concern that the community is being used merely as a rubber stamp by the mine in its efforts to obtain Environmental Authorisations (EAs) for its operations. He emphasised the need for genuine community involvement in decision-making processes, rather than token consultation. He specifically requested that the air quality specialist conduct a thorough assessment of the potential impact of dust emissions from nearby platinum mines on the health and well-being of the community. Mr Lerumo highlighted the importance of community upliftment, noting that no novices from the local community are currently employed at the mine. He stressed the need for local employment opportunities, particularly for young and unskilled community members. Furthermore, he urged that local Small, Medium and Micro Enterprises (SMMEs) be given meaningful opportunities to participate in and benefit from the Proposed Project. Lastly, Mr Lerumo expressed gratitude for the Environmental Impact Assessment (EIA) study, noting that there are areas of heritage and biodiversity value within their community that need to be protected and considered in the planning and execution of the project.	Mr Moyo explained that the community would be given opportunities in accordance with the Social and Labour Plan (SLP). He further highlighted the Corporate Social Responsibility (CSR) initiatives, including the water project that Rustenburg Platinum Mine (Pty) Ltd (AMB) built for the community of Smash Block. Kongiwe noted the request to conduct an air quality assessment. *Post Meeting Note: An air quality impact assessment in accordance with the proposed project is being undertaken by a qualified specialist. The findings of this report will be used in the drafting of the EIA and the Environmental Management Programme (EMPr).*
Mr Bosney Mashau	Mr Mashau also enquired how the community of Smash Block would benefit from the Proposed Project, expressing frustration that the community has consistently supported the mine in	The project team noted this and Mr Moyo reiterated the comment he previously mentioned.

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	COMMENT	RESPONSE
	acquiring its licenses, yet has not seen any tangible benefits in return. He further highlighted the high unemployment rate in the area and emphasised that community members should be given meaningful opportunities as part of the project.	
Mr Xolani Thethwa	Mr Mthethwa expressed dissatisfaction with Rustenburg Platinum Mine (Pty) Ltd (AMB) for repeatedly bringing in different consultants who, when approached for feedback, state that they have completed their work and no longer represent the mine. Regarding water, Mr Mthethwa stated that the water boreholes provided by Rustenburg Platinum Mine (Pty) Ltd (AMB) are not of acceptable consumption standards, and many people in the community have fallen ill as a result. He added that the community feels the public participation process (PPP) is merely a means for the mine to obtain a licence, rather than a genuine effort to address the concerns of the people, particularly in relation to job creation. Lastly, he requested that Rustenburg Platinum Mine (Pty) Ltd (AMB) build roads and a high school for the community.	Mr Moyo stated that the Integrated Development Plan (IDP) is the primary source through which the mines are informed of the community's needs, and that the mine aligns its initiatives with the municipality's wish list for the community. He advised the community to ensure that their list of needs and priorities is aligned with those of their municipality. Mr Molefe further explained that the process of constructing a road as a private entity is challenging due to lengthy application procedures. He cited the example of the M11/N11 road, noting that applications and discussions began long ago, yet approval has still not been granted, as the road falls under the jurisdiction of the public sector. Mr Molefe additionally indicated that the consultants are independent, and their mandate is specific to the proposed project. Once the process has been completed and the consultant's scope of work is completed, they are no longer involved. Various consultants are brought in to assist on projects to ensure the indepence of the consultants from the AMB operations.
Community member	A community member expressed concern that local residents are not being offered employment opportunities, while such opportunities are being given to foreign nationals. The member also noted that, despite participating in the PPP for the project, the community has not seen any tangible benefits.	Mr Moyo stated that he was not aware of the issues raised and assured the community that the matter would be discussed further with the relevant community members.
Youth chairperson	The Youth Chairperson expressed disappointment, stating that the mine has failed both the community and the youth. He requested that the mine provide local SMMEs with opportunities	Mr Moyo requested that the Youth Chairperson select five representatives from the youth organisation to meet at the mine for further discussions on the issues raised. He clarified that Kongiwe is hired by Rustenburg Platinum Mine (Pty) Ltd (AMB) solely to

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	COMMENT	RESPONSE
	to enter into joint ventures with other contractors, noting that the community has many capable entrepreneurs. He also inquired whether Kongiwe has employed any members of the community. Furthermore, he warned that if the community's requests are not adequately addressed, the Proposed Project may face delays or may not commence at all.	undertake the EIA process for the Proposed Project on behalf of Rustenburg Platinum Mine (Pty) Ltd (AMB). Mr Molefe indicated that Kongiwe is independent and not part of Rustenburg Platinum Mine (Pty) Ltd (AMB), and that Kongiwe is not undertaking any mining activities. He indicated that the employment opportunities will be managed by Rustenburg Platinum Mine (Pty) Ltd (AMB).
Ms Magret Low	Ms Low enquired about the process for local SMMEs to be included on the mine's vendor database.	Mr Moyo explained that Ms Low should liaise with the Social Performance office, assured her that the process is straightforward and should not take long.

The meeting adjourned at around 15H00 pm.

Copy of Presentation appended to the minutes.

KONGIWE

Rustenburg Platinum Mines Limited, Amandelbult Mine – Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project

Public Meeting

DMRE reference number: LP 30/5/1/2/2/48 MR

11 July 2025

AGENDA

1. Important Notice under NEMA and NWA
2. Introduction
3. Kongiwe's Role as an Independent Environmental Assessment Practitioner
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INTRODUCTION

- **Kongiwe Environmental**
  - Grant Cornish-Bowden – Project Manager and Senior Environmental Consultant
  - Vanessa Viljoen – Stakeholder Engagement
  - Thuli Phakathi – Stakeholder Engagement
  - Anela Fixi – Stakeholder Engagement

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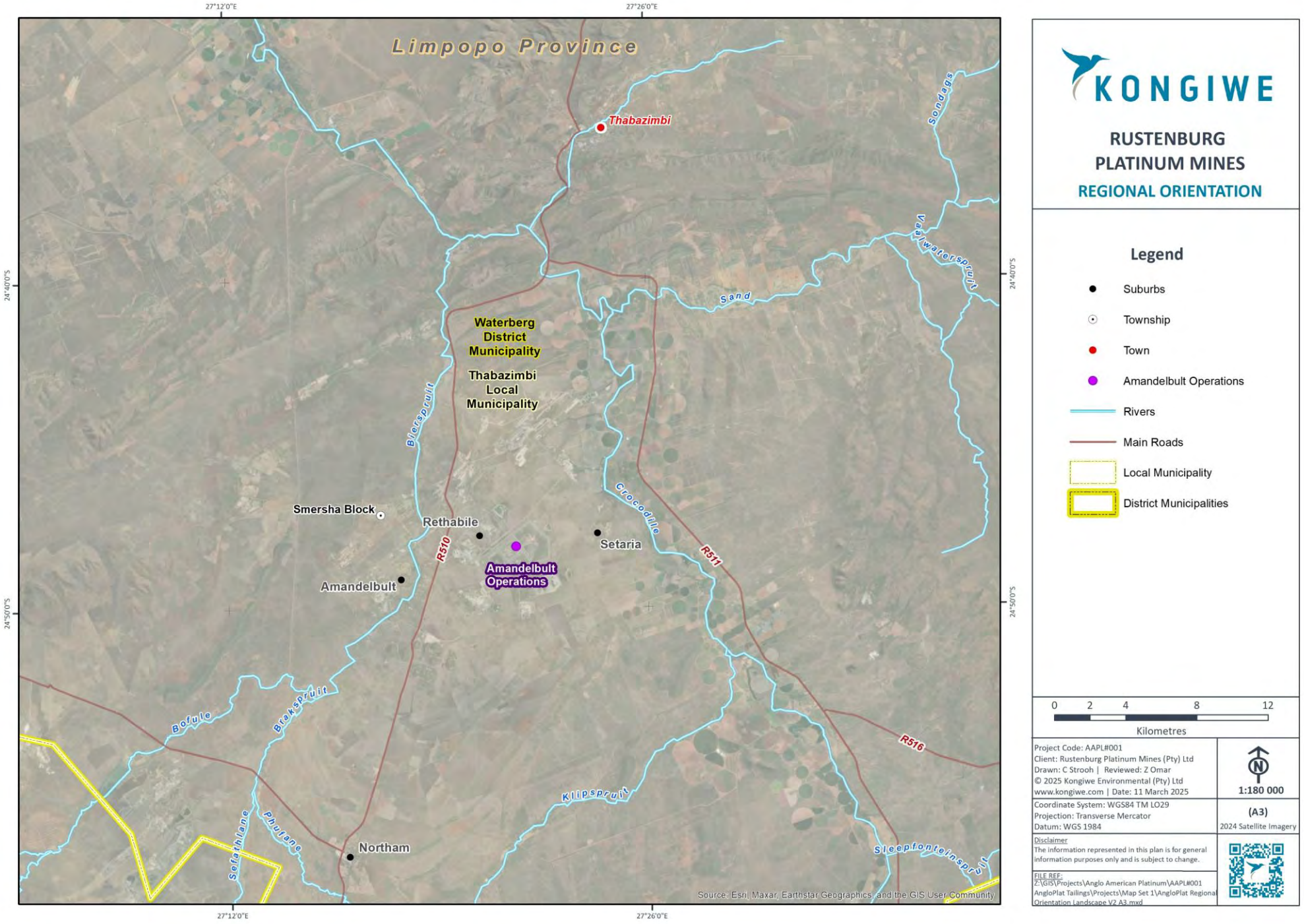
KONGIWE'S ROLE

- As an independent Environmental Assessment Practitioner (EAP), it is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to both the surrounding water resources and the environment, to quantify these, describe possible mitigations, collect public comment and supply both the DMRE and the DWS with the documentation so that they can determine if the project should proceed or not.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27°26'0"E
24°40'0"S
24°50'0"S
Limpopo Province
Thabazimbi
Sondags
Vaalwaterspruit
Sand
Waterberg District Municipality
Thabazimbi Local Municipality
Biespruit
Crocodile
Smersha Block
Rethabile
Setaria
R510
R511
Amandelbult Operations
Amandelbult
Bofule
Brakspruit
R516
Klipspruit
Sefathlane
Phufane
Northam
Sleepfontein Spruit
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
KONGIWE
RUSTENBURG PLATINUM MINES
REGIONAL ORIENTATION
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Projection: Transverse Mercator
Datum: WGS 1984
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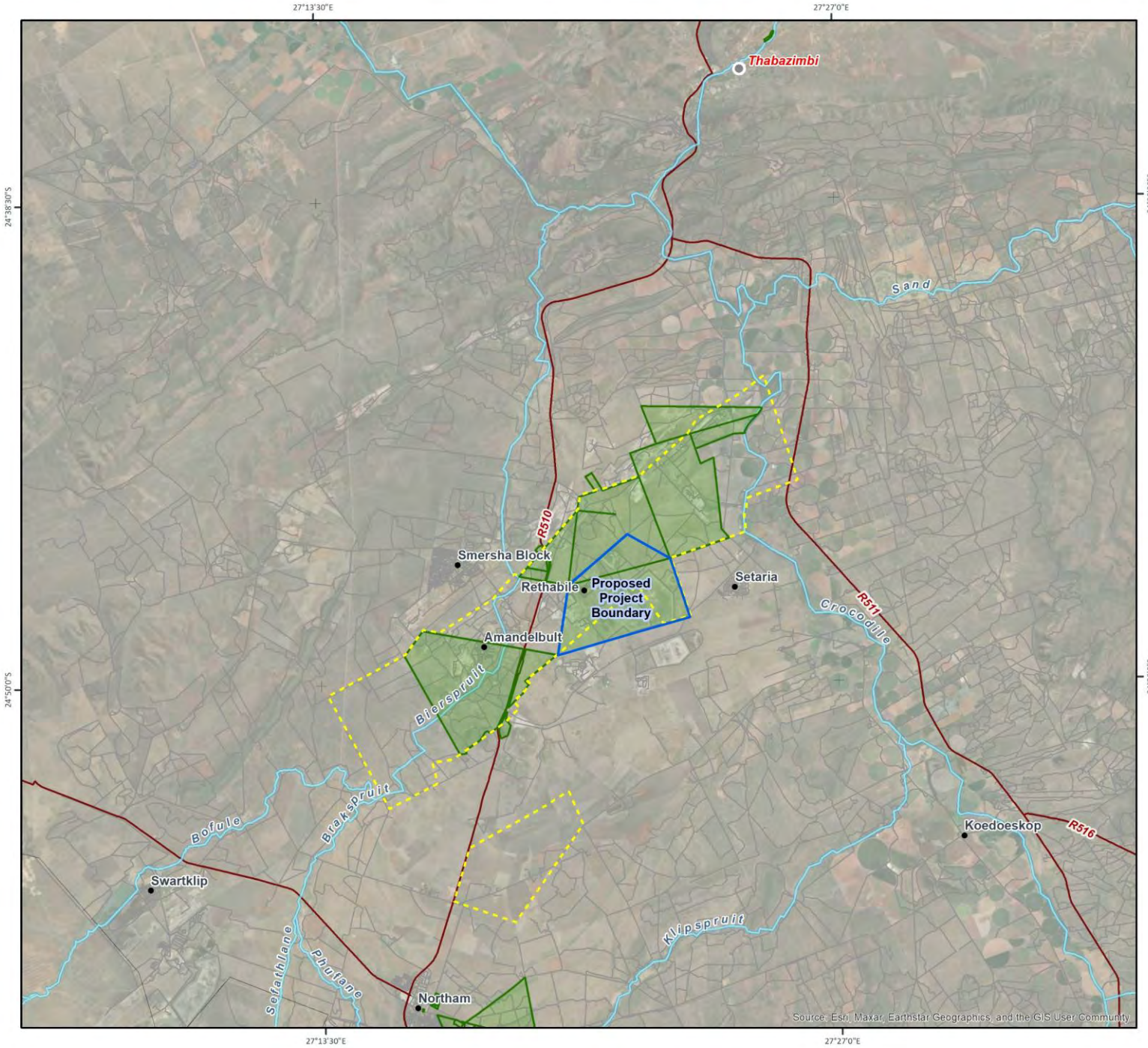

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Proposed Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: C Strooh | Reviewed: Z Omar
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www.kongiwe.com | Date: 27 May 2025

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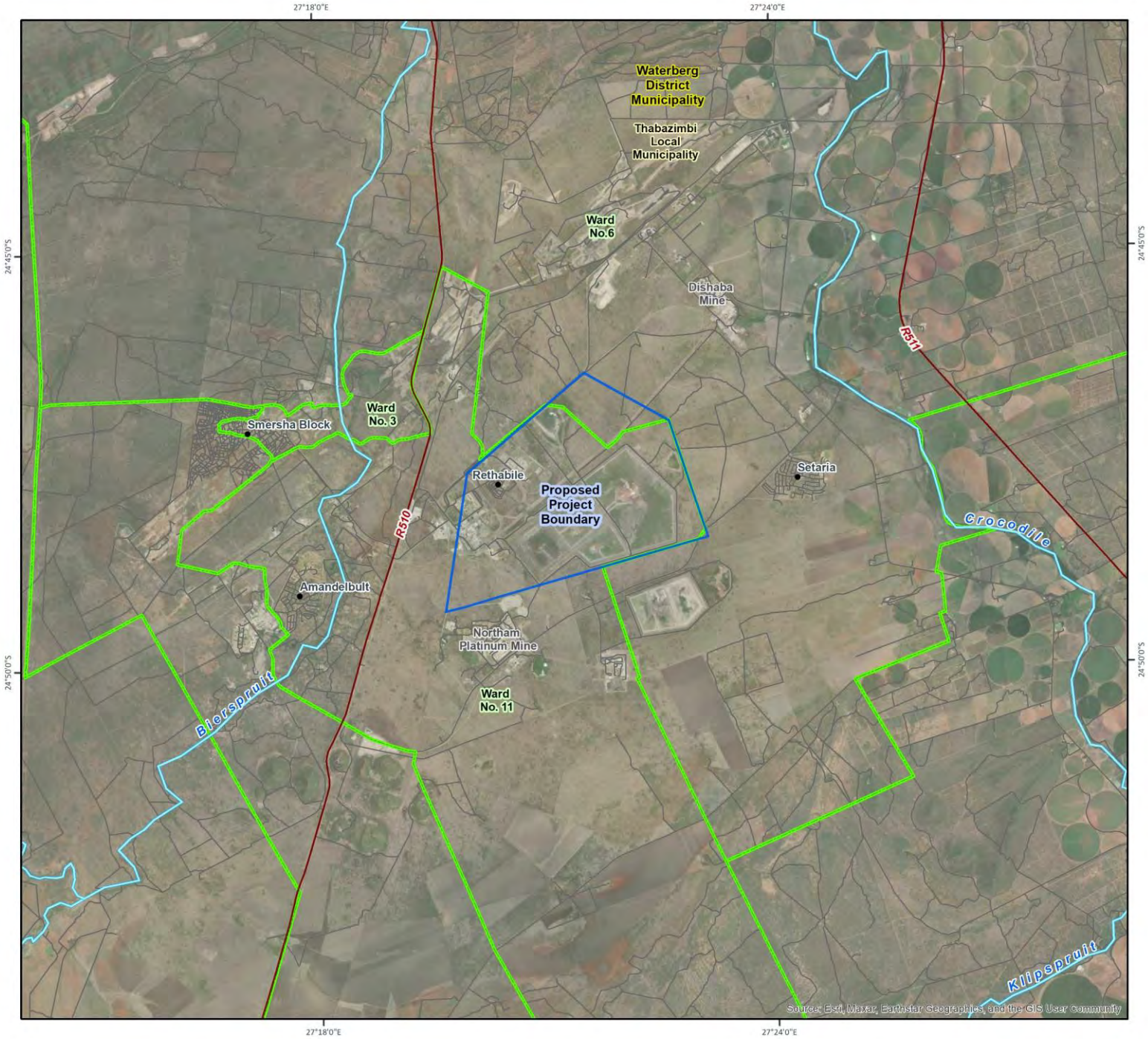

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Proposed Project Boundary

0 1 2 4 6

Kilometres

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PROJECT BACKGROUND

- **Applicant**: Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB)
- **Activity**: The project aims to reclaim and reprocess Platinum Group Metals (PGMs) and Chrome from the Amandelbult Tailings Storage Facility (TSF) Dam No 2
- **Life of Operation:** Approximately 20 years.
- The project area includes Dam 2 of the TSF complex, which is a dormant dam within the AMB Mining complex, 15 km north of Northam Town and 30 km southwest of Thabazimbi Town on the northern limb of the Platinum Belt, in the Thabazimbi Local Municipality of the Waterberg District Municipality.
- The TSF will be reclaimed using both Hydraulic and Mechanical reclamation.
- Reclaimed tailings material will be taken to a new or the existing PGM and Chrome Processing plant for further processing.
- The waste material from the process will be disposed back onto the operational TSF Dam No. 3B.
- After the removal of the material from Dam 2, it is the intention to reuse the footprint for tailings deposition as part of the operational TSF currently active on site.

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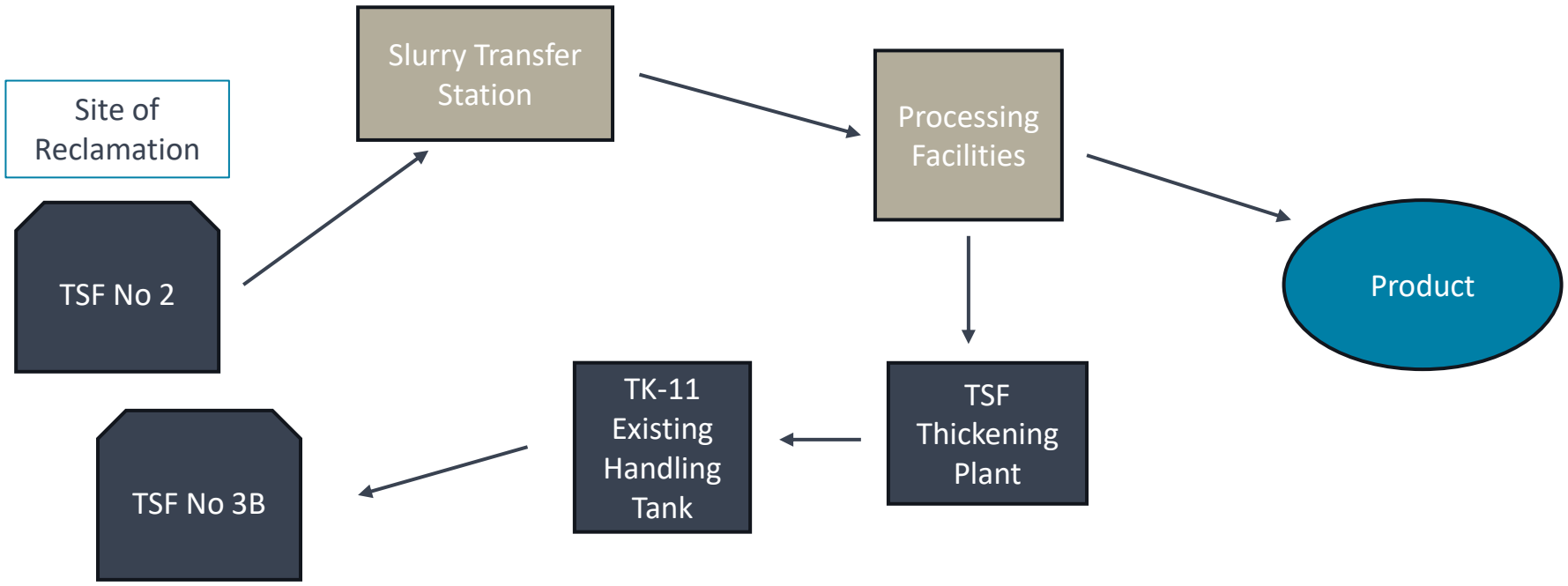
PROJECT DESCRIPTION: THE PROCESS



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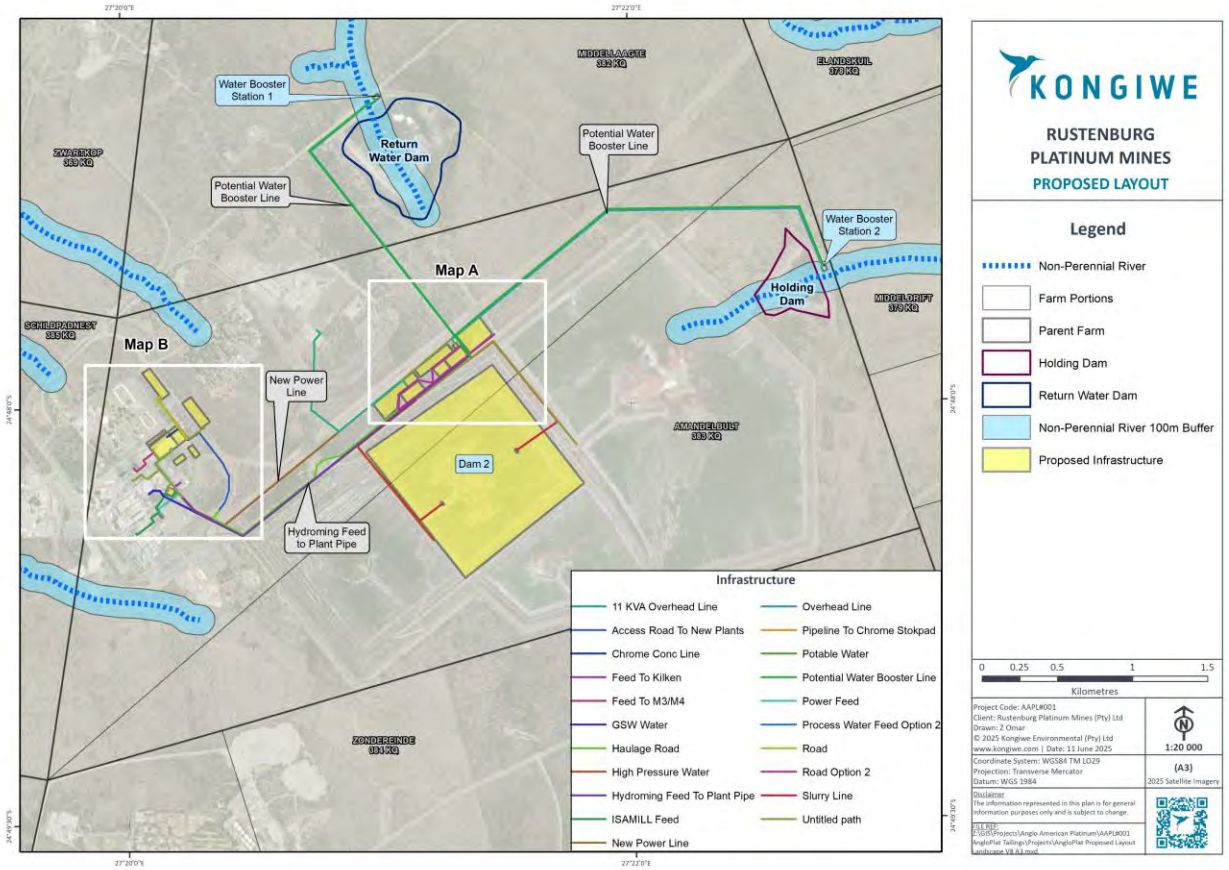
PROJECT INFRASTRUCTURE

Required infrastructure will be included on site:

Table 1: Infrastructure required

Site Infrastructure	
❖ Hard Park, Laydown and Administrative Areas.	❖ Water Booster Stations
❖ Barge Pump	❖ Pipelines and Water reticulation
❖ Haul Roads.	❖ PCDs
❖ Reclamation Equipment (Both Hydraulic and Mechanical)	❖ Plant Processing Facilities
❖ Electricity Reticulation and associated infrastructure	❖ Stormwater Management infrastructure
❖ Slurry Transfer Station	❖ Various Stockpile and topsoil stockpile areas



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SPECIALIST STUDIES

Proposed Specialist Studies	
Biodiversity Impact Assessment	Wetlands Impact Assessment
Surface Water Impact Assessment	Groundwater Impact Assessment
Air Quality Impact Assessment	Socio-Economic Impact Assessment
Noise Impact Assessment	Heritage Impact Assessment
Financial Provisioning	

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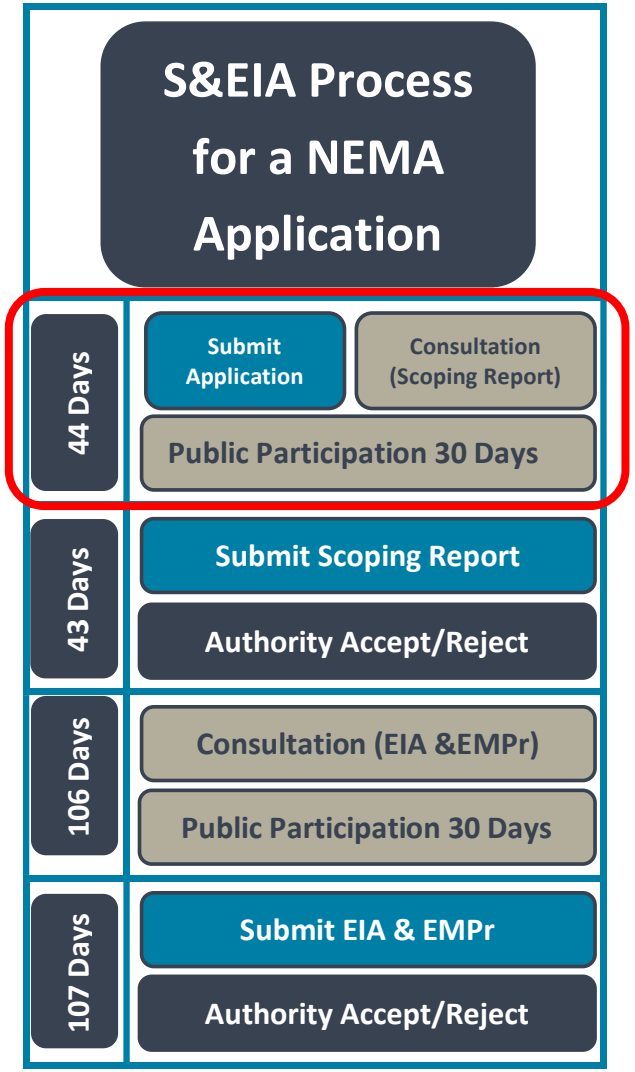
LEGISLATIVE FRAMEWORK

- An integrated Environmental Authorisation (EA) application will be submitted to the DMRE (Limpopo) as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMRE are as follows:
  - Application for an Environmental Authorisation for listed activities triggered in Listing Notices GN R983, GN R984, and GN R985 in terms of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, as promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - Application for a waste management license (WML) authorizing waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA; and
  - Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) Will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme.
- In addition, the following applications will be made to other relevant Competent Authorities:
  - A Water Use License Application (WULA) will be undertaken in accordance with the National Water Act, 1998 (Act No.36 of 1998) (NWA). The Department of Water and Sanitation will be the Competent Authority to assess the WULA for the proposed project.



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PUBLIC PARTICIPATION PROCESS (PPP)

The PPP objectives are to:

- Ensure that stakeholders are informed about the proposed development of for the Amandelbult Tailings Reclamation and Reprocessing Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
- Verify that stakeholder comments have been recorded and addressed.

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PUBLIC PARTICIPATION PROCESS (PPP)

- An advert indicating the availability of the documentation for public review and the Public Meeting dates have been placed in the Platinum Bosvelder on **Thursday, 12 June 2025.** This advert was placed both in English and Setswana.
- An announcement of the project occurred on **Thursday, 12 June 2025.**
- Notices providing information of where the public documentation will be accessible and when the public meetings will be held have been placed around site at key locations. These notices will be in both English and Setswana.
- The required **Environmental Application** was submitted to the DMRE on the **17 June 2025.**
- The DSR and other Public Participation material will be made available for 30 Days public review from **18 June 2025 – 17 July 2025.**
- The **Draft Scoping Reports** will be submitted to the Public Places **on the 18 June 2025**,
  - Thabazimbi Local Municipality (Public Library);
  - Amandelbult Social Performance Office;
  - Kongiwe website: http://www.kongiwe.com/publications-view/public-documents/ .

PUBLIC PARTICIPATION PROCESS (PPP)

- Hard copies of the DSR Non-technical Summary (BID) will be made available at the following public places:
  - Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residence), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).
- **Open Days** were held at the AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380. **(23 and 24 June 2025).**
- **An Online meeting** was held with stakeholders who preferred an online meeting. **(27 June 2025)**
- The **Draft Scoping Report** will then be finalized and submitted to the DMRE after the required public participation process has been undertaken.
- Comments will be recorded in a Comments and Response Report.
- The Water Use License Application will be submitted in parallel to the DWS, and the process is ongoing.

COMMENT & DISCUSSION

- Discussion/Questions
- Action Points
  - Responsibility
  - Due Date
- Closing

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Contact

- **Name: Vanessa Viljoen / Thuli Phakathi**
- **Tel: 010 140 1725/26**
- **Email: Stakeholders@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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Rustenburg Platinum Mines Limited, Amandelbult Mine: Environmental Authorisation, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province
Draft Scoping Report Summary Poster

The Proposed Project:

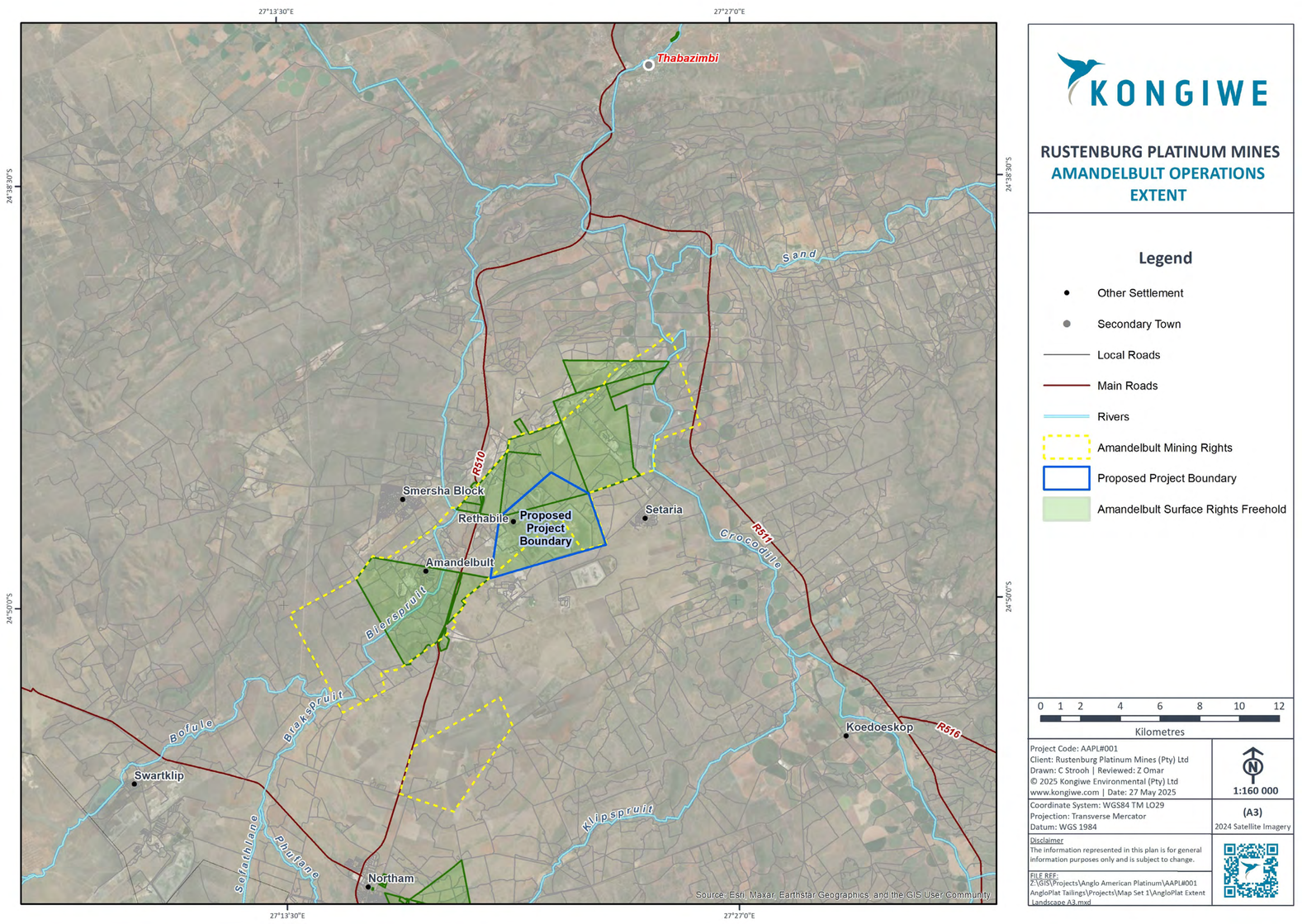
The Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB) aims to reclaim and process the Amandelbult Tailings Storage Facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and Platinum Group Metals (PGMs) using both hydraulic and mechanical reclamation processes, while ensuring continued stability of the surrounding Dams in the TSF complex. The proposed reclamation and processing project is located on the AMB surface rights footprint, which is located in the Thabazimbi Local Municipality (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province.

Project Justification:

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of platinum group metals (PGMs) and Chrome. The reclamation will also potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

The anticipated lifespan of the project:

The anticipated life span of the Proposed Project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation would take place



The Reclamation process:

- AMB proposes to investigate and implement both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. It is envisioned that once the Environmental Authorisation (EA) has been granted, the construction of the new plant and associated infrastructure will commence, where after the hydraulic and mechanical reclamation will be undertaken.
- **Mechanical Reclamation**: Entails the removal of “dry” tailings material from the TSF Dam no 2, by making use of a truck and shovel method of removal.
- **Hydraulic Reclamation:** This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. An example of this can be seen below.

Rustenburg Platinum Mines Limited, Amandelbult Mine: Environmental Authorisation, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province
Draft Scoping Report Summary Poster

Pipelines:

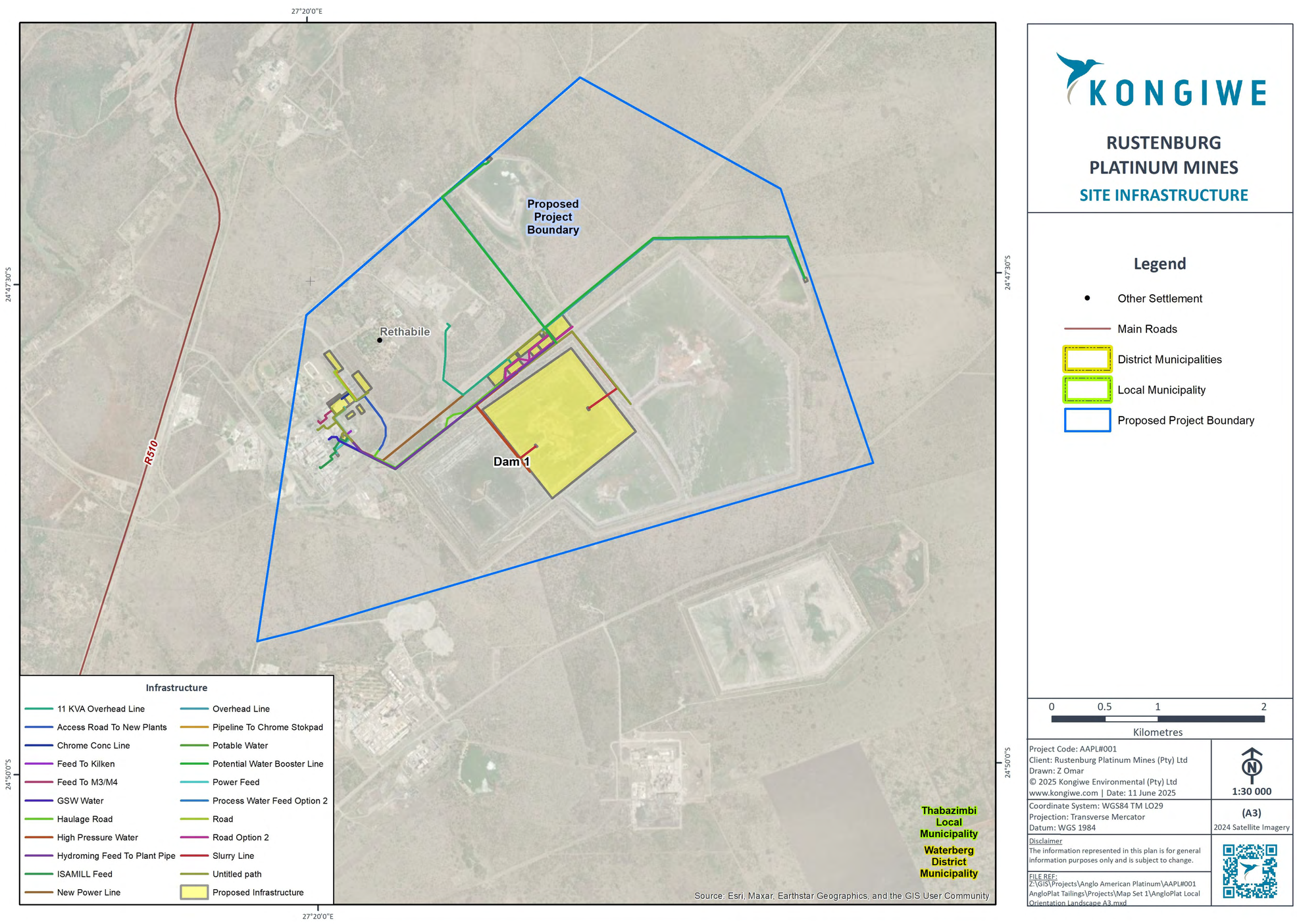
- New slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located within existing pipeline routes. The Pipeline will run approximately 3 km from the TSF Dam 2 to the processing facility and have an approximate dimension of 400mm. This will comprise of two slurry pipelines within the pipeline route.
- The proposed process water sourcing options include the water held in the mines existing Return Water Dam (RWD), Holding dam and existing concentrator plant. Process water will be recycled and re-used on site. The process water will be provided from one of these options via new water booster stations. The first is located at the RWD, this option will require a new pipeline from the newly constructed booster station, which will run along an existing pipeline route, to the hydroguns for the hydraulic reclamation. This pipeline will be approximately 7 km in length. The second option for process water is from the holding dam. Process water will be pumped from a newly constructed booster station within a newly constructed pipeline along existing pipeline routes to the hydroguns for use in the hydraulic reclamation. This pipeline will be approximately 7.5km in length. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The third option for process water will be via the existing concentrator plant and new slurry transfer station located at the base of the TSF Process water, gland service and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The pipelines are approximately 2.5 km in length each.

Pipelines:

- Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Power Supply, Sewage, Process Water and other requirements

- Powerlines and other electrical reticulation (TSF Mini Substation) will also be required to provide power to the reclamation station for the reclamation activity from the current substation located at the concentrator plant. This powerline will be approximately 2,5 km long and it will be an 11 kV line. Additional powerlines will be required to run from the new mini substation to the two water booster stations. These will be 11 kV lines and approximately 2,5 km to water booster option 1 and 3.2 km to water booster option 2. A powerline option from #4 Shaft will also be investigated. This powerline is also an 11 kV line from the #4 shaft to the reclamation site. This powerline is approximately 1,3 km long.
- Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.
- Additionally, sewage infrastructure will need to be constructed at the contractors and TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.



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Draft Scoping Report Summary Poster

- Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to re-fuel and maintain larger machinery (yellow machines).
- Ore Storage after the processing process will be located close to the various processing facilities. The PGM processing plant will have various storage silos/bins to store dry concentrate which will be collected by trucks and taken to the Rustenburg Platinum Mine smelters at Polokwane or Waterval. The final chrome product will be stockpiled at the new chrome stockpile/stacker with an option of railway/ truck transportation, both options already operational on site.
- Furthermore, a stockpile for vegetation and the oversize material from the TSF that cannot be processed will be located close to the TSF Dam No.2. The vegetation and oversize stockpile will occupy a footprint of approximately 30 000m2. Vegetation will be sent to a composting facility on site. The oversize material will be broken down and reintroduced into the slurry transfer station. There are two location options for this stockpile that will be investigated. This debulked slurry will then be fed to the processing plant

Key Findings of the Scoping Report:

	Component Type	Potential Impact	Specialist Study Planned for EIA
Physical Environment (non-living)	Hydrology (including surface water and groundwater) Soils	❖Potential for further Groundwater pollution, in local surface water and groundwater if runoff from operations is not adequately managed through efficient storm water management structures; ❖Soil, surface water and groundwater contamination due to pipeline or tanks leaks/spillages/PCD leaks or seepage if inadequate preventative measures are not implemented; ❖Potential impact on drainage lines from access runoff during the operational phase of the project; ❖Increased bare surfaces, runoff and potential for erosion ❖Recharge of contaminated water by means of seepage from the TSF and any unlined storm water channels; ❖The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality; ❖Runoff into the downstream watercourses impacting on water quality; ❖Erosion and wash off of contaminated soils resulting in water quality issues in the surrounding watercourses. ❖Flooding due to increased rainfall.	❖Surface Water Impact Assessment ❖Groundwater Impact Assessment
Biological Environment (living)	Ecology and Biodiversity (including fauna and flora)	❖Displacement of animal species, increased competition in areas where carrying capacity is already compromised; ❖Removal of invasive plant species from the TSF; ❖Fragmentation and loss of habitats; ❖Restriction on animal movement patterns.	❖Biodiversity Impact Assessment
Cultural Environment	Heritage Resources	❖Should heritage resources be present in the area, the reclamation project could potentially impact these.	❖Heritage Impact Assessment
Social and Economic Environment	Employment	❖Continued employment (and potential increase) and job security; ❖Potential employment opportunities during the construction phase ❖Continued investment in local economy.	❖Social Impact Assessment
	Land-use	❖Land use will change to an active reclamation site; ❖Additional deposition capacity on disturbed areas.	❖Social Impact Assessment
	Air Quality	❖Possible increase in dust levels in some areas during operations; ❖Fallout dust nuisances; ❖Air quality impacts.	❖Air Quality Impact Assessment
	Noise	❖Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors, pumps and increased vehicular travel during the operational phase as well as processing activities; ❖Noise associated with the mechanical and hydraulic reclamation.	❖Noise Impact Assessment

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Draft Scoping Report Summary Poster

Applications to DMRE

- Application for EA for listed activities triggered in Listing Notices GN R983 and GN R984 published under the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA); and
- Application for a waste management licence (WML) authorising waste management activities listed in GN R921 of 29 November 2013, published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).
- Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMRE in terms of amending the Mining Right and Mine Works Programme

Application to DWS

- An Integrated Water Use Licence Application (IWULA) in terms of the National Water Act, 1998 (Act No. 36 of 1998) (NWA).

The aim of the Public Participation Process (PPP) is to:

- Ensure that stakeholders are informed about the Proposed Project.
- Provide stakeholders with the opportunity to participate in the environmental regulatory processes and provide comment.
- Involve stakeholders in identifying ways in which comments can be addressed.
- Work directly with stakeholders throughout the environmental regulatory processes to ensure that stakeholder comments are consistently understood and considered.
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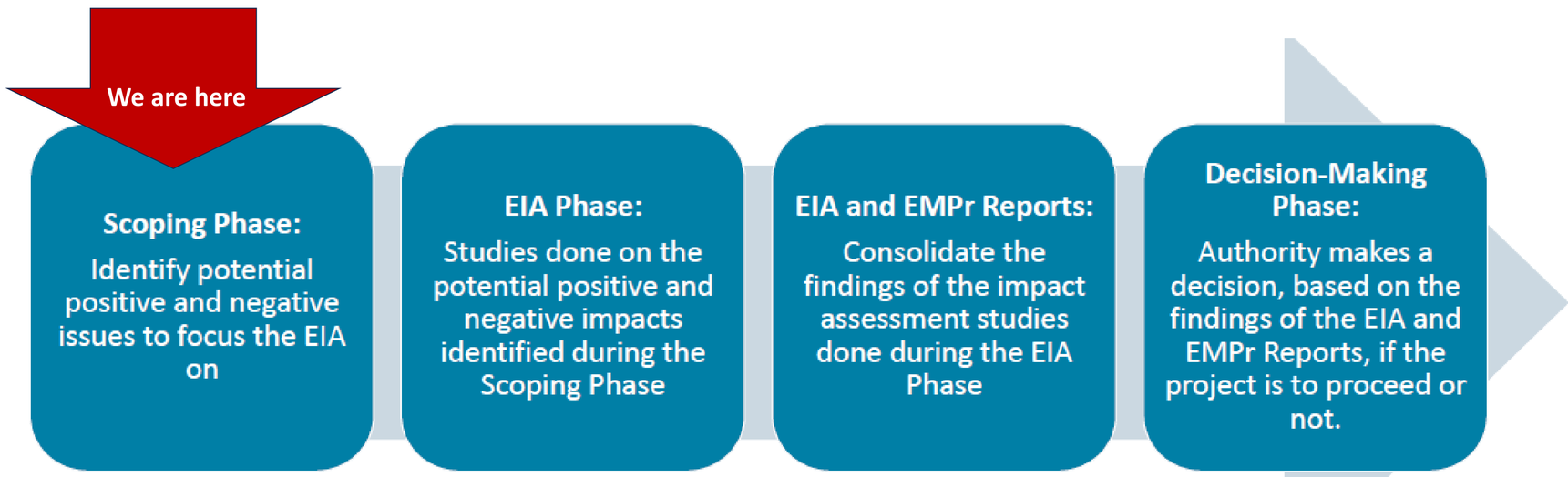


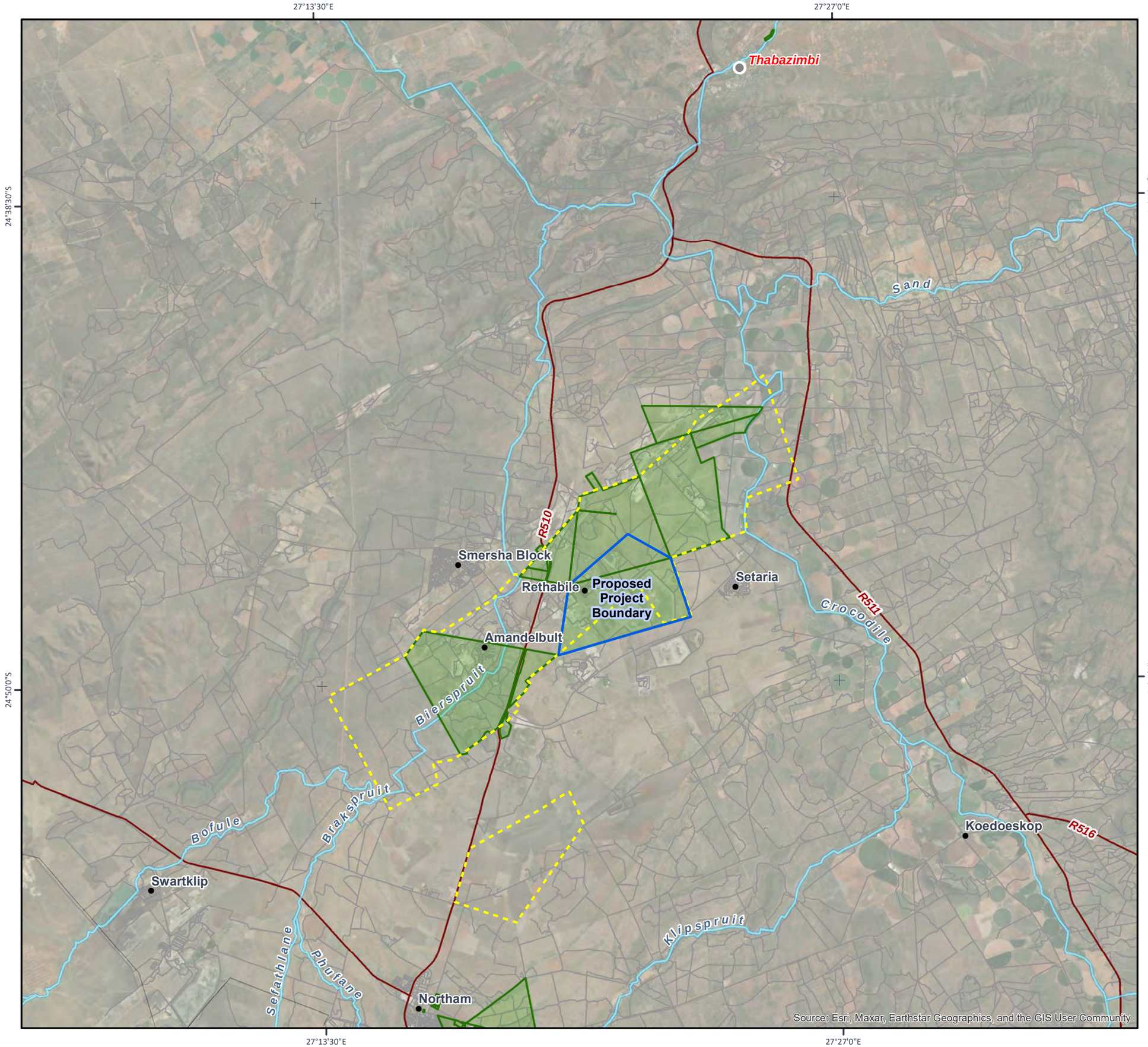
Public Participation

- The Draft Scoping Report (DSRs) for the Proposed Project is underway for public review and comments for a period of **30 days**, from **18 June 2025 to 17 July 2025.**
- Hard copies of the DSRs are available at the following places:
  - **Amandelbult Social Performance Office**; and
  - **Thabazimbi Local Municipality.**
- An electronic copy on Kongiwe's website: https://kongiwe.com/projects/
- The EA applications was submitted to DMRE on 17 June 2025.

Way forward

During the EIA phase of the Proposed Project, a Draft Environmental Impact Assessment and Draft Environmental Management Programmes (DEIAs/EMPrs), in support of the EA application and WML application, will be made available for a public review for 30 days. After the review period a final EIA/EMPr will be compiled and the following would take place:

- Submit the final EIA, WML, and IWULA to DMRE and DWS respectively.
- 107 days review period (approve/reject)
- Notify stakeholder of the decision from the competent authorities.



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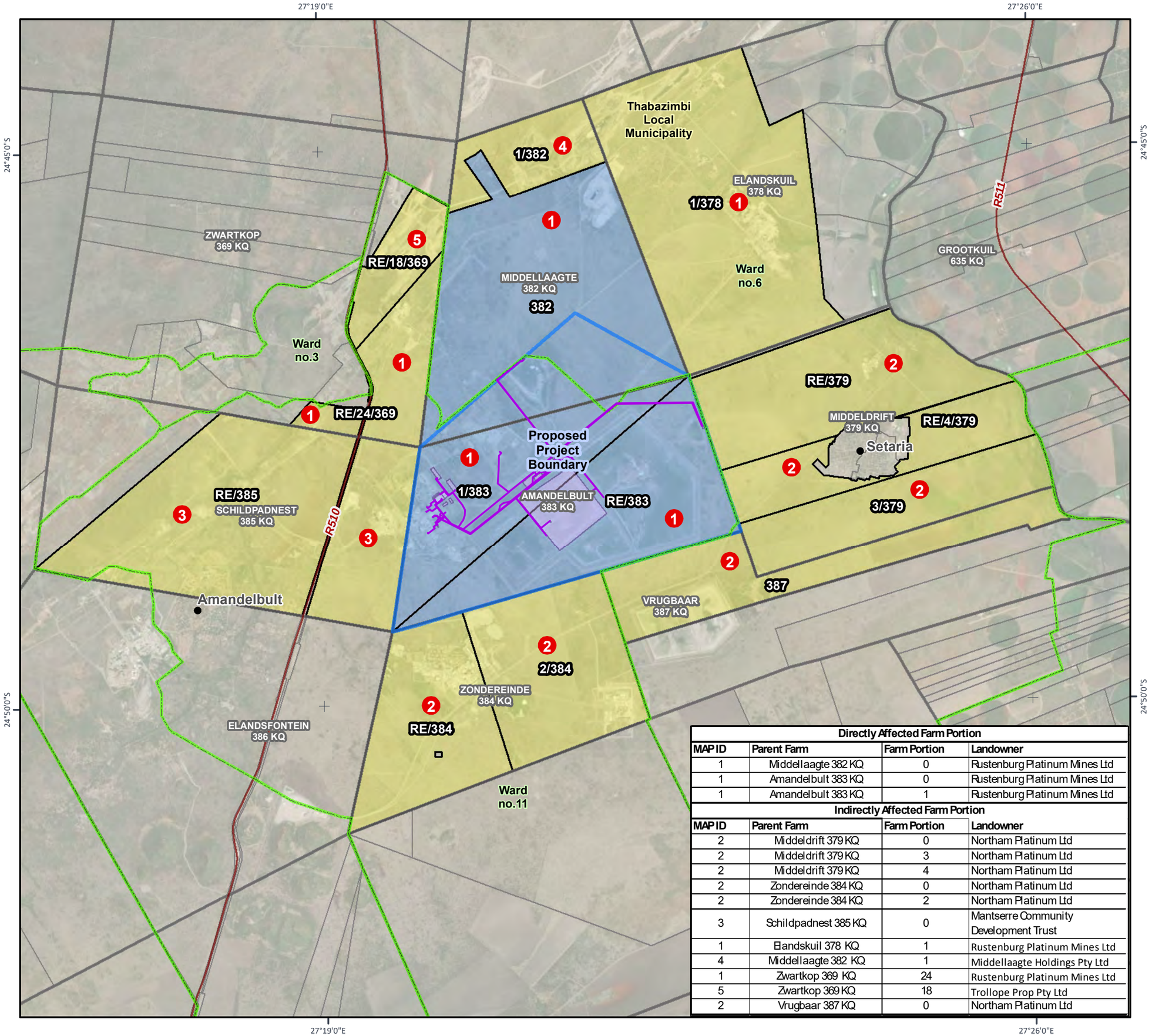

Directly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Middellaagte 382 KQ	0	Rustenburg Platinum Mines Ltd
1	Amandelbult 383 KQ	0	Rustenburg Platinum Mines Ltd
1	Amandelbult 383 KQ	1	Rustenburg Platinum Mines Ltd
Indirectly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
2	Middeldrift 379 KQ	0	Northam Platinum Ltd
2	Middeldrift 379 KQ	3	Northam Platinum Ltd
2	Middeldrift 379 KQ	4	Northam Platinum Ltd
2	Zondereinde 384 KQ	0	Northam Platinum Ltd
2	Zondereinde 384 KQ	2	Northam Platinum Ltd
3	Schildpadnest 385 KQ	0	Mantserre Community Development Trust
1	Elandskuil 378 KQ	1	Rustenburg Platinum Mines Ltd
4	Middellaagte 382 KQ	1	Middellaagte Holdings Pty Ltd
1	Zwartkop 369 KQ	24	Rustenburg Platinum Mines Ltd
5	Zwartkop 369 KQ	18	Trollope Prop Pty Ltd
2	Vrugbaar 387 KQ	0	Northam Platinum Ltd

KONGIWE

RUSTENBURG PLATINUM MINES

LAND TENURE

Legend

- Suburbs
- Main Roads
- TSF Proposed Layout Lines
- Farm Portions
- Parent Farm
- Ward Boundary
- Local Municipality
- Project Boundary
- Directly Affected
- Indirectly Affected
- Proposed Infrastructure

0 0.5 1 2 3 4

Kilometres

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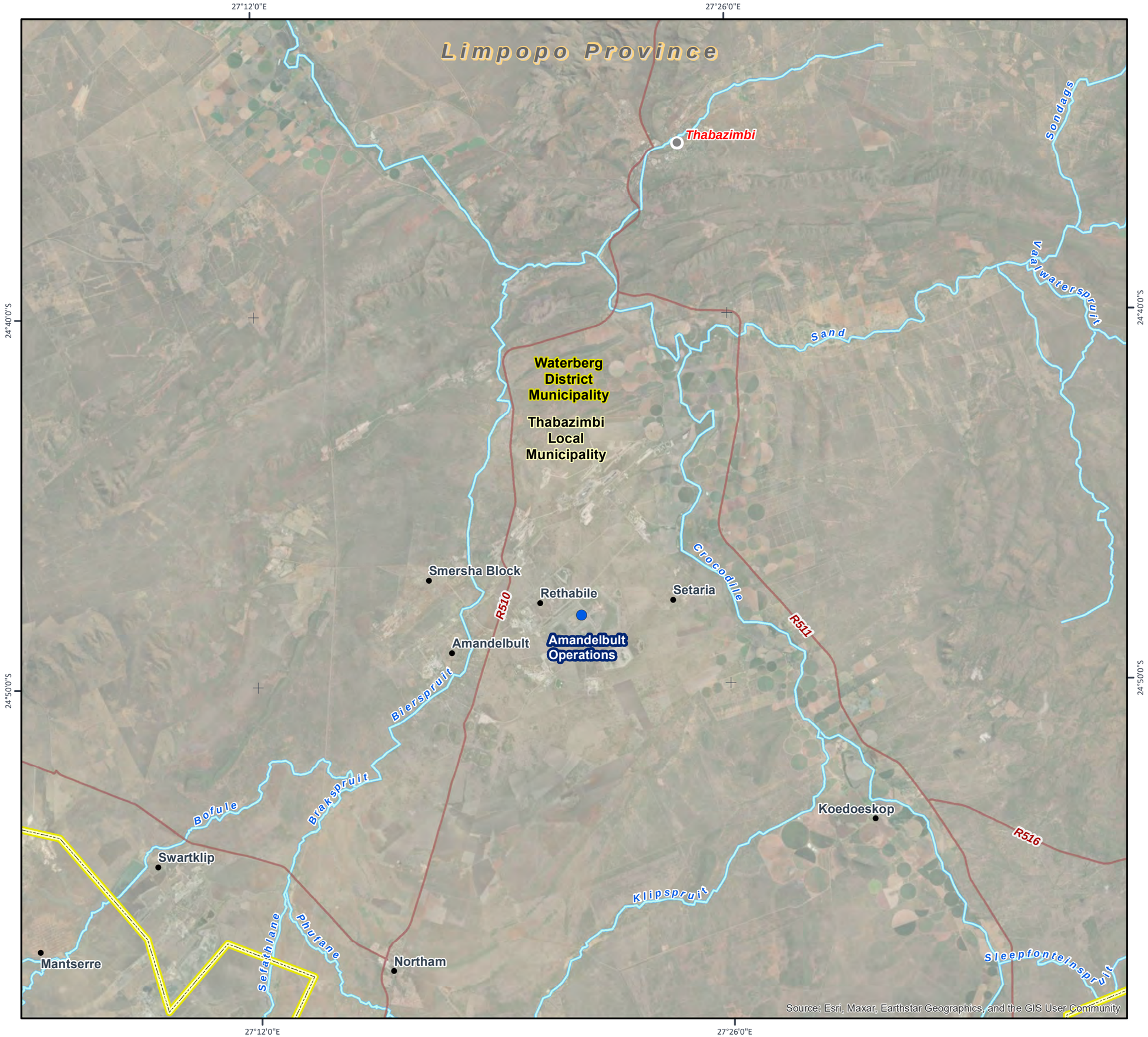
DATE:
11 June 2025



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0 2 4 8 12

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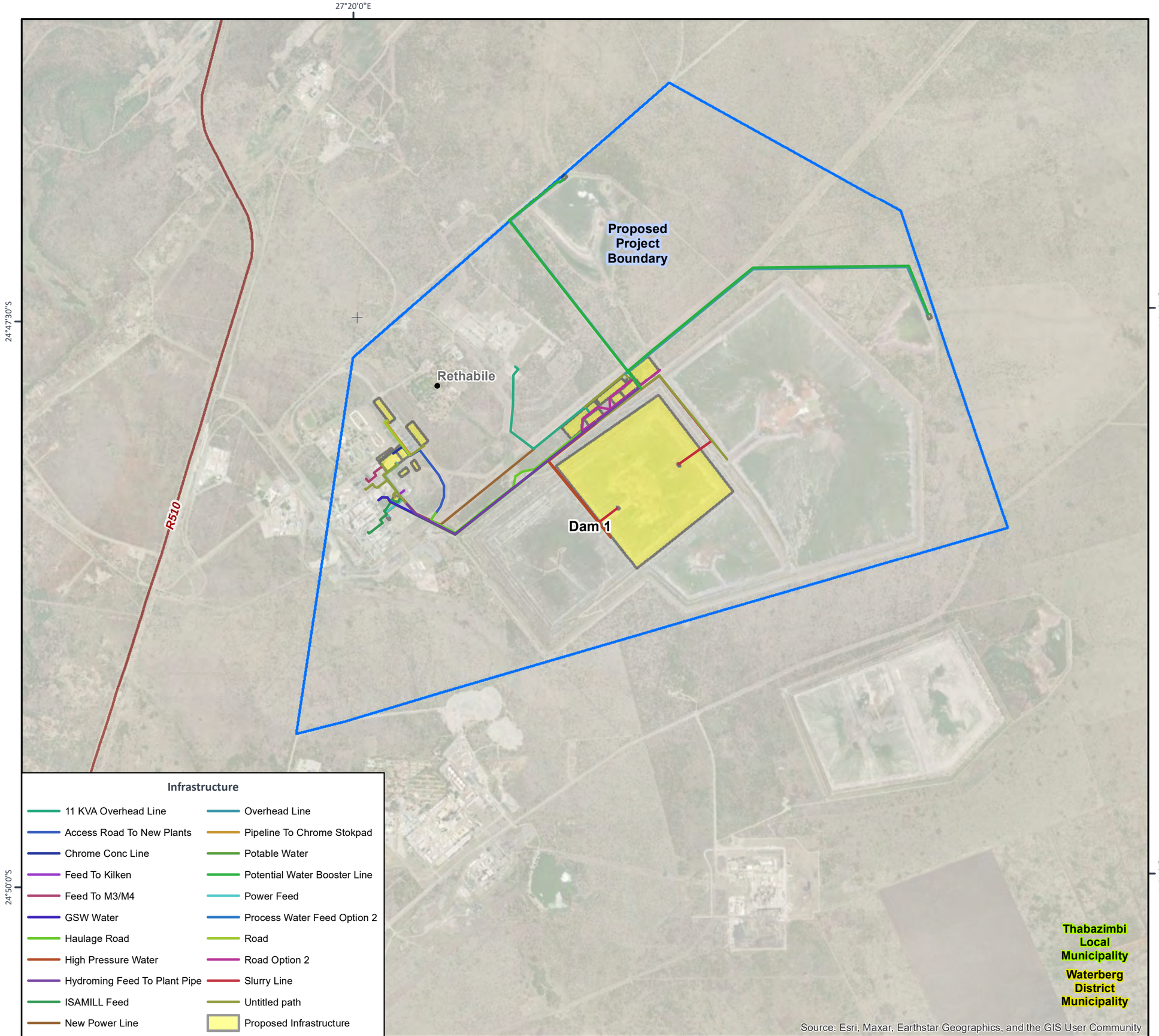
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Map Set 1\AngloPlat Regional Orientation Landscape V2 A3.mxd



KONGIWE

RUSTENBURG PLATINUM MINES

SITE INFRASTRUCTURE

Legend

- Other Settlement
- Main Roads
- District Municipalities
- Local Municipality
- Proposed Project Boundary

0 0.5 1 2

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 11 June 2025

1:30 000

(A3)

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

2024 Satellite Imagery

Disclaimer
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FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\Map Set 1\AngloPlat Local Orientation Landscape A3.mxd

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Public Participation

Date	Tuesday, 24 June 2025
Time:	12H00 – 15H00
Venue:	Amandelbult Mine, Recreation Club, Amandelbult, 0362
Community	Baphalane Ba Ramokoka (BBR)

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Mike Molefe	SHE Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Thanyani Duvhana	Project Engineer
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Thabo Moyo	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Johanna Mashiatshiti	Stakeholder Engagement
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Omphile Molwantwa	Stakeholder Engagement
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Tebogo Masipa	Stakeholder Engagement
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Kaitumela Letebele	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Ursula Marvey	Environment Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Hazel Fiehn	Environmental Permit Principal
Kongiwe Environmental (Pty) Ltd	Mr Foord Ceronio	Project Manager and Environmental Assessment Practitioner
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Anela Fixi	Stakeholder Engagement
The BBR Community – signed attendance register		
No apologies		
N/A		

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.

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1. **Welcome and Introductions**
   - Mr Moyo greeted all the attendees, formally started the engagement and provided an opportunity for the team from Kongiwe Environmental and Valterra Platinum in attendance to introduce themselves.
   - Mr Ceronio greeted the attendees and then commenced with the presentation (hard copies of the presentation were available to the community at the front entrance where registration took place)
   - The presentation was done in English with a Setswana translation done thereafter. This was requested from and agreed to by the Community present.

2. **Meeting Purpose:**
   - Present and discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
   - Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.
   - Provide present stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
   - Record comments raised and included in the Comments and Responses Report.

3. **Meeting Agenda:**
   - Important Notice under NEMA and NWA
   - Introduction
   - Kongiwe's Role as an Independent Environmental Assessment Practitioner
   - Project Location
   - Project Background
   - Project Description: The Process
   - Project Infrastructure
   - Specialist Studies
   - Legislative Framework
   - Stakeholders' Role
   - Public Participation Process
   - Comments and Discussions

Please refer to **Appendix A** for the posters that were displayed and presented. **Appendix** B for the attendance register.

The presentation was finalised whereafter questions were put forward from the BBR community.

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4. Discussion

	COMMENT	RESPONSE
Mr Ratau	Mr Ratau enquired about the public locations where the Draft Scoping Report and the Background Information Documents (BIDs) were made available. He noted that Ramokokastad was excluded from the list of communities that received these documents, and he requested that the documents be shared with the communities around Ramokokastad. He requested Ramokoka Clinic, Aphathi Shop and Taxi rank to be included.	Mr Ceronio informed Mr Ratau that the Draft Environmental Impact Report (DEIR) and Environmental Management Program (EMPr) can be made available at Ramokokastad for public review, in the EIA phase.
Mr Moses Matshaba	Mr Mashaba requested that the BID and the presentation be shared with the community members and the traditional council to allow for a better understanding of the Proposed Project.	Mr Cerenio explained that the Background Information Documents (BIDs) were available at the registration table and confirmed that the presentation would be shared electronically.
Community member	A community member asked where Valterra is sourcing their water from, highlighting that the community is currently facing water shortages.	Ms Marvey explained that Valterra water supply comes from Magalies Water; however, the mine is also experiencing water challenges. She noted that the Magalies Water treatment plant is currently broken, which is contributing to the water issues. Consequently, the operation relies on recycled water to sustain its activities. ***Post Meeting Note:*** *The proposed project will receive process water from existing mine water sources on site. This will be the existing and operational concentrator plant, the existing and operational return water dam and the holding dam. Process water will be recycled and re-used on site.*
Mr Fish Maponyane	Mr Maponyane requested that the agenda of the meeting be shared with him and inquired who the applicant of the Proposed Project.	Mr Moyo responded that the applicant for the proposed project was Rustenburg Platinum Mines Limited (Valterra).
Community member	The community member inquired about the benefits of the Proposed Project to the community.	Mr Moyo explained that Valterra assists the community through the Social Labour Plan (SLP) process and further elaborated on the process in detail.

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	COMMENT	RESPONSE
		Mr Letebele elaborated on how employment and Small, Medium and Micro Enterprise (SMMEs) business opportunities will be conducted and encouraged the community to review the DSR of the project. He further advised them to align their skills and businesses with the proposed project to increase their chances of benefiting. The municipal representative, Mr Abe Mogashoa further encouraged the youth to upskill themselves and to always align their skills and business ventures with available opportunities. He emphasised the importance of ensuring that their businesses are up to date so that they can be among the first to be considered when opportunities arise. Mr Molefe indicated that Kongiwe is independent and not part of Rustenburg Platinum Mine (Pty) Ltd (AMB), and that Kongiwe is not undertaking any mining activities. He indicated that the employment opportunities will be managed by Rustenburg Platinum Mine (Pty) Ltd (AMB).
Community member	The community member requested contact details of the municipal representative to submit their requests.	The municipal representative provided their contact details.

The meeting adjourned at around 15H00 pm.

Copy of Presentation appended to the minutes.

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Environmental Authorisations, Waste Management Licence, Water Use Licence Application and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMRE reference number: LP 30/5/1/2/2/48 MR
DWS reference number: To be confirmed

Meeting Minutes: Public Participation

Date	Friday, 11 July 2025
Time:	10H00 – 12H00
Venue:	Amandelbult Mine, Recreation Club, Amandelbult, 0362
Community	Mantserre community

List of attendees:

Organisation	Name of attendee	Designation
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Johanna Mashiatshiti	Stakeholder Engagement
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Tebogo Masipa	Stakeholder Engagement
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Mr Kaitumela Letebele	Stakeholder Engagement Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Ursula Marvey	Environment Manager
Rustenburg Platinum Mine (Pty) Ltd, Amandelbult Mine Complex (AMB)	Ms Hazel Fiehn	Environmental Permit Principal
Kongiwe Environmental (Pty) Ltd	Mr Grant Cornish-Bowden	Project Director
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement
Kongiwe Environmental (Pty) Ltd	Ms Anela Fixi	Stakeholder Engagement
Mantserre Community – signed attendance register		
No apologies		
None		

Note: *These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took pace.*

1. Welcome and Introductions

- Mr Letebele greeted the attendees and provided an opportunity for the team from Kongiwe Environmental and Valterra Platinum in attendance to introduce themselves.
- Ms Phakathi then commenced with presentation on the project from Kongiwe Environmental (hard copies of the presentation was available to the community at the front entrance where registration took place)
- The presentation was done in Setswana, with the English version presented on screen. This was requested from and agreed to by the Community present.

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2. Meeting Purpose:

- Present and discuss the proposed Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project.
- Provide an overview of the Scoping and Environmental Impact Assessment (S&EIA) process in support of the Environmental Authorisation, Waste Management Licence and Water Use Licence applications.
- Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on the proposed project.
- Record comments raised and included in the Comments and Responses Report.

3. Meeting Agenda:

- Important Notice under NEMA and NWA
- Introduction
- Kongiwe's Role as an Independent Environmental Assessment Practitioner
- Project Location
- Project Background
- Project Description: The Process
- Project Infrastructure
- Specialist Studies
- Legislative Framework
- Stakeholders' Role
- Public Participation Process
- Comments and Discussions

The presentation was finalised, whereafter questions were put forward from the Mantserre community.

Please refer to **Appendix A** for the posters that were displayed and presented. **Appendix** B for the attendance register.

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4. Discussion

	COMMENT	RESPONSE
Mr Vincent Mogale	Mr Mogale stated that there was an issue regarding a Section 104 application, which has not been addressed. He noted that the agreement in this section stipulates that the community should benefit a percentage from the project. Mr Mogale expressed that the communication regarding the meeting was not well distributed and further indicated that the meeting should have been held at Mantserre's community main office hall, as one bus was not sufficient to transport the entire community.	Mr Letebele explained that the Section 104 matter, concerning the community's percentage and benefit, is covered in the lease agreement that can be accessed through the Mantserre Community Development Trust lawyer. Additionally, he stated that communication issues would be addressed and improved. He added that they would liaise with all the headmen in the 10 communities of Mantserre to ensure effective information dissemination and to make sure that everyone who wishes to attend the next meeting is given the opportunity to do so.
Mr Mokgosi Ralehoko	Mr Ralehoko inquired whether Kongiwe would upskill the youth in the surrounding community to enhance their employment prospects.	Mr Letebele explained that it is Valterra's intention to develop and upskill the youth. He added that training sessions have already been conducted, and discussions are ongoing regarding the provision of portable skills, with the Mantserre community scheduled for inclusion.
Mr Peter Boikhutso	Mr Boikhutso said that they are not stakeholders but landowners of the place where the proposed project is to take place and expressed concern that they were not being taken seriously. He stated that they do not wish to obstruct project progress but raised concern about the high unemployment rate in the Mantserre community, while members of the Xhosa tribe are fully represented at the mine and training centre. He added that Mantserre community is not properly represented at the mine. He said that Mr Letebele should inform Valterra management that the community demands 80% of the profit made from the proposed tailings dam; if not, they will stop all the engagement with the mine, and he further demanded 30% of business opportunities.	Mr Letebele stated that discussions with the management regarding community benefits are still ongoing.

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	COMMENT	RESPONSE
Community Member	A community member stated that they are instructing Kongiwe to inform the government that the community is demanding 80% of the profit made on the proposed project.	Mr Cornish-Bowden clarified that Kongiwe's role is to conduct the Environmental Impact Assessment (EIA) Studies and submit the findings to the Competent Authorities (CAs), who will decide whether the project should proceed or not. He emphasised that Kongiwe's role is to develop the report and submit its findings to government and that the decision to grant an approval is then the responsibility of the Competent Authority. He added that Kongiwe is not in a position to dictate any commercial relationships between the mine and the community. However, they do provide mitigation measures to the project managers to guide them on how to minimise the environmental and social impacts identified during the studies and consultations and the need to work with the community is noted.
Mr Abraham Mmebe	Mr Mmebe inquired about the company responsible for treating the tailings dam. He also asked for clarification on the difference between a Waste Management Licence (WML) and a Water Use Licence Authorisation (WULA).	Ms Fiehn explained that the project is still at the pre-feasibility stage and that no contractors have been appointed yet. The treatment of the tailings is depended on the approval of the proposed project. Mr Cornish-Bowden explained that tailings are considered waste, and therefore, a WML is required for their processing. He added that since water will be used to process the tailings into slurry, a WULA will also be required.
Mr Mokoka	Mr Mokoka requested that future discussions should not involve only the Mantserre Community Development Trust, but the entire community must be included.	The project team noted this.
Mr Phineus	Mr Phineus expressed concern that the community was not informed about projects taking place at Haakdorndrift. He said that as the landowner, they should have been formally notified. He emphasised that there is no development in the Mantserre community and highlighted that while several projects have been implemented in Mantserre, the local community has not benefited in terms of job opportunities and that there is no transparency in terms of opportunities.	The project team noted this comment.
Mr Dibusang Ramokoka	Mr Ramokoka highlighted that Mantserre is experiencing internal issues which involves a Valterra employee. He emphasised that this individual should refrain from interfering in matters	Mr Phiri, from the community, clarified to Mr Ramokoka that the purpose of the meeting was not about their internal issue but to focus

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	COMMENT	RESPONSE
	concerning the Mantserre community or the Community Development Trust.	on the matters related to the proposed project and community engagement.
Ms Katlego Shuping	Ms Shuping requested that a copy of the lease agreement be shared with the community members to ensure transparency and keep them informed about the terms and condition related to land use.	Mr Letebele responded by stating that the lease is currently with the Trust leadership's legal team for review and handling.
Ms Dikeledi Mogale	Ms Mogalei expressed concern that Anglo-American did not inform the community about its transitioning to Valterra Platinum. She emphasised the importance of transparency and community engagement in such changes and developments. She also raised a concern about the recruitment age range of 18 – 35 years, stating that there are individuals above that age who are still active, and in need of employment to support their families. Ms Mogale criticised the current project's remuneration practices, highlighting that the reported wage of R 2000 per month is insufficient and not sustainable for workers. She further expressed that she is knowledgeable and can transfer a lot of skills to the youth with her experience. She asked Valterra Platinum to allow her the opportunity to develop and upskill community members.	The project team noted the comment.
Ms Tsholofelo Sevenster	Ms Sevenster expressed dissatisfaction with the way information about the proposed project was distributed, describing it as a failure. She stated that a loud hailer should have been used to announce the project across various communities, and requested that in the next phase, posters be displayed in all local shops to ensure better community awareness. She also criticised the Social and Labour Plan (SLP) requirements, particularly the Grade 12 qualification and the age restriction, stating that these criteria exclude many capable community members. She emphasised the need for development initiatives,	Valterra acknowledged the comment regarding communication process and that it would be improved moving forward. Mr Cornish-Bowden reiterated Kongiwe's role in the proposed project, explained the scope of work, responsibilities, and limitations. He clarified that Kongiwe's role is to facilitate the EIA processes and ensure compliance with relevant procedures and legislation, but Kongiwe does not have the authority to make commercial decisions on behalf of the developer, Valterra Platinum.

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	COMMENT	RESPONSE
	such as ABET (Adult Basic Education and Training) and FET (Further Education and Training) Colleges, to equip the community with the necessary qualifications and skills for participation in the proposed project. Ms Sevenster raised concerns about SMME training programs that assisted community members in setting up businesses but failed to provide them with actual procurement opportunities to apply their skills or participate in project-related work. She made the following specific requests: ❖ Kongiwe should inform the community about the percentage they will benefit and receive from the proposed project. ❖ Kongiwe should share all communication submitted to the DMRE regarding the community. ❖ Skills development centre be established in Mantserre. ❖ Mantserre be prioritised during the beneficiation phase of the project.	He further emphasised that Kongiwe does not have the authority to instruct Valterra on commercial aspects of the project, as such decisions lie beyond the scope of Kongiwe's mandate as the EAP. It was however noted that the comments would be recorded and form part of the submission and that recommendations relating to environmental and social mitigation and improvements would form part of the reporting.
Ms Mathapelo Letlhake	Ms Letlhake requested that a copy of the meeting minutes be shared with the broader community members to ensure transparency and inclusivity. She further requested a written and signed agreement confirming community's requests, as raised during the meeting, will be honoured and implemented.	The project team noted this Mr Cornish-Bowden confirmed that a copy of the minutes will be shared once they are compiled and ready, which may take approximately a week to finalise. ***Post-Meeting Note:*** *It is important to note that there is an existing Social and Labour Plan (SLP) in place, and this project will be implemented in alignment with the requirements and commitments outlined in that document*.

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The meeting adjourned at approximately 15H00 pm.

Copy of Presentation appended to the minutes.

MINUTES OF MEETING			
Date	Monday, 11 August 2025	**Time**	13:00 – 14:00
Venue	MS Teams		
Subject	**Waste Record of Decision (ROD)**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Department of Mineral Petroleum Resources (DMPR)	Ms Reshoketswe Mphaphuli	Case Officer
Kongiwe Environmental	Mr Grant Cornish-Bowden	Project Manager
Kongiwe Environmental	Ms Umeshree Naicker	Principal of Environmental Consultant
Kongiwe Environmental	Ms Thuli Phakathi	Stakeholder and Environmental Consultant

Apologies		
Organisation	**Name of Attendee**	**Designation**
	None	

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Welcomed all the online attendees.	Ms Thuli Phakathi	07/10/2025
1.2	Presented the proposed project to Department of Mineral Petroleum Resources (DMPR).	Mr Grant Cornish-Bowden	07/10/2025
2	**Meeting Purpose**		
2.1	Present and discuss the EIA final layout plan, proposed project description and project alternatives of Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.	Mr Grant Cornish-Bowden	07/10/2025
2.2	Discussion the of Waste Management Licence and RoD Checklist.		
2.3	Provide the Department of Water and Sanitation (DWS) officials with an opportunity to raise comments/seek clarity and provide input;		
3	**Meeting Agenda**		
3.1	Removal of the Water Use Licence Application.	All attendees.	07/10/2025
3.2	Waste Management Licence (WML) process and Record of Decision (RoD) Checklist		
3.3	Guidance on the way forward regarding ROD requirements		
3.4	Comments and Discussion		

4	**Discussion**		
	Stakeholder	**Comment**	**Response**
4.1	Mr Grant Cornish-Bowden (Mr Cornish-Bowden)	The intention of the meeting is to provide a brief reintroduction to the project, followed by a discussion regarding the current position on the absence of a requirement for a specific water use license. Mr Cornish-Bowden asked for confirmation on this understanding.	Ms Mphaphuli confirmed that the statement was accurate.

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4	Discussion		
	Stakeholder	**Comment**	**Response**
		In the meantime, Mr Cornish-Bowden indicated that he would refer to an older presentation to begin reviewing the alternatives that were previously considered.	
4.2	Mr Cornish-Bowden	Mr Cornish-Bowden questioned whether a full project introduction was necessary or if the discussion should focus specifically on the alternatives related to water use licensing. He proceeded to present a section of the Scoping Report, highlighting a key map that illustrated the original layout. He explained that the map effectively demonstrated how the consideration of alternatives and integration of environmental inputs had informed a design process aimed at mitigating significant risks. Mr Cornish-Bowden provided an overview of the initial concept, which centred on the reclamation of Dam 2. The original design included various layout options for booster pumps, pump stations, slurry stations, laydown areas, vegetation zones, and an oversized material stockpile. He described alternatives involving water boosters from both the return water dam and the holding dam, with pipelines connecting to the slurry transfer station and potentially integrating with existing infrastructure at the Marinsky plant or requiring new infrastructure such as pollution control dams and processing plants. He then outlined the evolution of the project design, noting that environmental and social risks particularly environmental had driven significant changes. The preferred alternative now	Ms Mphaphuli responded that a full overview of the project was not required and noted that Mr Cornish-Bowden's presentation was clear and well-articulated.

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4	Discussion		
	Stakeholder	**Comment**	**Response**
		excludes the return water dam and holding dam as water sources, eliminating the need for associated booster stations and pipelines. Infrastructure previously planned in those areas has been removed, and the project now prioritizes the use of existing Chrome plants with minor modifications to the PGM plants. These changes have effectively removed the need for water use licensing, as no water uses are triggered. He noted that a potential WUL Section 21(g) activity related to vegetation and oversized material stockpiling had also been addressed. Composting activities have been relocated to Dam 1, a designated dirty area, and the footprint now only accommodates vehicle manoeuvring, eliminating storage and thereby removing any ambiguity regarding licensing requirements. Mr Cornish-Bowden emphasized that previously considered WUL Section 21 (c), (i), and (g) activities are no longer applicable. He attributed this outcome to a thorough screening process and collaboration with engineers to explore alternatives and reduce environmental risk. The redesign minimizes proximity to sensitive environments such as wetlands and results in a more environmentally sound project. He invited questions or comments regarding the preferred project alternative. He noted that the project footprint has been significantly reduced, and risks have been mitigated.	

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4	Discussion		
	Stakeholder	**Comment**	**Response**
4.3	Ms Naicker	Ms Naicker requested clarification on how the preferred project alternatives align with the requirements specified for the Waste Record of Decision (RoD). Mr Cornish-Bowden further requested if Ms Mphaphuli would want him to first address the process followed to determine the preferred alternative. He emphasized the importance of understanding the rationale behind the selected option, particularly in terms of reducing the project footprint and avoiding sensitive areas. He invited any fundamental input on the alternatives considered and their outcomes before transitioning the discussion to the specific requirements for the waste management license process, now that a water use license is no longer required.	Ms Mphaphuli noted the comments.
	Mr Cornish-Bowden	Mr Cornish-Bowden explained that requirement for such a license has been eliminated through design adjustments. He noted that, given the project's waste handling component, a waste management license is still required. He emphasised the need to discuss the specific documentation necessary to support the license application, with particular attention to the engineering requirements. He said ordinarily, a water use license application requires detailed engineering designs, which often align with the documentation submitted for a waste management license. However, since a water use license is not applicable in this instance, we would like to clarity on what documentation	Ms Mphaphuli thanked Mr Cornish-Bowden and confirmed that she had no questions or inputs at that stage. She noted that, based on her conversation with Ms Phakathi, the focus should be on water use in relation to the waste license. Ms Mphaphuli added that she was not entirely certain at that moment but would seek clarity to ensure that Kongiwe proceeds with the correct submission.

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4	Discussion		
	Stakeholder	**Comment**	**Response**
		would remain necessary as per the checklist, and how the submission process should be managed. Our understanding based on previous experience is that the application is submitted to the competent authority, who then forwards it to the Department of Water and Sanitation (DWS) for co-signing of the RoD. This step ensures that the waste license approval does not negatively impact any water resources. We want to confirm that this process still applies, especially given the absence of a water use license, which is typically part of a waste license submission.	
4.4	Mr Cornish-Bowden	Mr Cornish-Bowden stated that the presentation portion had been completed, which aimed to outline the alternatives considered and explain why a water use license is no longer pursued. He suggested handing over to the case officer for guidance on the waste management license submission process, specifically regarding the required documentation	Ms Mphaphuli responded by explaining that the checklist was provided by the Department of Water and Sanitation (DWS) due to previous issues with applicants submitting incorrect documentation. The checklist serves as a guideline for the documents needed to request a RoD for waste. As noted, the applicant is responsible for compiling all required documents and to complete the checklist. Once complete, a cover letter is prepared, and the package is sent to DWS for comment. Ideally, the documents should be submitted to the case officer first, who would then attach the letter and forward everything to DWS. However, due to ongoing issues with the courier system, delays are common. Ms Mphaphuli further explained that to mitigate this, she would advise that it will be more efficient for her to sign the letter and allow the applicant to submit the documents directly to DWS's registry. While this approach is faster, she cautioned that DWS has expressed

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4	Discussion		
	Stakeholder	**Comment**	**Response**
			concerns about clients submitting documents on behalf of DMPR and prefers submissions to originate from the authority itself. Mr Cornish-Bowden responded that they would be happy to assist with the logistics, either by submitting the documents directly once the letter is signed or by arranging a courier.
4.5	Mr Cornish-Bowden	Mr Cornish-Bowden emphasised the importance of avoiding delays and confirmed that the technical documentation is ready, including hydro-sensitivity assessments, geophysical data, geological and aquifer information, groundwater quality reports, groundwater modelling, pollution potential assessments, and downstream resource impact evaluations. A comprehensive groundwater impact assessment has been completed, covering all relevant aspects including drawdown scenarios. He clarified that acid mine drainage (AMD) is not a concern, as the site is not underlain by dolomites and does not involve underground operations. The project involves re-mining a tailings storage facility (TSF). Regarding engineering documentation, he noted that while the master layout plan includes infrastructure, 100-year flood lines, and buffer zones, it does not include signed final engineering drawings. Such drawings are typically only required for a water use license application. He further explained that at the EIA stage, it is not standard practice to submit detailed, signed engineering designs for the entire infrastructure. In his view, the layout should be	Ms Mphaphuli acknowledged the comments.

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4	Discussion		
	Stakeholder	**Comment**	**Response**
		sufficient, particularly since the project does not impact any delineated watercourses or wetlands and remains outside the 100-year flood lines.	
4.6	Mr Cornish-Bowden	Mr Cornish-Bowden sought clarification regarding the submission requirements, specifically whether a formally signed engineering drawing endorsed by a Professional Engineer is necessary, or if a layout depicting all infrastructure and footprints, consistent with standard EIA submission practices, would suffice.	Ms Mphaphuli responded to Mr Cornish-Bowden, stating that she was not entirely sure, as they had only been provided with the checklist outlining the required attachments. She added that, typically, if any documentation is outstanding, it would be communicated either directly to the applicant or through their office.
4.7	Mr Cornish-Bowden	Mr Cornish-Bowden raised a concern regarding the level of detail required for the upcoming submission. He inquired whether it would be possible to receive guidance prior to proceeding, noting that Kongiwe prioritizes submitting fully compliant and permittable projects to avoid delays caused by requests for additional information. He requested clarification on whether the master layout plan including infrastructure details along with Sections 3.1 and potentially 3.4 (Method Statements), could be submitted at the EIA level. While relatively generic method statements can be provided at this stage, final engineering inputs may still be pending. He emphasized that the layout and associated plans would be available, and asked whether this would be deemed sufficient, or if the client is expected to commission engineers to produce final, signed engineering drawings. Mr Cornish-Bowden noted that such detailed engineering work is typically associated with the water use license process,	Ms Mphaphuli acknowledged and confirmed that it was fine. She requested Mr Cornish-Bowden to send her an email, and she would forward it to the relevant parties to obtain clarity. Ms Mphaphuli concurred, adding that she simply wanted to ensure compliance.

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4	Discussion		
	Stakeholder	**Comment**	**Response**
		which is not being pursued in this instance. Confirmation was requested on whether the proposed approach would be acceptable.	
4.8	Mr Cornish-Bowden	Mr Cornish-Bowden emphasised the importance of engaging the appropriate stakeholders from the outset and at the correct level to ensure alignment. He noted that the process is collaborative, with the case officer serving as the initial point of contact to help ensure the submission is both accurate and complete. Mr Cornish-Bowden concluded by stating that he would follow up with a concise email outlining key questions for clarification.	Ms Mphaphuli acknowledged the remark.
4.9	Mr Cornish-Bowden	Mr Cornish-Bowden noted that Ms Hazel Fiehn, the Client (Project Manager), was unable to attend the meeting due to a scheduling conflict and extended her apologies. He conveyed her request to inform the case officer that the Senior Manager for Mining Rights was currently engaged with the DMPR to discuss Section 102 and the Waste Management Plan. While there was no formal update to record, Ms Hazel Fiehn wanted the case officer to be aware of this ongoing engagement. Mr Cornish-Bowden further mentioned that Ms Hazel had inquired about the Waste RoD, which he believes has been clearly addressed. He confirmed that there is an agreement in place for the process to be initiated on behalf of the case officer and for the documentation to be couriered to the	Ms Mphaphuli acknowledged receipt of the draft submission and indicated that she would await the final version. She explained that a pre-approval site inspection is typically requested, which is why she preferred to keep today's representation brief. She noted that during the site inspection, the presentation is usually reviewed, and this will be arranged following the submission of the final document.

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4	Discussion			
	Stakeholder	**Comment**	**Response**	
		Department of Water and Sanitation (DWS), which was deemed appropriate.		
4.10	Mr Cornish-Bowden	Mr Cornish-Bowden acknowledged the update and expressed appreciation that the final Environmental Impact Assessment (EIA) will reflect the finalised layout and preferred option. He noted that specialists are currently updating their assessments accordingly and that the team looks forward to the completed submission	Ms Mphaphuli further emphasised the importance of timely submission of the RoD, noting that the Department of Water and Sanitation (DWS) has limited capacity and often experiences delays in response. She advised that the RoD should be submitted as soon as possible to avoid unnecessary delays. Mr Cornish-Bowden acknowledged the concern raised by Ms Mphaphuli and expressed appreciation for the clarity provided. He confirmed that Kongiwe will proceed with the necessary steps to move the process forward.	
5		**Closing**		
5.1		Mr Cornish-Bowden thanked everyone for their time and the meeting was adjourned at 13:39 PM.	ALL	-

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Valterra Platinum

Rustenburg Platinum Mines Limited Amandelbult Mine: Environmental Authorisation, Waste Management Licence and Section 102 Stakeholder Engagement Meeting

9 & 10 October 2025

Agenda

1. Purpose of the Meeting
2. Important Notice
3. Introduction
4. Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)
5. Project Background
6. Project Location
7. Project Infrastructure Description
8. Rehabilitation
9. Project Alternatives
10. Specialist Studies & Impact Assessment
11. Air Quality
12. Biodiversity
13. Wetlands
14. Soil and Agriculture
15. Surface water
16. Groundwater
17. Heritage
18. Socio-Economic
19. Noise
20. Mitigation Summary
21. Legislative Framework
22. Document Availability
23. The Way Forward
24. Questions & Answers

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1. Purpose of the Meeting

- Discuss the proposed **Amandelbult Tailings Storage Facility Reclamation and Processing** Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised by I&APs for the Comments and Responses Report.

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2. Important Notice

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme).
  - **Application for a Waste Management Licence (WML)** authorising waste management activities listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).

POPIA: Safeguarding registered person's personal information

In terms of section 19 of the Protection of Personal Information Act (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party to whom the information is supplied.

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3. Introduction

- **Kongiwe Environmental:**
  - Grant Cornish-Bowden - Project Manager
  - Vanessa Viljoen - Stakeholder Engagement
  - Thuli Phakathi - Stakeholder Engagement
  - Lubabalo Zongolo - Stakeholder Engagement
- **Valterra Platinum:**
  - Hazel Fiehn - Valterra Platinum Environmental Authorisations and Permitting Principal
  - Davhana Thanyani - Valterra Platinum Engineer for Project
  - Marvey Ursula - Amandelbult Mine Environmental Manager
  - Moyo Thabo - Amandelbult Mine Social Performance Team
  - Letebele Kaitumela - Amandelbult Mine Social Performance Team
  - Tebogo Priscah Masipa - Amandelbult Mine Social Performance Team
  - Johanna Mashiatshiti - Amandelbult Mine Social Performance Team
  - Molefe Mike - Amandelbult Mine Safety, Health, Environment and Permitting Manager
  - Galeboye Kgomotso - Amandelbult Mine Environmental Officer

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4. Kongiwe's Role

❖As an independent Environmental Assessment Practitioner (EAP):

- It is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to quantify these;
- Describe possible management and mitigations options; and
- Collect public comment and supply the DMPR with the documentation so that DMPR can determine if the project should proceed or not.

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5. Introduction

- **Applicant**: Rustenburg Platinum Mines Limited (Amandelbult Mine)
- **Activity**: The Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 (122 Ha)
- **Target Minerals**: PGMs and Chrome and all associated minerals in the TSF tailings – Dam 2 of the TSF complex.
- **Life of Operation**: 20 years
- AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.
- Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned on the TSF for blending purposes, in accordance with the re-mining plan.
- AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.
- **Mechanical Reclamation:** This method involves the removal of vegetation and dry tailings material from the TSF Dam No. 2 using a truck-and-shovel operation. Multiple cuts will be made from the TSF wall which will be transported to a central area within the TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.
- **Hydraulic Reclamation:** This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

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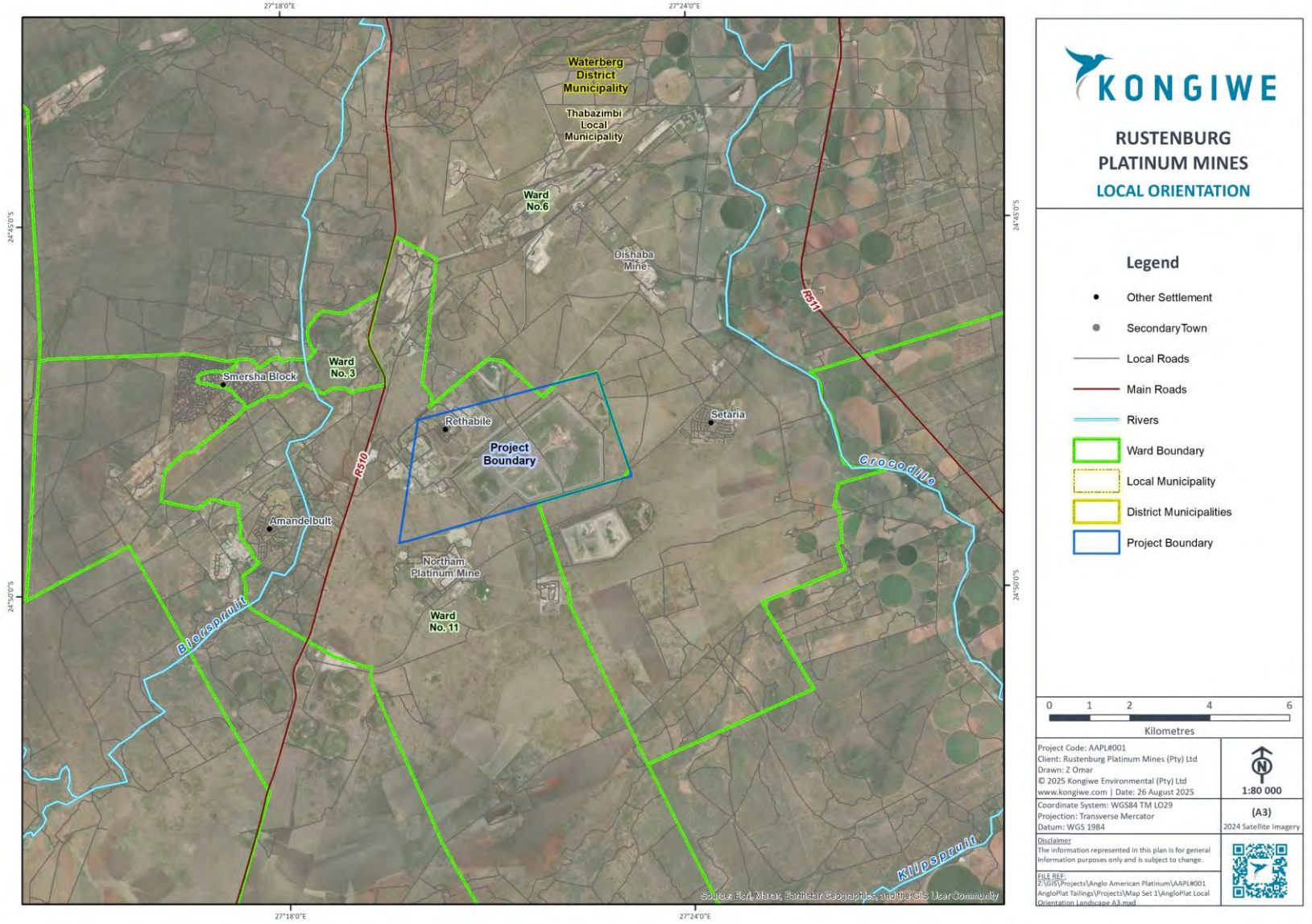
6. Project Location

- Approximately 4 km Northeast of Amandelbult Town.
- Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province.



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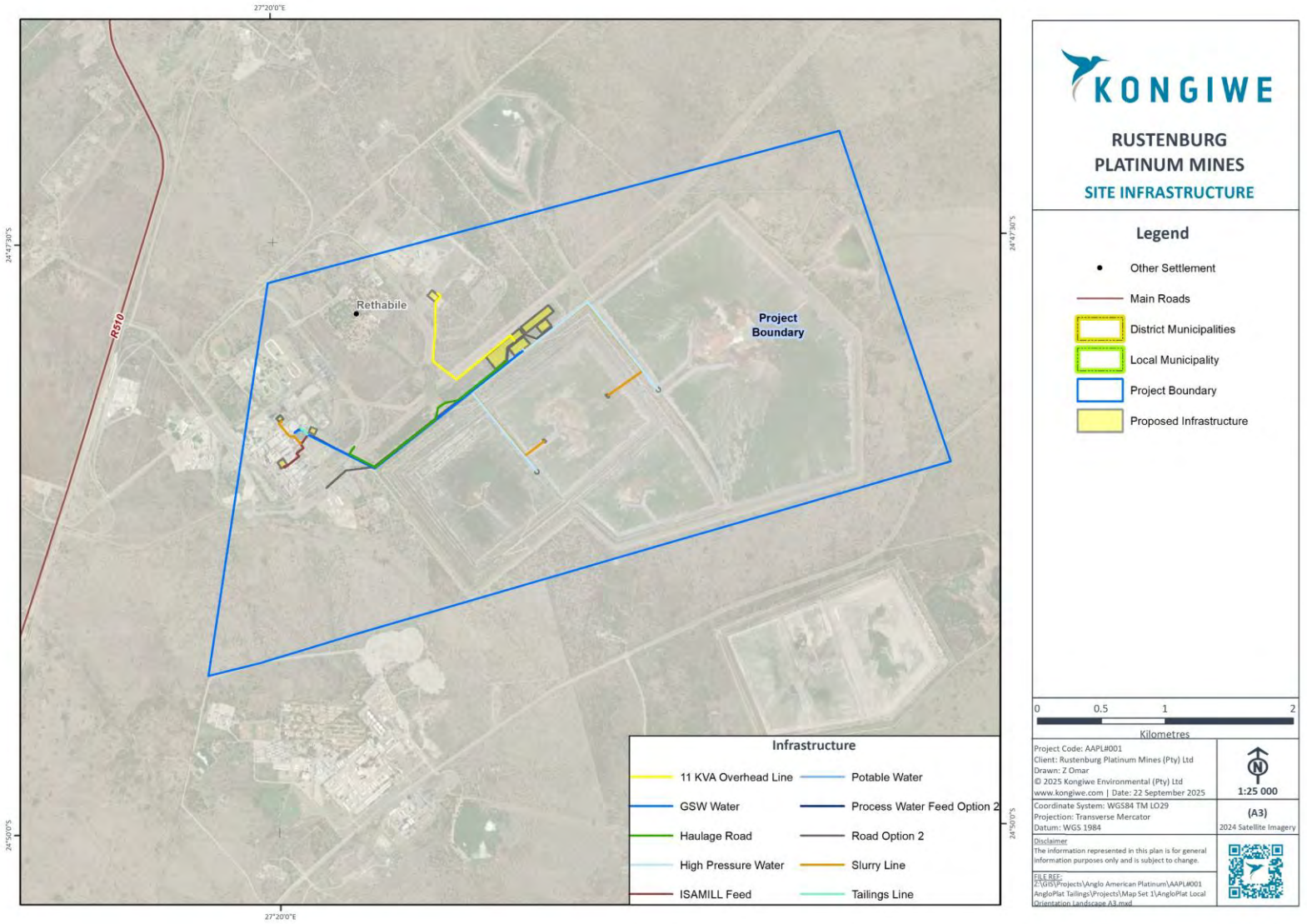
7. Project Infrastructure Description

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

- Access roads;
- Amandelbult Dam 2 TSF;
- Pipelines;
- Power Supply, Sewage, Process Water;
- Barge Pump (1&2);
- High Pressure water tapped off for Hydroguns;
- Slurry Transfer Station;
- TSF No.2 Laydown area;
- Vegetation Handling area;
- Contractors Laydown area;
- Existing PCDs;
- Gravel / Haul Road;
- Existing PGM and Chrome Processing Plant;
- PGM ore Silos/Bins and existing chrome stockpile area;
- Topsoil Stockpiles; and
- Tailings Deposition onto current operational TSF3b.



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8. Rehabilitation

- Rehabilitation will be in line with AMB closure plans and EMPRs.
- After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site.
- The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.
- Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.
- Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the intention is to use the area for redeposition of tailings.

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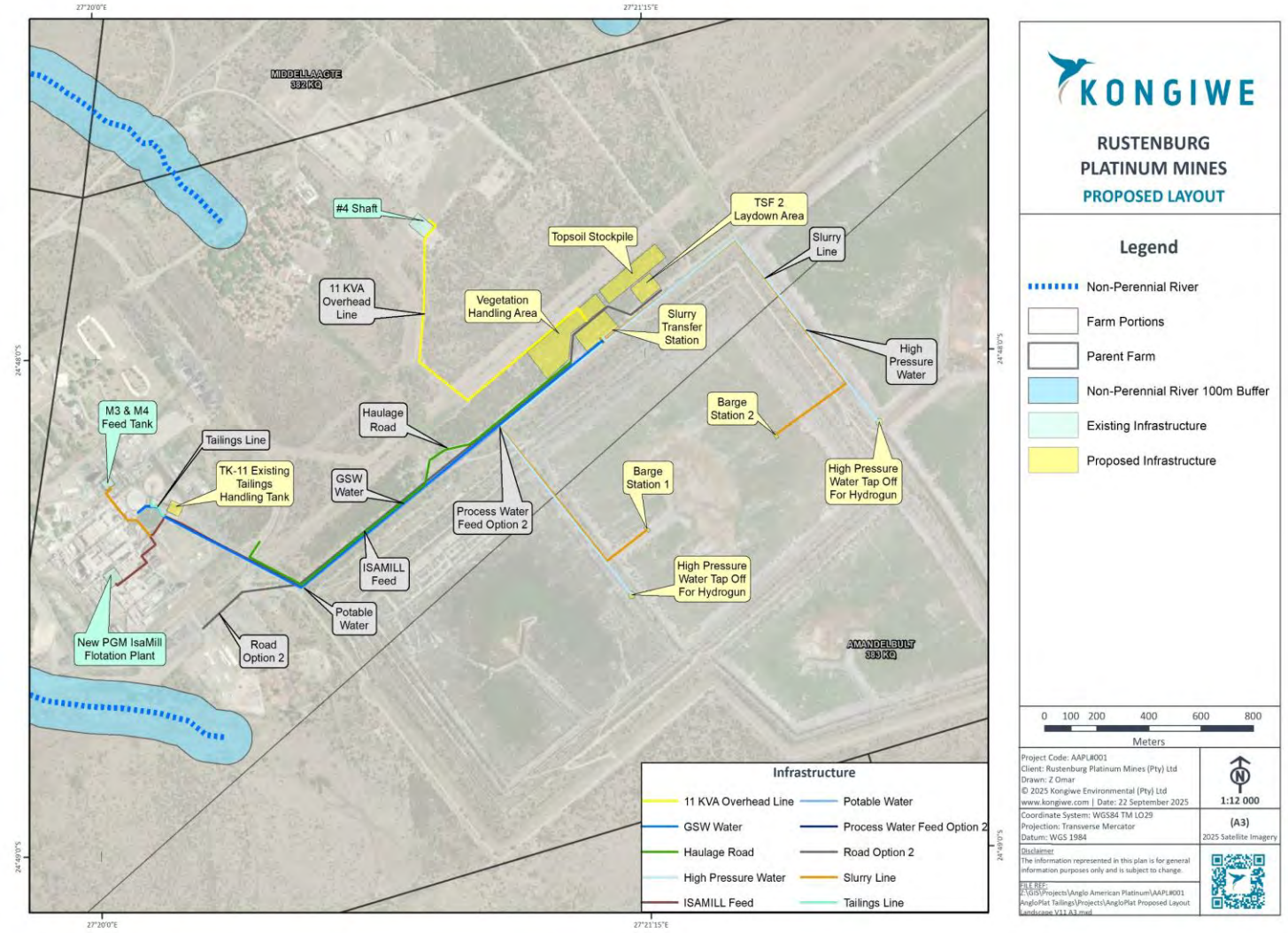
9. Project Alternatives

- **No-go alternative**
  - The "No-Go" option means the project will not proceed, leaving environmental and social conditions unchanged.
  - This avoids both positive and negative impacts. The area, consisting of historically polluting tailings storage facilities (TSFs), would remain unused and continue affecting the surrounding environment.
  - Valuable mineral reserves would remain unmined, and no reclamation or infrastructure development would occur.
- **Location Alternatives**
  - The proposed project involves reclaiming and processing TSF Dam 2, an existing tailings storage facility with no alternative sites.
  - Processing plant locations have been evaluated near the current concentrator plant.
  - The project will take place exclusively on the property housing the AMB complex and TSF Dam 2, specifically within Portion 1 and the Remaining Extents of Amandelbult 383 KQ and Middellaagte 382 KQ.
  - No other properties are under consideration.
- **Layout Alternatives**
  - The preferred layout plan was selected for its minimal footprint impact and reduced environmental risk.
  - While various alternatives were considered, the layout is largely determined by the existing TSF and existing related infrastructure.
  - The proposed layout, nature of the activity and associated infrastructure will be implemented with the aim to reduce substantial impacts on the area.



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10. Specialist Studies & Impact Assessment

The following specialist studies were commissioned and undertaken as part of the EIA Process:

- Air Quality
- Biodiversity (Terrestrial and Aquatic)
- Soil and Agriculture
- Groundwater
- Heritage
- Noise
- Socio-Economic
- Surface Water

Each specialist has identified potential impacts and the significance they will have before and after mitigation.

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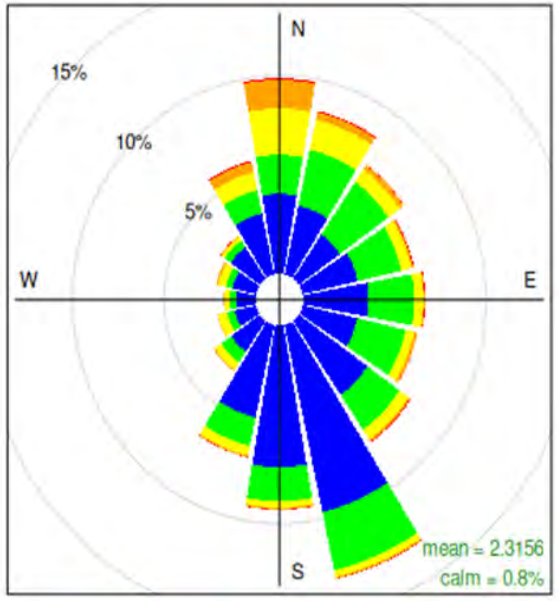
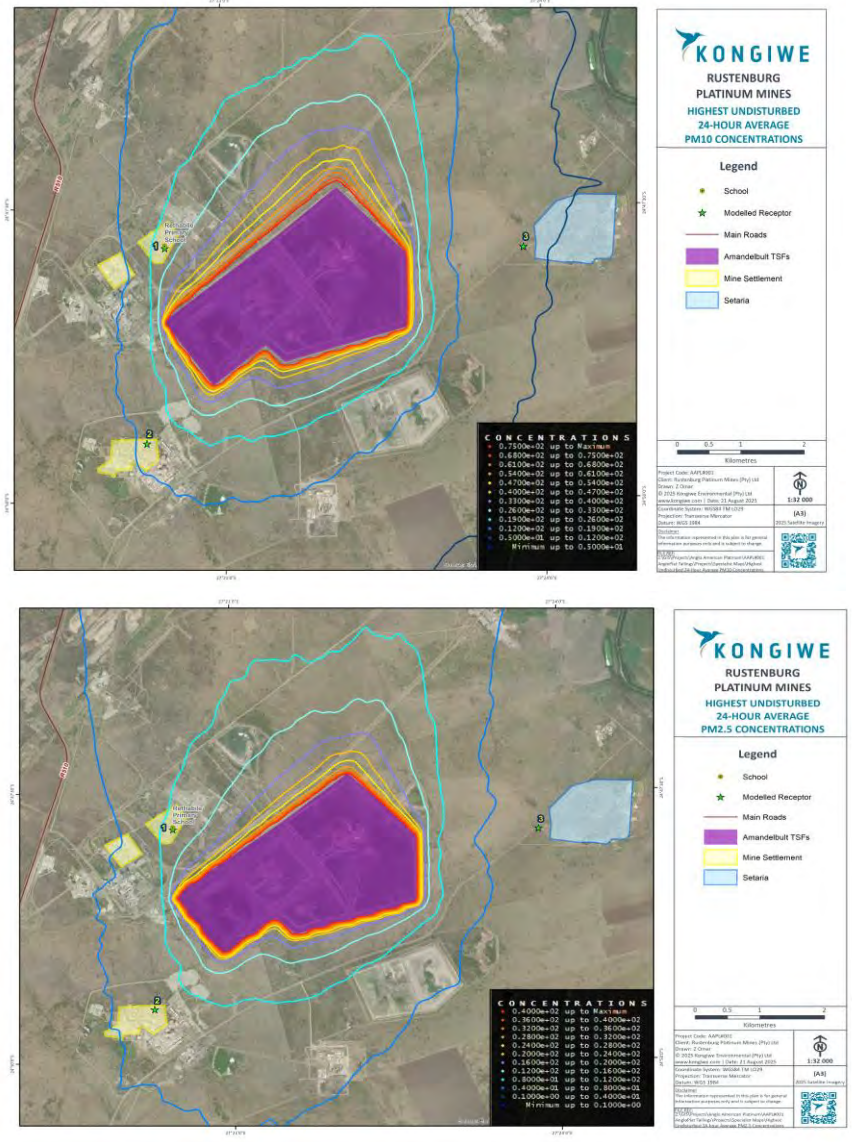
11. Specialist Findings- Air Quality

- The red isopleths represent the National Standards for ...., therefore, all areas on the map that lie within the red coloured isopleth can be expected to experience exceedances of the relevant National Standards.
- The following conclusions can be made from the modelling results:
  - Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM10 and PM2.5 in downwind areas on windy days. The highest expected concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below the PM10 and PM2.5 NAAQS.
  - The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF Dam 2.
  - The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of discrete receptor 1 by approximately 30%.



Frequency of counts by wind direction (%)



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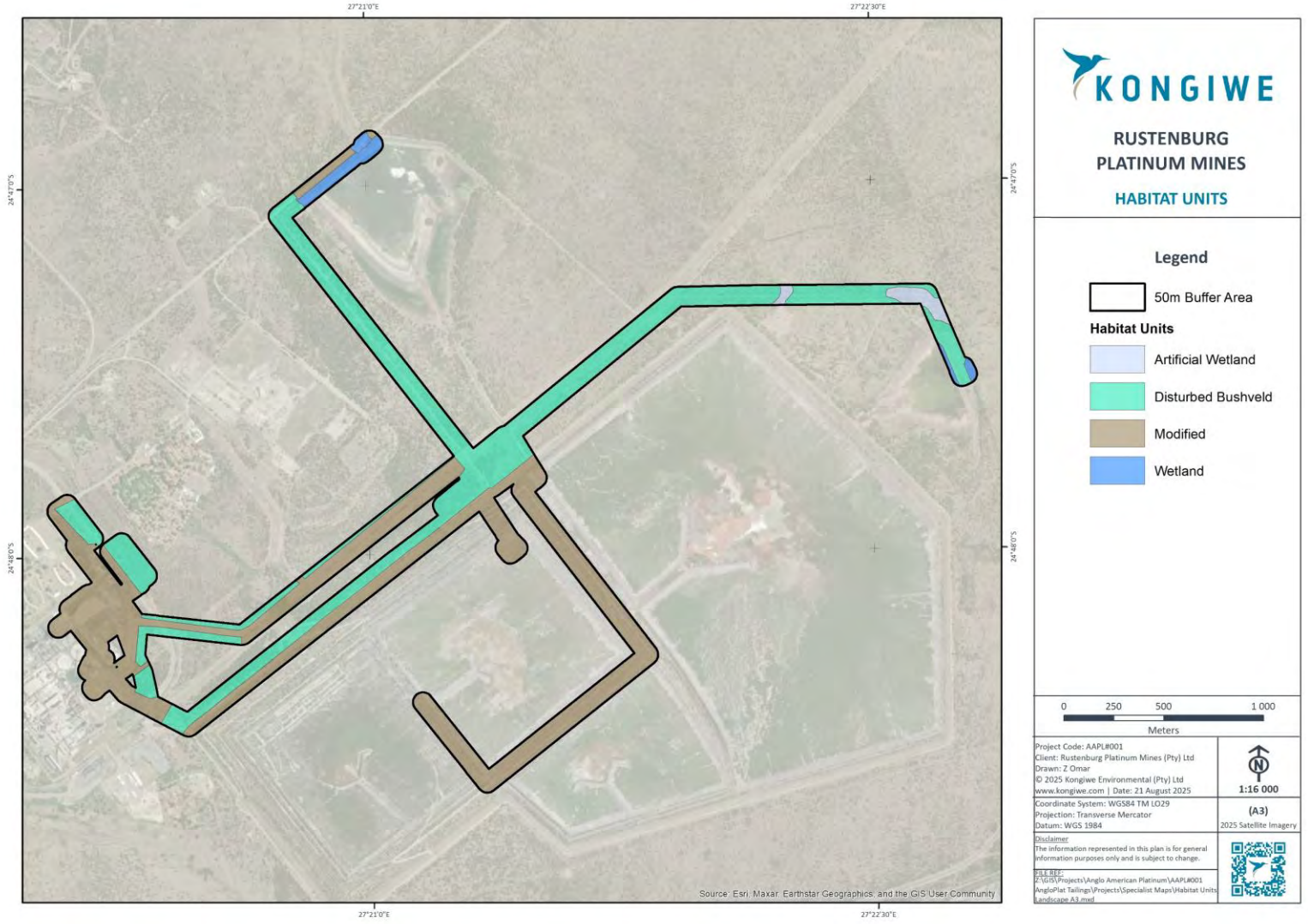
12. Specialist Findings-Biodiversity

- Three (3) main habitat types were identified across the area of the Project and include:
  - Disturbed Bushveld;
  - Water Resources (Wetlands and Artificial Wetlands); and
  - Modified.



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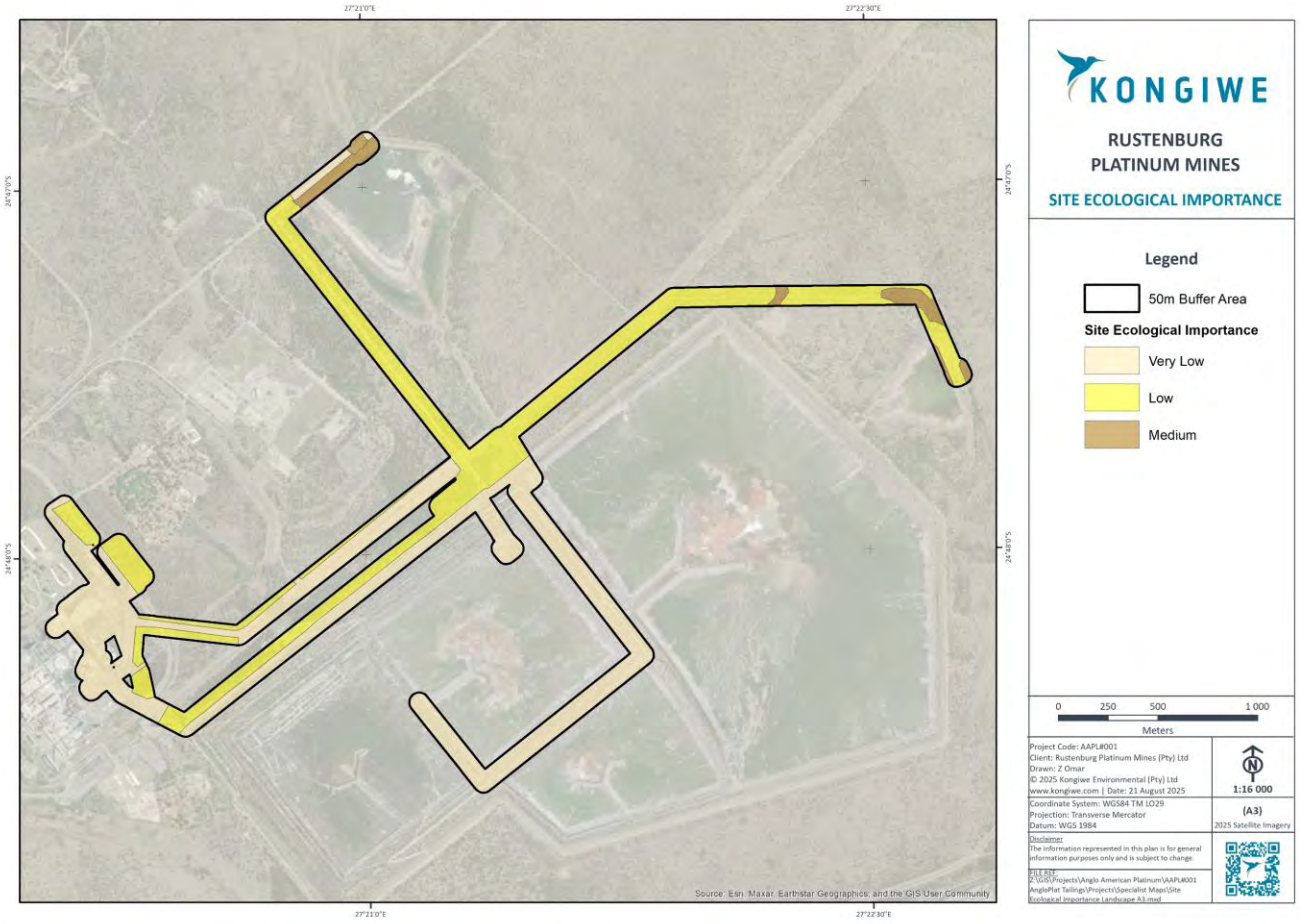
12. Specialist Findings - Biodiversity

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Very Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
		Water Resources	Medium	Disputed – Even though disturbed, the ecological integrity, importance and functioning of these areas play a crucial role as a water resource system locally and regionally, and an important habitat for various fauna and flora.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna Species of Conservation Concern (SCC) may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No Species of Conservation Concern (SCCs) observed or expected.



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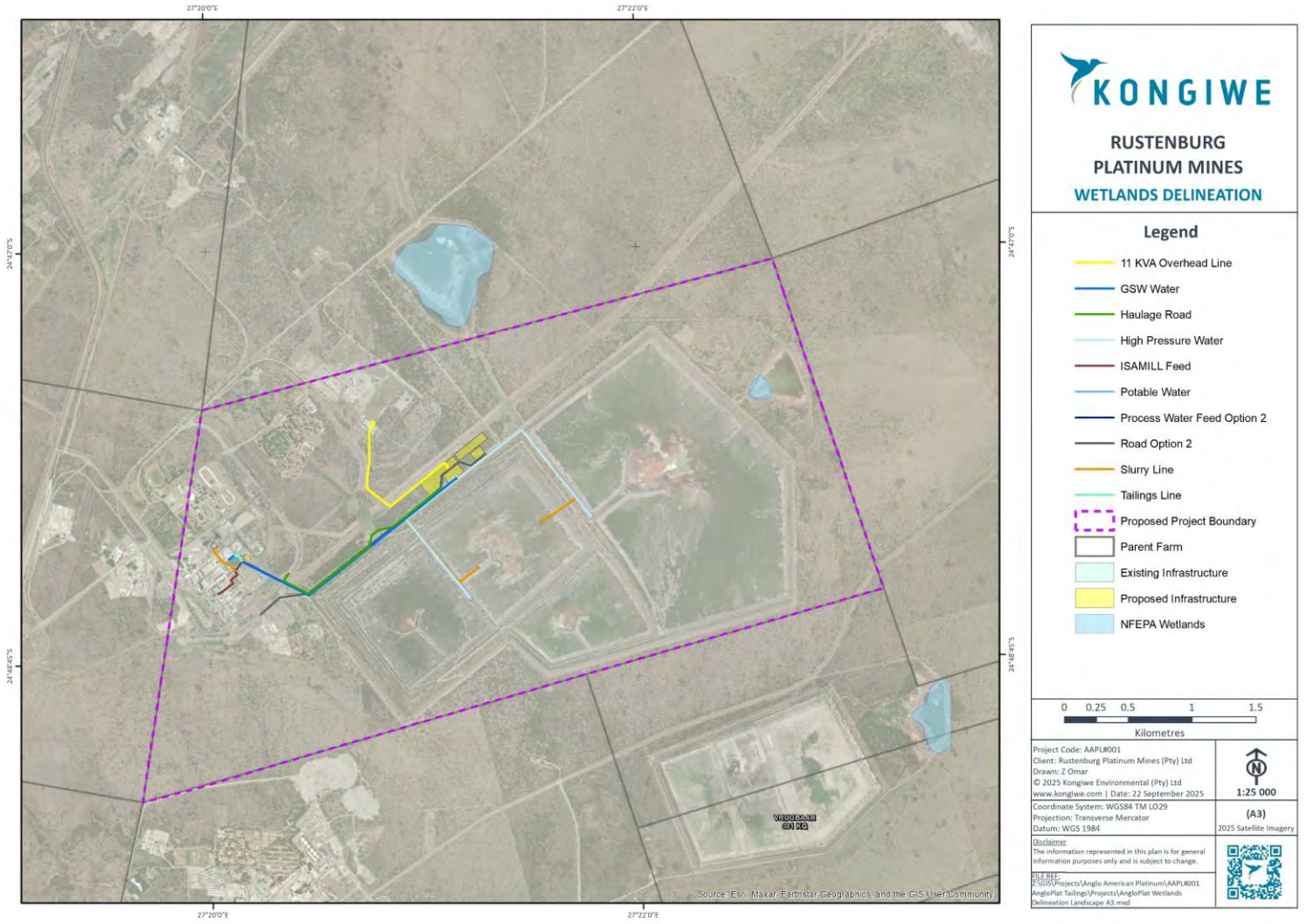
13. Specialist Findings - Wetland

- The Project area falls within the unchannelled valley-bottom wetlands and several artificial wet areas within the proposed area, including artificial depressions, dams and drainage features.
- The proposed TSF reclamation infrastructure directly intersects only the artificial depressions, while the unchannelled valley-bottom and dams are situated nearby the Project.
- Outside of the 500-meter Project Area of Influence (PAOI), two unchannelled valley-bottom wetlands were identified and grouped into a single Hydrogeomorphic (HGM) unit due to their similar function and state
- The ecological sensitivities are ranked as positive (medium moderate).



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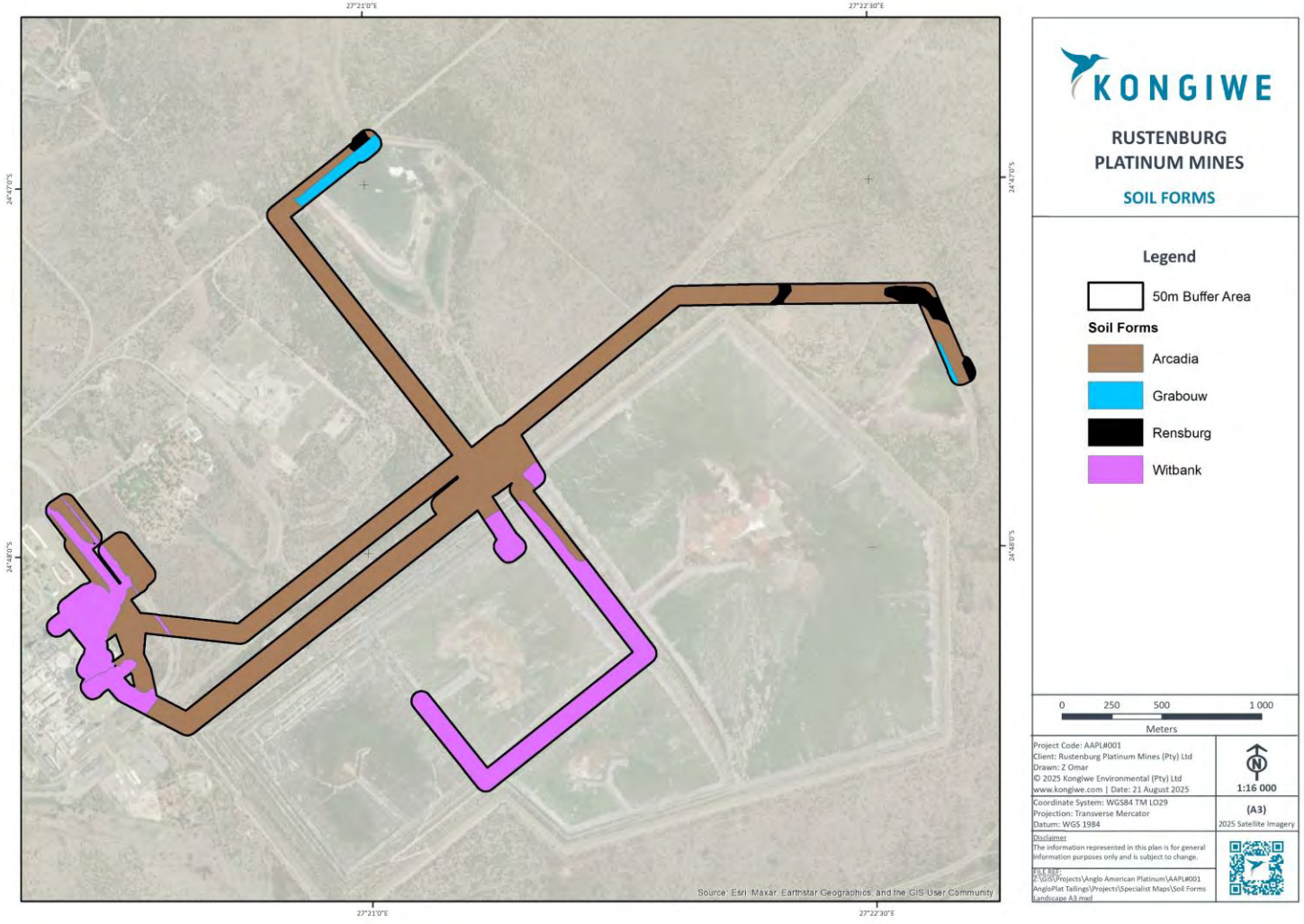
14. Specialist Findings-Soil and Agriculture

- The Project consists of soils with very low to low suitability for crop production.
- Four (4) representative soil forms were identified in the 50 m buffer of the Project area namely, Arcadia, Rensburg, Grabouw and Witbank soil forms.
- The Project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics.
- Furthermore, soils with signs of wetness, as a result of prolonged saturation conditions occur within the project area.
- DFFE Agriculture Theme Sensitivity indicates that the 50 m buffer of the Project area falls within the 'Low to High' agricultural sensitivity.
- The current project area and associated activities of the Project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.



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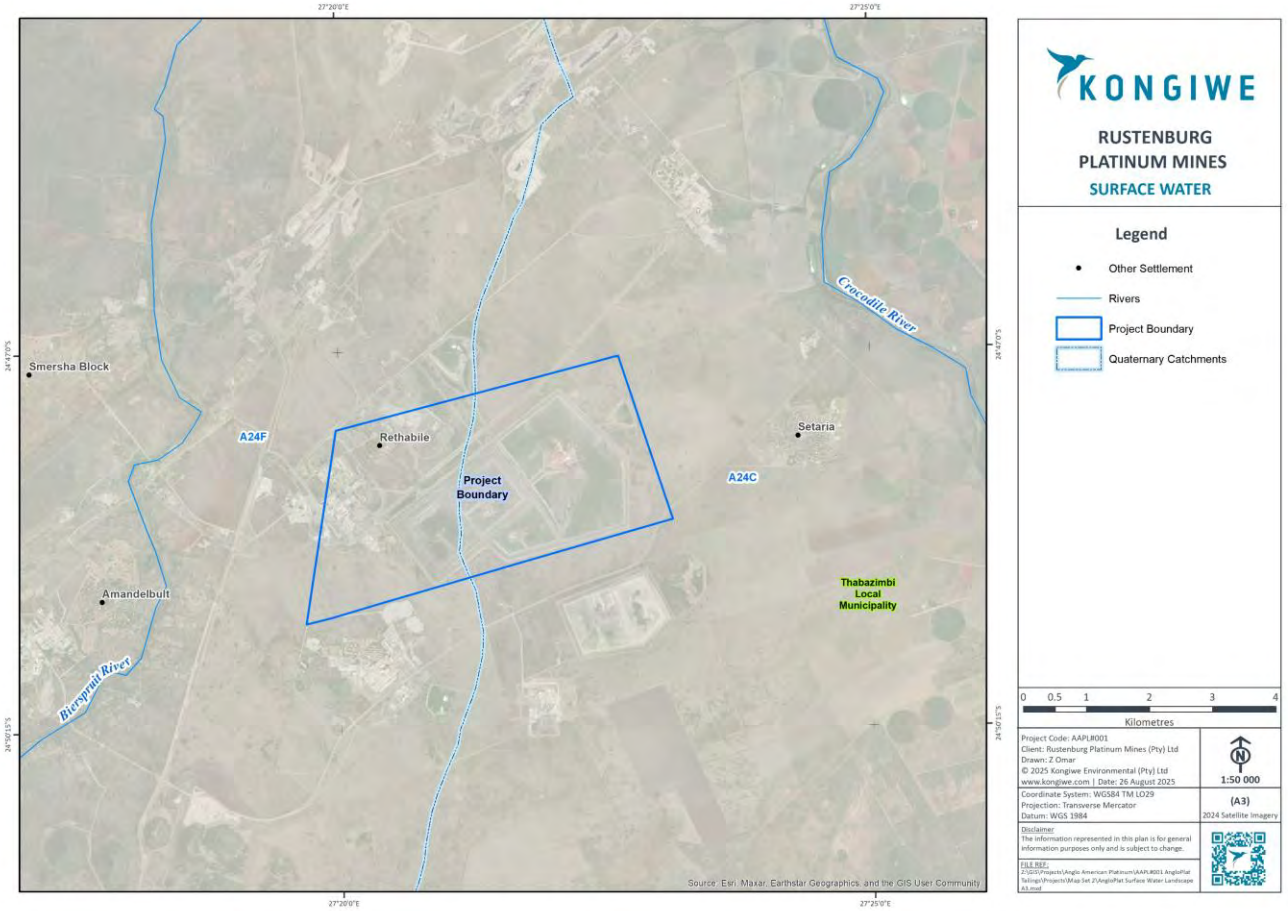
15.Specialist Findings – Surface Water

- The Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit).
- A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented.
- Surface water quality at the AMB Concentrator is monitored on a monthly basis. Process water contained (surface) in the recycling circuit water quality was analysed and is described below:
  - pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
  - Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
  - Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
  - Sodium and chloride exceeded the limits at all of the monitoring points during most months;
  - Elevated levels of nitrate were recorded at most of the monitoring points;
  - Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
  - E.coli was elevated at all monitoring points.



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16. Specialist Findings-Groundwater

- Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly.
- Groundwater quality mostly within SANS drinking water quality standards.
- The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.
- Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole
- The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography,
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- No risk of decant was identified for this project.

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17. Specialist Findings - Heritage

- During the fieldwork no heritage features or resources were identified.
- According to the DFFE heritage screening report, the project area has a Low Heritage Sensitivity.
- The fieldwork has shown that there are no archaeological or other tangible heritage resources present within the study area and therefore, the DFFE screening rating remains low.
- As no tangible heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as **MEDIUM NEGATIVE** before and **LOW NEGATIVE** after mitigation if a chance finds procedure is followed.
- The ongoing reclamation of the TSF is assessed as having a negligible impact on the cultural landscape, given that it is integrated into the current mining operations and does not entail the complete eradication of tangible remnants of the mine and its associated history.
- According to the SAHRIS Palaeontological the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website). No further studies will be needed.

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18. Specialist Findings – Socio-Economic

- As indicated in the Table below, the project will have positive impacts on local employment during the construction and operational phases.
- Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.
- Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years.
- These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

Impact Description	BEFORE MITIGATION SIGNIFICANCE	AFTER MITIGATION SIGNIFICANCE	Cumulative Impact
Construction Phase			
Employment and Income	Low+	Medium +	No
Informal influx of job-seekers	Low-	Low -	Yes
Nuisance factors	Low -	Low -	Yes
Operational Phase			
Employment and Income	Medium +	Medium +	No
Informal influx of job-seekers	Medium -	Medium -	Yes
Nuisance factors	Medium -	Medium -	Yes
Community health and safety	Medium-	Medium -	Yes
Impact on adjacent farmers due to water issues	Medium -	Low -	Yes
Post- Closure			
Unlocking of land	Medium +	Medium +	No
Cessation of employment	Medium -	Medium -	No

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19. Specialist Findings - Noise

- The Project site is in an area with a mixed-use development character. The major noise sources in the area include vehicular traffic on the national and provincial roads in the areas, noises from the local communities and mining related noises.
- Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.
- Considering only noise, people in the area not directly affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project.
- A noise model was developed to illustrate the potential existing noise level contours, with the locations of the various noise sources conceptualised. The projected existing noise levels are illustrated in Maps below and defined per Noise-sensitive Receptor (NSR) for the daytime period.

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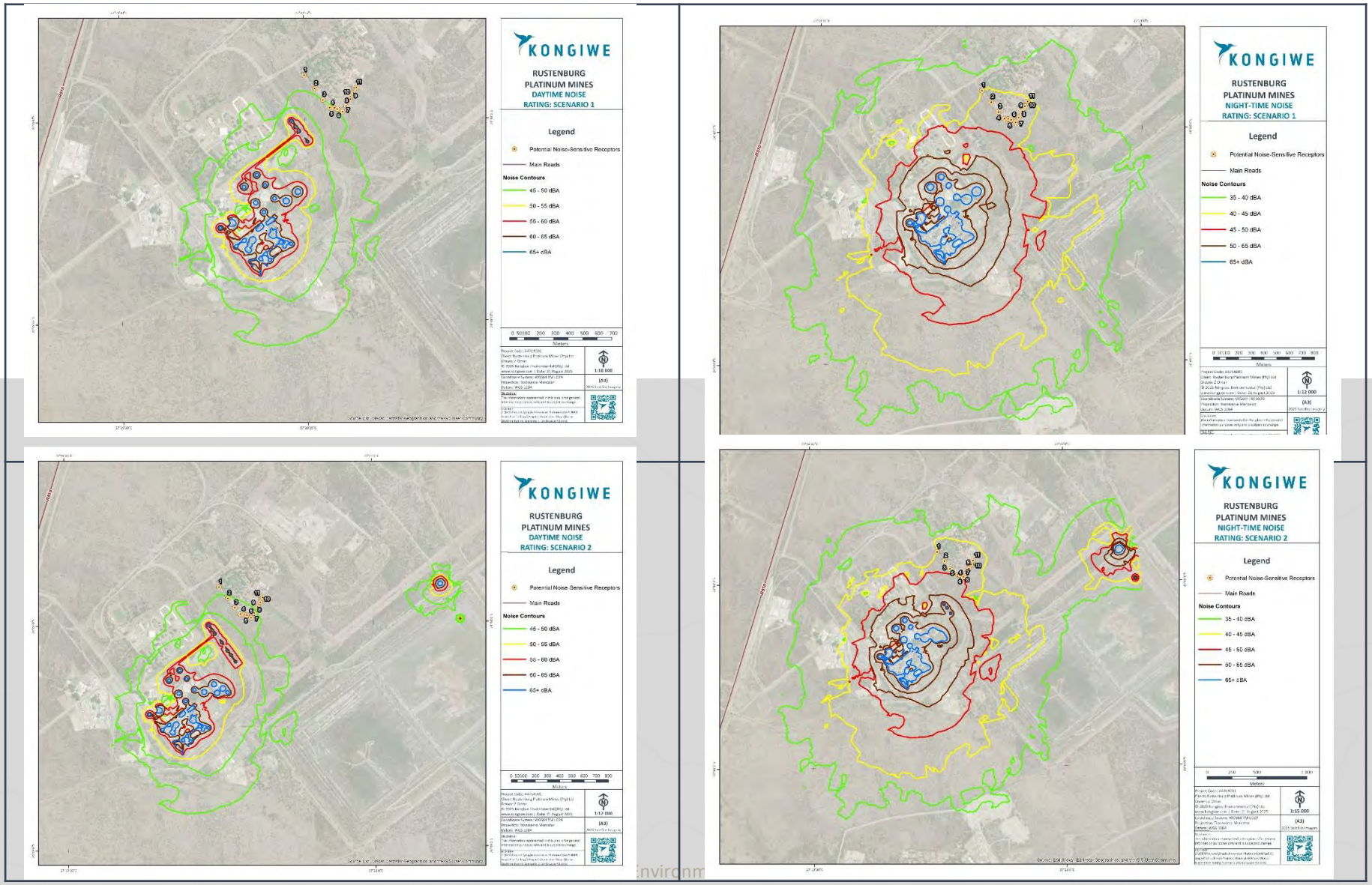
19. Specialist Findings – Noise



20. Mitigation Summary

Field	Main Impacts	Mitigation Measure
Terrestrial Biodiversity	• Environmental and Groundwater Pollution • Introduction of alien and invasive species, especially plants • Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	• Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. • No servicing of machines, vehicles and equipment outside of designated laydown areas. • Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.
Wetlands	• Habitat disturbance and fragmentation can disrupt and fragment wetland habitats; and • Oil and water pollution can lead to erosion and a change in water quality.	• Follow best practices for installation, dismantling and removing equipment to prevent spills. • Ensure that all disturbed areas are stabilised before the onset of rainy seasons. • Conduct regular monitoring and removal of invasive species.
Surface water	• Erosion and wash off of exposed soils leading to siltation in downgradient watercourses.	• Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around exposed working areas; and • The Stormwater Management Plan (SWMP) must be implemented as a first step during the construction phase.
Groundwater	• Quantity impacts are not expected during Construction. • Disturbance of the mine dump or exposure of the ground surface may enable water and air to infiltrate the tailings material, particularly following rainfall. • Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces. • Additional quality impacts are suspected to be low during Construction.	• Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time. • Continue with the groundwater monitoring program at AMB before reclamation starts. • Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. • Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.

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20. Mitigation Summary Cont…

Field	Main Impacts	Mitigation Measures
Air Quality	• Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	• Spray-on surface treatments on the haul roads to reduce dust generation. • Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. • Restriction of the stripped band to the minimum width practical. • Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. • Keeping the area of mechanical reclamation to a minimum.
Social	• Impact on employment and income; • Positive contribution to social funds; • Impact on community health and safety; • Potential influx of people to the project area; and	• Consider formal training of unskilled workers mobilised during the construction phase; • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels. • Strict adherence to the mitigation measures of the traffic and air quality impact reports. • A grievance management mechanism should be in place to receive incident related queries.
Heritage	• Destruction of cultural heritage resources • Undiscovered cultural heritage resources	• A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. • Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted.
Noise	• Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors and pumps during the operational phase	• AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. • AMB could investigate the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas.
Soil and Agriculture	• Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility	• Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas. • Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilised to avoid impacts on adjacent areas

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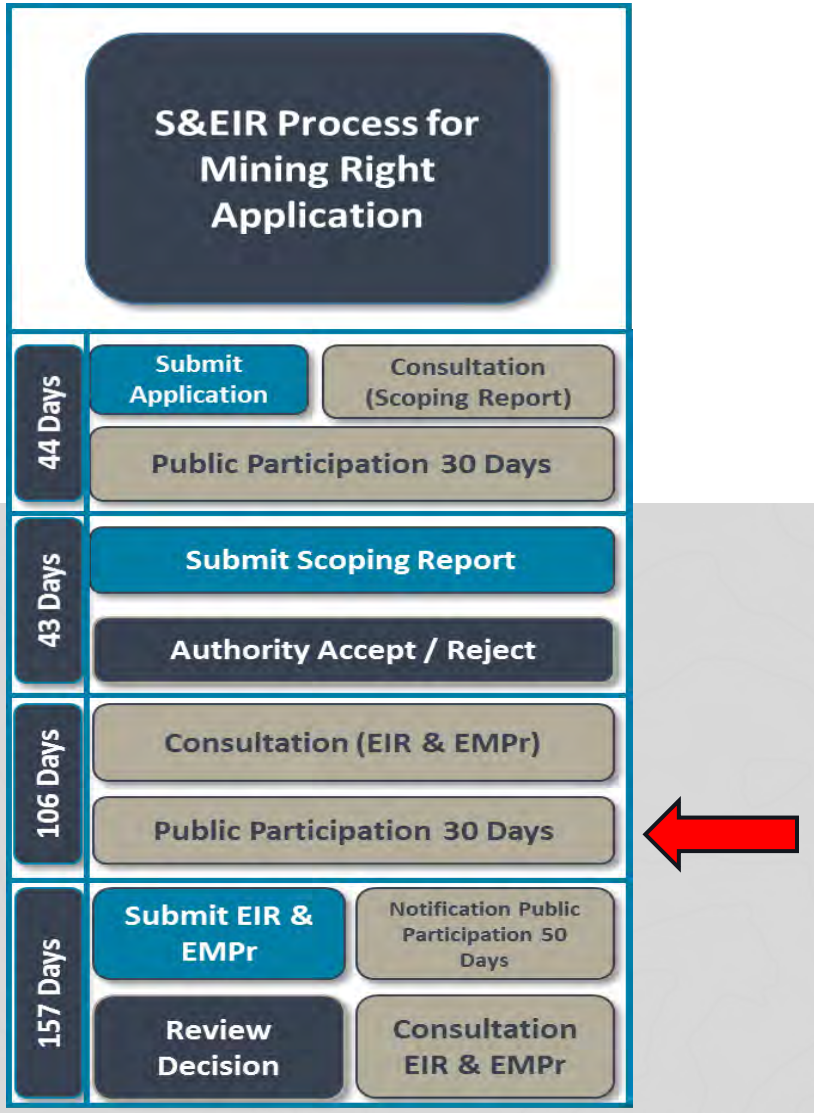
21. Legislative Framework

- An integrated Environmental Authorisation (EA) application has been submitted to the DMPR as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMPR are as follows:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme;
  - **Application for a waste management licence (WML)** authorising waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA.



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22. Document Availability

Location	Physical Adress	Contact Person
Draft EIA/EMPr		
Corporate Affairs and Sustainability (previously Social Performance) Office	Amandelbult Mine, Main Office, R510, Office Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm
Online availability		**Online availability**
Kongiwe Environmental website	https://kongiwe.com/projects/	Kongiwe Environmental website
An electronic copy of the Draft EIA/EMPr will be made available upon a request directed to the stakeholder engagement team. Stakeholders are encouraged to contact the stakeholder engagement team (Vanessa Viljoen/Thuli Phakathi), Tel: (010) 140 1725 / (010) 140 1726, email: stakeholders@kongiwe.com should they require assistance with accessing Draft EIA/EMPr or have queries regarding the Proposed Project.		

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23. Timeframe

- NEMA application submission: Tuesday, 17 June 2025
- NEMA application accepted: 19 July 2025
- Project Announcement: Thursday 19 June 2025
- Scoping Phase Public Participation Period: Wednesday, 18 June 2025 to Thursday, 17 July 2025.
  - Online Meetings: Friday, 27 June 2025
  - **Public Meeting / Open Day:** Monday 23 June 2025, Tuesday 24 June and Friday, 11 July 2025 at at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
- Final Scoping Report Submission: Monday 28 July 2025
- Announce availability of DEIA/EMPr, Friday, 19 September 2025
- EIA Public Participation Period: Friday, 26 September 2025 until Monday, 27 October 2025.
  - Online Meetings: Tuesday 7 October 2025
  - **Public Meeting / Open Day:** Thursday 9 October 2025 and Friday 10 October 2025 at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

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Comments & Discussion

- Discussion
- Closing

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Contact

- **Grant Cornish-Bowden**
- **082 448 1921**
- **gcornish-bowden@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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MINUTES OF MEETING			
Date	Thursday, 9 October 2025	**Time**	09:00 – 13:28
Venue	Amandelbult Mine, Recreation Club, Amandelbult, 0362		
Subject	**Open Day Meeting Minutes: Thabazimbi Local Municipality and associated communities (Smashblock, Northam, Jabulani and Sebilong)**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal
Valterra Platinum	Ms Marvey Ursula	Amandelbult Mine Environmental Manager
Valterra Platinum	Mr Kaitumela Letebele	Amandelbult Mine Social Performance Manager
Valterra Platinum	Ms Tebogo Priscah Masipa	Amandelbult Mine Community Relations Office
Valterra Platinum	Ms Johanna Mashiatshiti	Amandelbult Mine Community Relations Office
Valterra Platinum	Ms Elsie Galeboye	Amandelbult Mine Environmental Officer
Valterra Platinum	Mr Moyo Thabo	Amandelbult Mine Social Performance Manager
Kongiwe Environmental (Pty) Ltd	Mr Grant Cornish-Bowden	Project Manager
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Principal Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Mr Lubabalo Zongolo	Environmental Intern
The Thabazimbi Local Municipality and the associated Communities – signed attendance register		

Apologies		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum	Mr Davhana Thayani	Valterra Platinum Engineer for Project
Valterra Platinum	Mr Molefe Mike	Amandelbult Mine Safety, Health, Environmental and Permitting Senior Manager

Note: A list of stakeholders who attended the Open Day is attached as Appendix A to these minutes.

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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The minutes of the meeting are documented below. Copies of the presentation and the Non-Technical summary were made available to the stakeholders at the meeting.

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Mr Letebele welcomed all Open day attendees upon arrival	Mr Kaitumela Letebele	N/A
1.2	Mr Cornish-Bowden started with the EIA presentation in English, which was translated into Xhosa.	Mr Grant Cornish-Bowden	N/A
2	**Meeting Purpose**		
2.1	Mr Cornish-Bowden noted the purpose of the meeting which was indicated as follows: Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project and the associated EIA process.	Mr Grant Cornish-Bowden	N/A
2.2	Provide an overview of the specialist study's findings completed for the EIA study		
2.3	Provide stakeholders with an opportunity to raise comments/seek clarity and provide input in this EIA process.		
2.4	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).		
3	**Meeting Agenda presented at the meeting**		
3.1	Purpose of the meeting	Mr Grant Cornish-Bowden	N/A
3.2	Important Notice		
3.3	Introduction		
3.4	Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)		
3.5	Project Background		
3.6	Project Location		
3.7	Project Infrastructure Description		

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No	Item	Responsible Person	Due Date
3.8	Rehabilitation		
3.9	Project Alternatives		
3.10	Specialist Studies & Impact Assessment		
3.11	Air Quality		
3.12	Biodiversity		
3.13	Wetlands		
3.14	Soil and Agriculture		
3.15	Surface Water		
3.16	Groundwater		
3.17	Heritage		
3.18	Socio-Economic		
3.19	Noise		
3.20	Mitigation Measures		
3.21	Legislative Framework		
3.22	Document Availability		
3.23	The Way Forward		
3.24	Questions & Answers		
Please refer to **Appendix A** for the attendance registers.			
4	**Discussion post the presentation made by Mr Cornish-Bowden**		

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No	Item	Responsible Person	Due Date
Refer to the table below			

Stakeholder	Comment	Response	Responsible Person	Due Date
Mr Bosney Mashau, PR Cllr	Mr Mashau indicated that the community had been mobilised to actively participate in public engagement processes, including those related to the Solar Plant project. However, he noted that while the project is currently underway, he expressed concern that when employment and contracting opportunities arise, the very community members who participated in these consultations are often excluded from the recruitment and procurement processes.	Ms Fiehn clarified to Mr. Mashau that the Solar Plant under the Valterra project had been halted, and that any solar development currently underway is not associated with Valterra. She further explained that the Solar Plant project linked to Valterra has not yet met the required legal permitting obligations. In particular, she highlighted that substantial work remains to be completed, especially in relation to finalizing the Environmental Impact Assessment (EIA) process.	N/A	N/A
	Mr Mashau inquired how Amandelbult was intending to support skills development initiatives, given that the proposed project would require a skilled workforce. He further noted that community members consistently participate in public consultation processes for Valterra projects; however, when recruitment begins, those same participants are often excluded from employment opportunities.	The comment was noted. Mr Letebele responded by stating that recruitment opportunities are communicated through community leadership structures. He further indicated that Valterra is in the process of developing portable skills training programmes aimed at empowering local community members. He emphasized the importance of equipping the community with relevant skills and building their capacity to participate meaningfully in upcoming projects.		
Ms Malebo Moredi	Ms Moredi expressed concern that local leadership was failing the community. She alleged that favouritism and bribery were influencing employment processes,	Mr Letebele stated that the mine is not in a position to intervene in matters concerning community leadership, as it is not within the company's mandate to influence or		

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	making it difficult for ordinary community members to access opportunities. She noted that information regarding the proposed project had been available for some time; however, Ward Councillors had not adequately disseminated this information. As a result, only a limited number of people—primarily those who attended the previous Public Participation (PP) meeting—were informed. Ms Moredi emphasized that local leaders must take responsibility and stop using the narrative that the mine is not hiring, when in fact recruitment is taking place but the information is not being effectively shared.	dictate the selection of leaders elected by community members. He further noted that the mining industry is currently facing a significant contraction and as a result, there has been a substantial reduction in available employment opportunities. The apparent lack of communication from community leadership regarding job openings may be due to the fact that there are either no opportunities available or only a minimal number.		
Mr George Serole	Mr Serole requested that the mine consider donating uniforms and providing a regular stipend to the Semane Community Patrol, in support of their community safety efforts.	Mr Letebele clarified that the request submitted by Mr Serole falls within the mandate of the Amandelbult Mine Corporate Affairs and Sustainability Office. As such, the matter will be escalated to the Donations Committee for review and further consideration.		
	Mr Serole requested the establishment of an Information Centre in Northam to improve access to communication, opportunities, and community resources. He further highlighted that local manufacturing companies, which once played a significant role in job creation, have since ceased operations. He emphasized the need to revive the manufacturing sector in order to	The comments were noted. Mr Letebele advised that the concern regarding access to land should be directed to the local government, as it falls within their jurisdiction. He recommended that the matter be escalated through appropriate channels to the relevant municipal departments for consideration.		

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	stimulate local economic development and reduce unemployment. Mr Serole also expressed the potential of agriculture as a viable employment avenue. However, he noted that the community faces a major constraint in this regard due to the lack of access to agricultural land.			
Ms Thabisile Mkhabela	Ms Mkhabela expressed disappointment in the performance of local leadership, stating that community leaders are failing to advocate effectively for job creation. She highlighted the community's growing frustration with ongoing unemployment and stressed the urgent need for intervention, given the high unemployment rate in the area.	The comment was noted.		
Ms Kgadifele Phiri	Ms Phiri requested that the mine provide assistance to the elderly group she belongs to. Specifically, she requested donations of food and agricultural seeds to help support the group's nutritional needs and promote self-sustainability through small-scale farming.	Mr Letebele clarified that the request submitted by Ms Phiri falls within the mandate of the Amandelbult Mine Corporate Affairs and Sustainability Office. As such, the matter will be escalated to the Donations Committee for review and further consideration.		
	During the meeting, Ms. Phiri proposed the creation of a list for the youth to better coordinate support and interventions. She highlighted the community's growing frustration with the prevalence of drug and alcohol abuse among the youth and stressed the need for urgent action.	The comment was noted.		

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Ms Mahadi Hlalele	Ms Hlalele advocated for the removal of community leaders from the recruitment process, expressing concerns that they have not been effectively supporting or advocating for the community members during employment matters.	Mr Letebele responded to Ms Hlalele by explaining that different companies employ varied recruitment processes, and Valterra follows its own established procedures. He emphasized that external parties cannot dictate which recruitment methods the company adopts. Furthermore, Mr Letebele highlighted that the mining industry is currently contracting, which limits job opportunities. He encouraged the community to explore alternative economic opportunities, such as agriculture, as a means to address unemployment challenges.		
Mr Petros Lewang	Mr Lewang raised a question regarding the air quality monitoring equipment located within the community. He highlighted that residents were not sufficiently informed about the installation, its function, or how the data collected would be shared with the community.	Mr Letebele acknowledged the inquiry and confirmed that the team would look into the matter raised by the community concerning the air quality monitoring equipment. Post the meeting: **Ms Ursula Marvey's Response:** As part of our Environmental Management Programme (EMPR) commitments, dust monitoring stations have been strategically placed around the mining right area to monitor and manage dust levels associated with operational activities. There are currently no monitoring stations within the surrounding communities because the nearest		

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		communities are located more than 30 km away from the mining activities. Based on this distance and prevailing environmental assessments, the dust and air quality impacts from the project do not extend to these communities. We remain committed to transparency and will continue to share relevant environmental performance information through established communication channels.		
Ms Pauline Phiri	Ms Phiri requested that the mine consider providing harvesting materials as a donation to assist with local farming efforts.	The comment was noted by the Amandelbult Social Performance team.		
5	**Closing**			
Mr Kaitumela Letebele	Mr Letebele thanked everyone for their time and the meeting was adjourned at 13:28 PM.		ALL	-

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MINUTES OF MEETING			
Date	Thursday, 9 October 2025	**Time**	13:00 – 16:00
Venue	Amandelbult Mine, Recreation Club, Amandelbult, 0362		
Subject	**Open Day Meeting Minutes: Baphalane Ba Ramokoka (BBR) communities**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal
Valterra Platinum	Ms Marvey Ursula	Amandelbult Mine Environmental Manager
Valterra Platinum	Mr Kaitumela Letebele	Amandelbult Mine Social Performance Manager
Valterra Platinum	Ms Tebogo Priscah Masipa	Amandelbult Mine Community Relations Office
Valterra Platinum	Ms Johanna Mashiatshiti	Amandelbult Mine Community Relations Officer
Valterra Platinum	Ms Elsie Galeboye	Amandelbult Mine Environmental Officer
Valterra Platinum	Mr Moyo Thabo	Amandelbult Mine Social Performance Manager
Kongiwe Environmental (Pty) Ltd	Mr Grant Cornish-Bowden	Project Manager
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Principal Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Mr Lubabalo Zongolo	Environmental Intern
The BBR Community – signed attendance register		

Apologies		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum	Mr Davhana Thayani	Valterra Platinum Engineer for Project
Valterra Platinum	Mr Molefe Mike	Amandelbult Mine Safety, Health, Environmental and Permitting Senior Manager

Note: A list of stakeholders who attended the Open Day is attached as Appendix A to these minutes.

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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The minutes of the meeting are documented below. Copies of the presentation and the Non-Technical summary were made available to the stakeholders at the meeting.

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Mr Letebele welcomed all Open day attendees upon arrival	Mr Kaitumela Letebele	N/A
1.2	Mr Cornish-Bowden started with the EIA presentation in English, which was translated into Setswana.	Mr Grant Cornish-Bowden	
2	**Meeting Purpose**		
2.1	Mr Cornish-Bowden noted the purpose of the meeting which was indicated as follows: Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project and the associated EIA process.	Mr Grant Cornish-Bowden	N/A
2.2	Provide an overview of the specialist studys' findings completed for the EIA study.		
2.3	Provide stakeholders with an opportunity to raise comments/seek clarity and provide input in this EIA process.		
2.4	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).		
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3.5	Project Background		
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No	Item	Responsible Person	Due Date
3.8	Rehabilitation		
3.9	Project Alternatives		
3.10	Specialist Studies & Impact Assessment		
3.11	Air Quality		
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Please refer to **Appendix A** for the attendance registers.			
4	**Discussion post the presentation made by Mr Cornish-Bowden**		

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No	Item	Responsible Person	Due Date
Refer to the table below			

Stakeholder	Comment	Response	Responsible Person	Due Date
Ms Lesolang Motswadi	Ms Motswadi commended the meeting for being informative. However, she expressed concern that the proposed project would create limited employment opportunities and that these would require specific skill sets. She requested detailed information on the skills required for employment to ensure transparency and to avoid any dissatisfaction or perceptions of nepotism within the community.	Mr Cornish-Bowden clarified that the project demands different skill sets at different phases. The construction phase will primarily require general construction skills, while the operational phase will necessitate more specialised skills such as heavy machinery operation and water cannon handling, alongside other technical proficiencies. He reiterated that the intention is to be open and transparent in terms of the availability of employment opportunities and to not create unrealistic expectations. He further reiterated that there is an existing recruitment process for the operation and that this project, as a component of the larger existing mine, would fit into the existing process.	N/A	N/A
	Ms Motswadi questioned the qualifications of the officials at the Department of Mineral and Petroleum Resources (DMPR) Policy and Regulation responsible for approving applications, citing community frustrations due to frequent application rejections. She also recommended that specialists perform thorough site inspections to ensure compliance and completeness prior to application submission.	Ms Marvey assured the meeting that DMPR officials possess the necessary qualifications to evaluate applications. She further explained that site inspections are conducted prior to approval to verify that the site conditions are appropriate and that potential environmental and community impacts are carefully assessed.		

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Mr Desmond Ramokoka	Mr Ramokoka sought clarification on the following points: 1. The specific role and involvement of Kongiwe in the proposed project. 2. The nature and extent of benefits the community will receive from the project. 3. The assertion that the Ramokoka community should be entitled to 30% of the project profits.	Mr Cornish-Bowden explained that Kongiwe Environmental was an independent environmental company appointed by Valterra to undertake the Environmental Impact Assessment (EIA) for the proposed project. He reiterated the role of the independent assessment practitioner and noted that there is no role for Kongiwe other than the scope of work related to the application for the Environmental Authorization (EA). He noted again that the project is expected to create a limited number of employment opportunities for community members and that these opportunities would be run through the existing processes established for the overall mining operation. Regarding the requested 30% profit share, he clarified that Kongiwe does not have the mandate to make decisions on profit distribution, as this is under Valterra's authority; Kongiwe's role is strictly advisory and environmental compliance related to the proposed project.		
Mr Welcome Matshoga	Mr Matshoga requested information on potential small business opportunities connected to the proposed project and asked which specific types of businesses would be aligned with or benefit from the project activities.	Mr Cornish-Bowden explained that employment opportunities will arise during both the construction and operational phases of the project. He further highlighted that the project may present small business opportunities and encouraged community members to explore ways to align their businesses with the project's requirements and activities. He reiterated that, as with employment, the existing hiring and contracting processes would be followed.		

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Mr Patrick Sethole	Mr Sethole asked about the recruitment procedures to be used for the project. He highlighted that most community members have underground mining experience but recognized that the project may demand different skills. He therefore requested that appropriate skills development and training initiatives be introduced to equip the community with the necessary competencies to access employment opportunities.	The comment was acknowledged. Mr Cornish-Bowden clarified that the key skills needed for the project primarily involve operating heavy machinery, including dump trucks and water cannons, which play a critical role during the reclamation phase.		
Mr Gabriel Ratau	Mr Ratau raised a concern that the community members have not been provided with copies of the relevant project reports.	Ms Phakathi informed Mr Ratau that the non-technical reports of the Draft EIA/EMPr had been disseminated and made available at the Ramokoka Traditional Council and Ramokoka Clinic. She further confirmed with Mr Desmond Ramokoka that he had received the Non-Technical Reports (NTS). (The Non-Technical Reports and presentations were distributed at the meeting).		
	Mr Ratua requested information regarding opportunities for employment as general workers on the proposed project.	The comment was noted, and employment information was reiterated as reported above.		
Mr David Sekanka	Mr Sekanka firmly demanded that the Ramokoka community receive 30% beneficiary participation from the project. He expressed frustration that the mine does not adequately consider the Ramokoka community during recruitment processes. Furthermore, he emphasized the	The Amandelbult Mine Social Performance Team noted the comment.		

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	need for training, skills development, and community development initiatives. Mr Sekanka also noted that Kongiwe and individuals from Gauteng and other provinces have been benefiting from the mines, while the Ramokoka community's involvement has been largely limited to participation in public consultation meetings for various EIA projects. He expressed a strong sentiment that the community has been excluded from economic opportunities for an extended period.			
Mr Kamogelo Ntsie	Mr Ntsie sought clarification on whether Valterra or Kongiwe would be the mining operator for the proposed project. He recommended that the community engage with the main contractor responsible for executing the project, noting that Kongiwe's involvement is strictly as environmental consultants.	Mr Conish-Bowden clarified that Kongiwe is not the mining operator for the Proposed Project but serves as the Independent Environmental Assessment Practitioner (EAP) appointed to undertake the EIA process. He also added that Valterra will contract an external company which will be responsible for the mining operations. This recommendation was noted by Valterra's social performance team.		
Ms Siepati Phiri	Ms Phiri, speaking on behalf of the Community Engagement Forum (CEF), raised concerns about insufficient communication regarding the proposed project, which impacted meeting attendance. She highlighted that the Forum could have helped reach more community members had they been properly informed. Despite many invitations being extended, job opportunities remain limited. She	Mr Cornish-Bowden clarified that the project was announced to stakeholders via email, newspaper advertisement, site notices, telephonic discussions and SMS. In addition, information was shared with community councillors to disseminate the message to community members who were not registered as Interested and Affected Parties (I&APs).		

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	reiterated the community's demand for a 30% share of project benefits and stressed that this must be addressed. Furthermore, she requested the establishment of a comprehensive list of potential candidates eligible for employment to promote transparency.	Valterra's team noted and acknowledged the matters raised regarding opportunities. Mr. Letebele further explained that Valterra's policy does not allow accepting lists from community members, as there is a formal recruitment process is in place.		
5	**Closing**			
Mr Kaitumela Letebele	Mr Letebele thanked everyone for their time and the meeting was adjourned at 16:00 PM.		ALL	-

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ATTENDANCE REGISTER

Project Name	Valterra Platinum - EA TSF Dam 2 Reclamation Project
Venue	AMB Recreation Club 76, Rustenburg Road, Thabazimbi
Date	9 October 2025 **Time** 14:00

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
LESOLANG MOTSWADI		RAMOKOKA	lesolangmotswadi99@gmail.com		

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ATTENDANCE REGISTER

Project Name	Valterra Platinum – EA TSF Dam 2 Reclamation Project
Venue	AMB Recreation Club 76, Rustenburg Road, Thabazimbi
Date	9 October 2025 **Time** 14:00

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
B.I Masilo Mr Caiphus Masilo	Community Liaison	Ward 12 Ramok	caiphusmasilo@gm	066 039 9106	
PONDO THABO	Community	Ward 11	Mmorogong	078 172 5796	
Tau Kedisaletse	Community	Ward 11	Bojating	0674765653	K.Tau
Daniel Mphela	Community	Ward 12	Ramokokastad	076 301 2059	
Moruwa Orethabotso	Community	Ward 12	Ramokokastad	071 780 2317	
PATRICK Sethole Mebakang Sethole	COMMUNITY	WARD 11	RAMOKOKASTAD	0731609678	
Zebulon Mogale	Community	Ward 12	Ramokokastad	082 6464 276	
Amanda Matome	Community	ward 11	Mmorogong	0640683489	

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
Mkele Makgae	Ramokokoka	Phadi	-	0726063905	

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ATTENDANCE REGISTER

Project Name	Valterra Platinum – EA TSF Dam 2 Reclamation Project
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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
✓ FISH Thapi Maponyane.	Ramokokastad		–	0739128571	
FISH	Ramokokastad		–	0676880940	Mkandakaly
✓ Thabo Tshukudu	–	Mmarogong	tshukudithabo787@gmail.com	0838711661	
Okeng Phiri	Ramokoka stad	Pylkop	2eenaeturo@gmail.com	0724028359	
✓ Pertunia	P.Ramokoka	Ramokoka	pertuniaR@g.mail.com	0673127698	
✓ KAGISO Moatshe Phalane	RAMOKOKASTAD	RAMOKOKASTAD	moatshekagiso001@gmail.com	065 067 6351	
✓ KAGISO Motlhamme	RAMOKOKASTAD	JERMOH Holdings	jerryjazz@gmail.com	063 667 8459	
✓ TUMISANG Tumi Phalan	RAMOKOKASTAD	RAMOKOKA	–	076 087 8480	

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
✓ PETER THOMPO	COUNCILLOR	BAPHALANE BA RAMOKOKA	PeterThompo@gmail.com	0739749277	
✓ DESMOND RAMOKOKA	" "	BAPHALANE TRADITIONAL C	desmondramokoka@gmail.com	0827912126	

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Venue	AMB Recreation Club 76, Rusterburg Road, Thabazimbi
Date	9 October 2025 **Time** 14:00

Private Information Disclaimer: Please note that the information supplied herein constitutes Personal Information as contemplated in Protection of Personal Information Act, 2013. All of your rights as set out in the Act will continue to be protected and Kongiwe will be accountable to ensure that all conditions for lawful processing are met. Your signature will be regarded as granting consent for the processing of the information strictly in accordance with the provisions of the Act.

Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
WELCOME MATSHOGA	Community Member	welcomematshoga@gmail.com	Baph T/C	0761170961	
Thabang Mmutlana MMUTLANA	community member	Mmorogong	BAe	0647442279	
Kgomotso Moitsiwa Kgomotso Moitsiwa	Baphalane Community	Kgmoitsiwa	BAPH T/C	0673451409	
Jacqueline Coetzee	Baphalane	Ramokoka Stand	Jacqueline@ramokoka.co.za	0817321613	
Boitshoko Mfulwane	Baphalane	Ramokoka	Boitshoko	0664669991	
Maryjane Mojaka	Baphalane	Ramokoka	maryjanemojaka92@gmail.com	0635139250	
Maria Letlape Maria Letlape	Baphalane	Ramokoka	Letlape Mariamodikgum	0825946305	Mletlape
Jemakaleng. Semakaleng	Baphalane	Ramokoka	SJ Makakaba	0794123570	

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ATTENDANCE REGISTER

Project Name	Valterra Platinum – EA TSF Dam 2 Reclamation Project
Venue	AMB Recreation Club 76, Rustenburg Road, Thabazimbi.
Date	9 October 2025 **Time** 14:00

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
Dielintle Selokela	Community	BBR. Mmorogong	dselokela@gmail.com	0731871220	
Gabriel Rotau / Gabriel Rotau	Community	Ramokoka	gabrielrotau@53	0734717893	
Kedibone	Tau	Ramokoka	/	0630070992	K. TAU
Dimakatso masilo	community	Ramokoka	dimakatsomasilo095@gmail	0781596940	
Bintwa Matsape	community	Mmorogong	Hazzyhazzy621@gmail	0717560851	B.M Matsape
Agnes Chauke	community	Mmorogong		0732375153	A Chauke
Klaris Mphela	Community	Phadi/Pyltop		0796235946	K. Mphela
Siepati Phiri	Community	Ramokoka	Siepatiphiri68@gmail.com / acraborako@gmail.com	0673950037	S Phiri

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ATTENDANCE REGISTER

Project Name	Valterra Platinum – EA TSF Dam 2 Reclamation Project
Venue	AMB Recreation Club 76, Rustenburg Road, Thabazimbi
Date	9 October 2025 **Time** 14:00

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Full Name	Designation	Company Name	Email Address	Mobile / Telephone Number	Signature
✓ Keodang Motsw	adi Community Member	Phalane	KeodangMotswadi@gmail.com	0632962319	
Ikaneng Mosiie		MCSR Corp			
✓ Pel-er Ramokoka Peter Ramokoka		T/L Motlogeng		0632211524 0731997870	
Tshokolo Sigida					
✓ Rosinah Sigida Letsoalo Khutso	Community	Motlogeng	tshokolesigida@gmail.com	0736808688	
✓ Letsoalo khutso		Ramokoka	Giftkhutso18.@gmail.com	062 468 9226	
moithuti Skanka			com.ph		
✓ David Skanka	Community	Mmotlogeng	mdskanka@yahoo.com	0739858321	
✓ LEITA KEKANA Kekana	Ramokoka	Phadi	lettakekana88@gmail	0794500750	

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MINUTES OF MEETING			
Date	Friday, 10 October 2025	**Time**	09:00 – 11:00
Venue	Amandelbult Mine, Recreation Club, Amandelbult, 0362		
Subject	**Open Day Meeting Minutes**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal
Valterra Platinum	Mr Kaitumela Letebele	Amandelbult Mine Social Performance Manager
Valterra Platinum	Ms Tebogo Priscah Masipa	Amandelbult Mine Community Relations Office
Valterra Platinum	Ms Johanna Mashiatshiti	Amandelbult Mine Community Relations Office
Valterra Platinum	Ms Elsie Galeboye	Amandelbult Mine Environmental Officer
Kongiwe Environmental (Pty) Ltd	Mr Grant Cornish-Bowden	Project Manager
Kongiwe Environmental (Pty) Ltd	Ms Vanessa Viljoen	Principal Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe Environmental (Pty) Ltd	Mr Lubabalo Zongolo	Environmental Intern

Apologies		
Organisation	**Name of Attendee**	**Designation**
None		

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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No	Item		Responsible Person	Due Date
1	**Welcome and Introductions**			
1.1	N/A		N/A	N/A
2	**Meeting Purpose (The aim was to share the specialist findings, impacts, and mitigation strategies with the Mantserre community and any other members of the public in attendance regarding the proposed project.)**			
2.1	Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.			
2.2	Provide an overview of the specialist study's findings.			
2.3	Provide you with an opportunity to raise comments/seek clarity and provide input.			
2.4	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).			
3	**Meeting Agenda**			
3.1	N/A			
4	**Discussion**			
	Comment	**Discussion**	**Responsible Person**	**Due Date**
4.1	The meeting with the Mantserre community was attended by representatives from Kongiwe and the Valterra team. The venue remained open for two hours; however, no community members were present. A follow-up meeting with the Mantserre community has been requested.		N/A	N/A
5	**Closing**			
5.1	The meeting adjourned at 11:00 AM.		ALL	-

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MINUTES OF MEETING: OPEN DAY WITH THE MANTSERRE COMMUNITY TO PRESENT THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT (EIA/EMPR) AND SPECIALISTS FINDINGS			
Date	Wednesday, 12 November 2025	**Time**	10:00 – 12:00
Venue	Amandelbult Mine, Recreation Club, Amandelbult, 0362		
Subject	**Open Day Meeting Minutes: Mantserre Community**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum (Valterra)	Ms Marvey Ursula	Amandelbult Mine Environmental Manager
Valterra	Mr Kaitumela Letebele	Amandelbult Mine Social Performance Manager
Valterra	Ms Johanna Mashiatshiti	Amandelbult Mine Community Relations Office
Valterra	Mr Moyo Thabo	Amandelbult Mine Social Performance Manager
Kongiwe Environmental (Pty) Ltd (Kongiwe)	Mr Grant Cornish-Bowden	Project Manager
Kongiwe	Ms Vanessa Viljoen	Principal Stakeholder Engagement Consultant
Kongiwe	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe	Mr Phathutshedzo Munyai	Environmental Consultant

Apologies		
Organisation	**Name of Attendee**	**Designation**
Valterra	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal
Valterra	Mr Davhana Thayani	Valterra Platinum Engineer for Project
Valterra	Mr Molefe Mike	Amandelbult Mine Safety, Health, Environmental and Permitting Manager

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place.

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Mr Kaitumela Letebele (Mr Letebele) welcomed all Open day attendees upon arrival. (Attendees confirmed that they received a meeting invitation via an SMS send by Kongiwe)	Mr Letebele	12 November 2025
1.2	**Attendees requested that the minutes of the previous meeting (Scoping phase engagement) held on the 11 July 2025 be read and noted that they did not wish to proceed with the EIA and Specialist finding presentation. A discussion was held to explain the intent of this meeting and a request was made to continue as important information relevant to the EIA would be presented. It was agreed that the meeting minutes would be read for the benefit of the Mantserre community members present.**	Mantserre Community	
2	**Meeting Purpose**		
2.1	Mr Cornish-Bowden noted the purpose of the meeting which was indicated as follows: Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project and the associated EIA process.	Mr Cornish-Bowden	12 November 2025
2.2	Provide an overview of the specialist study's findings completed for the EIA study.		
2.3	Provide stakeholders with an opportunity to raise comments/seek clarity and provide input in this EIA process.		
2.4	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).		
3	**Meeting Agenda**		
3.1	Purpose of the meeting	Mr Cornish-Bowden	12 November 2025
3.2	Important Notice		
3.3	Introduction		
3.4	Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)		

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No	Item	Responsible Person	Due Date
3.5	Project Background		
3.6	Project Location		
3.7	Project Infrastructures Description		
3.8	Specialist Studies & Impact Assessment		
3.9	Air Quality		
3.10	Specialist Studies		
3.11	Biodiversity		
3.12	Wetlands		
3.13	Soil and Agriculture		
3.14	Surface Water		
3.15	Groundwater		
3.16	Heritage		
3.17	Socio-Economic		
3.18	Noise		
3.19	Mitigation Measures		
3.20	Legislative Framework		
3.21	Document Availability		
3.22	The Way Forward		

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No	Item	Responsible Person	Due Date
3.23	Questions & Answers		
Please refer to **Appendix A** for the attendance registers.			
4	**Discussion**		
Refer to the table below			

Stakeholder	Comment	Response
Mr Boikhutjo	Mr Boikhutjo raised a concern that on the previous meeting with Kongiwe the community requested that the General Manager of Valterra attend the session. He stated that the community has questions that can only be answered by the General Manager and included that Ms Makgasane should form part of this meeting. He emphasised that the community expects all previously agreed-upon commitments between the community and Valterra to be addressed before the meeting proceeds. Mr Boikhutjo further noted that the community feels their concerns are not being taken seriously by Valterra. As a result, community members indicated that they would not sign the attendance register for this meeting unless the General Manager and Ms Makgasane were present. He added that the community does not want Kongiwe to present on this meeting because they want Valterra to discuss matters relating to community benefits, as Kongiwe cannot resolve issues related to benefits requested by the Mantserre Community relating to the mining operation as a whole.	Mr Letebele responded by clarifying that Kongiwe as the the Environmental Assessment Practitioner (EAP) operates in accordance with legal regulatory requirements and is independent. He explained that companies such as Kongiwe function as independent EAPs, and their role is to conduct environmental assessments as mandated by law. He emphasised that all stakeholders, including the community, are part of the process because no Environmental Impact Assessment (EIA) can proceed without public participation. However, he noted that the concerns raised by Mr Boikhutjo regarding benefits and issues with Valterra and Mantserre Community relate to the mine as a whole. He emphasised that this process, and hence Kongiwe's role, was limited to the application relating to the re-processing of the TSF and the related EIA. He requested that this meeting be related to the EIA and matters presented by the EAP. Mr Letebele further clarified that Valterra is present to provide input on matters that fall within their responsibility, particularly those related to the Amandelbult Mine operations. He explained that their involvement is to ensure that responses are consistent and that the Mantserre

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		Community receives accurate and aligned information in relation to the presentation delivered by Kongiwe. It is noted that the meeting requested by the community was a broad mine wide meeting which falls outside the scope of the EIA process and that there are structures in place to facilitate such engagement.
Mr Morelong	Mr Morelong expressed concerns regarding the lack of engagement and transparency in previous Environmental Impact Assessment (EIA) processes conducted by other consultants. He stated that the community did not receive reports or follow-up meetings to address unresolved matters. He further requested that Kongiwe present the minutes from the previous meeting to ensure clarity and continuation of the process.	Mr Cornish-Bowden responded that Kongiwe follows all required procedures for public participation. He explained that all stakeholders are notified in advance of public meetings through site notices, SMS, e-mail, and the distribution of Background Information Documents (BID), Non-Technical Summary reports (NTS) and EIA reports to various accessible locations, including community halls, clinics, libraries, Royal Houses, and Board committee members. He stated that minutes from previous meetings are incorporated into the Draft EIA Report, which has been distributed to all stakeholders on the database. Mr Cornish-Bowden further acknowledged the request to present the previous meeting minutes. The previous meeting minutes for a meeting that took place 11 July 2025 were read by Mr Cornish-Bowden and the minutes were accepted. (note that the reading referred to above was initiated and various comments that follow were raised during such reading)
Ms Mogale	Ms Mogale requested that Mr Boikhutjo refrain from interrupting and avoid mixing issues related to Valterra and the Mantserre Community. She acknowledged the clarification provided that Kongiwe is an independent company and stated that the community accepts this explanation.	Kongiwe noted the request and confirmed that the comments such as presenting previous minutes and obtaining clarity from the Valterra team on the community's anticipated benefits from the proposed project were acknowledged. Kongiwe further assured the meeting that all community

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	Ms Mogale further requested Kongiwe to present the minutes of the meeting held on 11 July 2025. She noted that, as agreed at the start of the current meeting with Valterra, issues raised in the previous meeting would be addressed in a separate, dedicated session and not during the EIA presentation at this stage. From the Mantserre Community's perspective, the purpose of the current meeting was to confirm the accuracy of the previous minutes and to receive clarity from the Valterra team regarding the community's anticipated benefits from the proposed project.	inputs and concerns had been captured comprehensively omitting any issues raised during prior discussions. Mr Cornish-Bowden continued to read through the minutes for the meeting that took place on the 11 July 2025.
Mr Sekgone	Mr Sekgone stated that he needed to step out of the discussion briefly but wished to raise a concern before doing so. He explained that the community has been campaigning to be included in matters related to the TSF dams, and that information received outside this meeting suggests that there is ongoing disagreement between the Mantserre Community, Anglo, and communities surrounding the TSF facilities. He asked whether other affected communities, such as Thabazimbi and others located around the TSF dams, would also be involved in the discussions. He further questioned whether the current meeting was intended to address TSF-related matters specifically.	Mr Letebele noted that, in terms of the Mining Health and Safety Act (MHSA) and the Mineral and Petroleum Resources Development Act (MPRDA), when a mine such as Valterra operating within the Amandelbult area conducts activities that have impacts on surrounding communities, all affected communities must be engaged. He explained that this legal requirement ensures that all neighbouring communities are informed and included in discussions regarding mining activities and any associated impacts.
Mr Mohatse	Mr Mohatse asked whether Kongiwe has communicated with the General Manager of Valterra regarding the community's concerns and challenges related to benefits for the Mantserre Community.	Mr Cornish-Bowden explained that Kongiwe communicates with the Valterra team on matters related to the EIA process and environmental issues. He clarified that Valterra appointed Kongiwe to conduct the EIA for the Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project (Proposed Project), and communication is limited to this scope. He noted that the concerns are raised in the presence of the Valterra team that Kongiwe is required to communicate through.

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		Ms Ursula added that the working relationship between Kongiwe and Valterra is focused solely on the proposed project within the context of the EIA process and the Environmental Authorisation (EA) application. She emphasised that as an independent EAP, Kongiwe does not have the authority or mandate to address mine-wide community benefit concerns raised by the Mantserre Community. These matters fall outside the scope of their work as an EAP.
Mr Mohatse	Mr Mohatse expressed concern that although Kongiwe is introducing development initiatives in the area, the Mantserre Community is not experiencing direct or meaningful benefits. He noted ongoing challenges such as high unemployment, lack of sustainable job opportunities, and a general feeling that Valterra Mine has not yet delivered tangible benefits to the local community.	Mr Moyo responded that Valterra reaffirms its commitment to acting as a responsible and inclusive development partner. He emphasised the importance of continued engagement and collaboration with the community to ensure that the benefits arising from the project are effectively shared and contribute positively to local development.
Mr Setseba	Mr Setseba stated that the community will only sign the attendance register once the consolidated report on community benefits is made available. He emphasized that signatures will be provided only after the community has received this information. He further questioned whether Kongiwe is responsible for providing the community's "packaging benefits," given that Kongiwe is conducting the EIA process for the Proposed Project.	Mr Moyo noted the request and clarified that signing the attendance register is voluntary. He explained that the attendance register serves as evidence to the Department of Mineral Petroleum Resources (DMPR) that public participation has been conducted in accordance with EIA requirements (post meeting note: this also allows Kongiwe to communicate with I&APs should they wish.) With respect to the query on packaging benefits, Mr Moyo stated that it is not the responsibility of Mr Cornish-Bowden or Kongiwe to address commercial benefit-related matters. He emphasised that Kongiwe's mandate is limited to the execution of the EIA process as an independent EAP. Issues related to overall community benefits fall under the responsibility of Valterra and not the EAP.

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Mr Moyo	Mr Moyo requested that the Mantserre Community provide clear direction to Valterra regarding their issues and expectations. He emphasised that this would help prevent unnecessary pressure being placed on Kongiwe, particularly on matters that fall outside the scope of the EIA process.	Mr Boikhutjo responded that the community's direction is that Kongiwe must return with individuals who have the competency and authority to address matters related to employment. He stressed that this should occur without delay and together with the ongoing EIA processes, as the community urgently requires job opportunities. Post meeting note: The response noted above relates to a mine-wide implementation activity rather than an assessment of impact and mitigation measures. The EIA includes a socio-economic assessment and related mitigations.
Mr Maketa	Mr Maketa inquired whether the proposed project would result in job creation, specifying that his question relates solely to employment opportunities.	Mr Cornish-Bowden clarified that the matter of employing staff falls under the responsibility of Valterra. He reiterated that Kongiwe's role is limited to conducting the EIA process and engaging the Mantserre Community on aspects of the Proposed Project as part of Valterra's initiative. It was noted that Kongiwe had been transparent in all public meetings that the specific project does create some employment opportunities but that these were limited since existing infrastructure and processes are used and that the hydraulic reclamation method is not labour intensive in comparison to traditional mining operations.
Mr Mohale	Mr Mohale expressed concern regarding the Public Participation Process (PPP) for the Proposed Project. He emphasised that the engagement should focus on the Mantserre Community, as per the existing lease agreement with the mine. He stated that the community expects clarity on project specifics and the associated community benefits ("package").	Kongiwe clarified that PPP has been conducted to ensuring that all relevant stakeholders including the Mantserre Community are properly consulted in line with EIA regulatory requirements and proposed project activities. Commercial matters relating to the lease agreement and community benefits, or any commitments associated with the Valterra Mine fall

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		outside the scope of the EIA process. These issues will therefore be addressed directly by the Valterra team, as they are the appropriate party to respond to questions related to agreements, benefits, and project-specific commitments.
Mr Mpho Mohatse	After a short break allowing the community to caucus on what benefits they wanted to state on record (despite this meeting not being the correct forum) Mr Mohatse in agreement with the rest of the Mantserre Community requested the following things from Valterra: • That 65% of employment opportunities should be allocated to the Mantserre Community, inclusive of both graduates and non-graduates. • That 50% of business opportunities should be awarded to Mantserre Community members. • Both requests should be without any age restrictions (meaning that opportunities should not be limited to people between the ages of 18 to 35 years but rather should be open to older people as well. He clarified that the 65% employment request applies to permanent employment and regarding business opportunities they requested not to form part of the subcontractors or suppliers but relates to significant business opportunities.	Mr Cornish-Bowden acknowledged the community's presentation, appreciating the clarity and articulation of the requests. He confirmed that these comments will be incorporated into the EIA comments and response report. Mr Cornish-Bowden emphasised that the meeting itself does not have the mandate or authority to approve or guarantee the requested allocations. Therefore, the EIA report will reflect the community's requests as recommendations for consideration by Valterra in future engagements with the community as well as the competent authority, the Department of Mineral Petroleum Resources (DMPR) when considering he application. He stated that the EIA report will document that these points were formally discussed and recorded during the meeting.
5	**Closing**	
Mr Letebele	Mr Letebele thanked everyone for their time and the meeting was adjourned at 12:00 PM.	

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Titlelelelo ya go Dira Tiro mo Tikologong, Kopo ya Laesense ya Taolo ya Dilatlhiwa le Karolo 102 ya Fetotsweng ya Lefelo la Amandelbult ya Tailings Storage Facility, Porojeke ya Letamo 2 ya Pusetso ya Lefelo la Lefatshe kwa Mmasepala wa Selegae wa Thabazimbi, Porofense ya Limpopo

Nomoro ya referense ya DMPR: LP 30/5/1/2/2/48 MR

Rustenburg Platinum Mines Limited, Amandelbult Mine (AMB) e ikaela go busetsa le go baakanya Amandelbult TSF Dam 2 ya khompolekese ya Amandelbult TSF, ka maikaelelo a go busetsa Chrome le Platinum Group Metals (di-PGM) ka go dirisa dithulaganyo tsa go busetsa ka metsi le ka metšhine, fa go ntse go tlhomamisa gore Matamo a a mo tikologong mo khompolekeseng ya TSF a tswelela a le mo maemong a a siameng. Porojeke e e kopelwamg ya go busetsa lefelo la lefatshe e kwa lefelong la ditshwanelo AMB mo godimo ga lefatshe, le le leng mo Masepaleng wa Selegae wa Thabazimbi (TLM) wa Kgaolo ya Waterberg (WDM) mo Porofenseng ya Limpopo. Go fopholediwa gore e bokgakala jwa dikilometara di 15 kwa bokone jwa Northam le dikilometara di le 30 kwa borwabophirima jwa Thabazimbi kwa ntlheng ya bokone jwa Platinum Belt.

Porojeke e e tshitshintsweng e akaretsa go epa gape le go tsosolosa didirisiwa go tswa mo TSF No. 2 ka haeteroliki go dirisiwa ditlhobolo tsa metsi, ka seretse se se lebisitsweng kwa diteisheneng mme morago ga moo se fetisediwe ka dipeipi tsa HDPE kwa seteišeneng sa phetiso ya seretse go tlhatlhobiwa. Dimela le dilo tse di feteletseng di tla dirwa manyoro kgotsa di latlhiwe go ya ka melawana, fa masalela a a seng kotsi a tlhaolwa ka fa tlase ga NEMWA. Seretse se tla pompiwa boleele jwa 3 km go ya kwa mafelong a go dira tiro ka ditsela tse ditlhabolotsweng le diphaephi tse di leng teng. Motlakase o tla tsenngwa go tswa kwa Shaft #4 ka diphaephe tse disha tsa 11 kV mme metsi a a dirisiwang mo diproseseng a tla tswa kwa AMB Concentrator ka diphaephe tse boleele jwa 2.5 km. Polante e ntshwa ya PGM IsaMill Flotation e tla tsenngwa mo Lefelong la Merensky, go dirisiwa mafaratlhatlha a a leng teng le ditsamaiso tsa go romela, mme matlakala a masalela a a tswang mo dipolanteng tseno a tla romelwa kwa lefelong le le leng teng la go tshwara masalela kwa AMB Concentrator pele ga a isiwa kwa diphaephi tse di leng teng tsa TSF Dam 3B tse di nang le laesense.

AMB e tlhoka go dira tiro ya Tshekatsheko ya Tiro ka Kakaretso le go Amega ga Tikologo (Scoping and Environmental Impact Assessment [S&EIA]) e e sekasekang go amiwa ga tikologo ke Porojeke e e Kopelwang e le karolo ya Tetlelelo ya go Dira Tiro mo Tikologong (Environmental Authorisation [EA]). S&EIA le dipatlisiso tsa bomankge di dirwa go tshegetsa dikopo tsa ditumelelo tse di tlhokegang le tse batliwang. Dikopo tse di latelang di dirwa kwa Lefapha la Metswedi ya Diminerale le Dipeterolo (Department of Mineral and Petroleum Resources [DMPR]) Porofenseng ya Limpopo, malebana le Porojeke e e Kopelwang:

1. **Kopo ya EA** ya ditiro tse di kwadilweng e simmolodisiwa mo Dikitsisong tsa Papatso tsa GN R983, GN R984 le GN R985 e e phasaladitsweng go ya ka Melawana ya EIA ya 2014 (o o fetotsweng), e e itsisiweng phatlalatsa malebana le molawana wa National Environmental Management Act, 1998 (Molao No. 107 wa 1998) (NEMA).
2. **Kopo ya Laesense ya Taolo ya Dilatlhiwa (Waste Management Licence [WML])** e e rebolelang go dira ga ditiro tsa taolo ya dilatlhiwa tse di kwadilweng mo go GN R921 ya 29 Ngwanaatsele 2013 e e phasaladitsweng malebana le National Environmental Management: Waste Act, 2 008 (Molao No. 59 2008) (o o fetotsweng) (NEM:WA).
3. **Phetolo ya Karolo 102** go ya ka Mineral and Petroleum Resources Development Act, 2002 (Molao 28 wa 2002) o tlile go romelelwa DMPR malebana le go fetolwa ga Tetlelelo ya go Epa le Lenaneo la Ditiro tsa mo Moepong.

GO NNA TENG GA PEGO YA TIRO KA KAKARETSO GORE E SEKASEKIWE KE MORAFE LE GO TSHWAELA KA YONE: DEIA/EMP ya porojeke e e kopelwang e tlile go nna teng gore e sekasekiwe ke morafe le go tshwaela ka yone mo sebakeng sa malatsing a le 30**.**

- Khopi ya ileketeroniki mo webosaeteng ya Kongiwe: https://kongiwe.com/projects/.
- Dikhopi tsa tshobokanyo e e seng ya botegeniki ya DEIA/EMPr di tla nna teng kwa dikopanong.

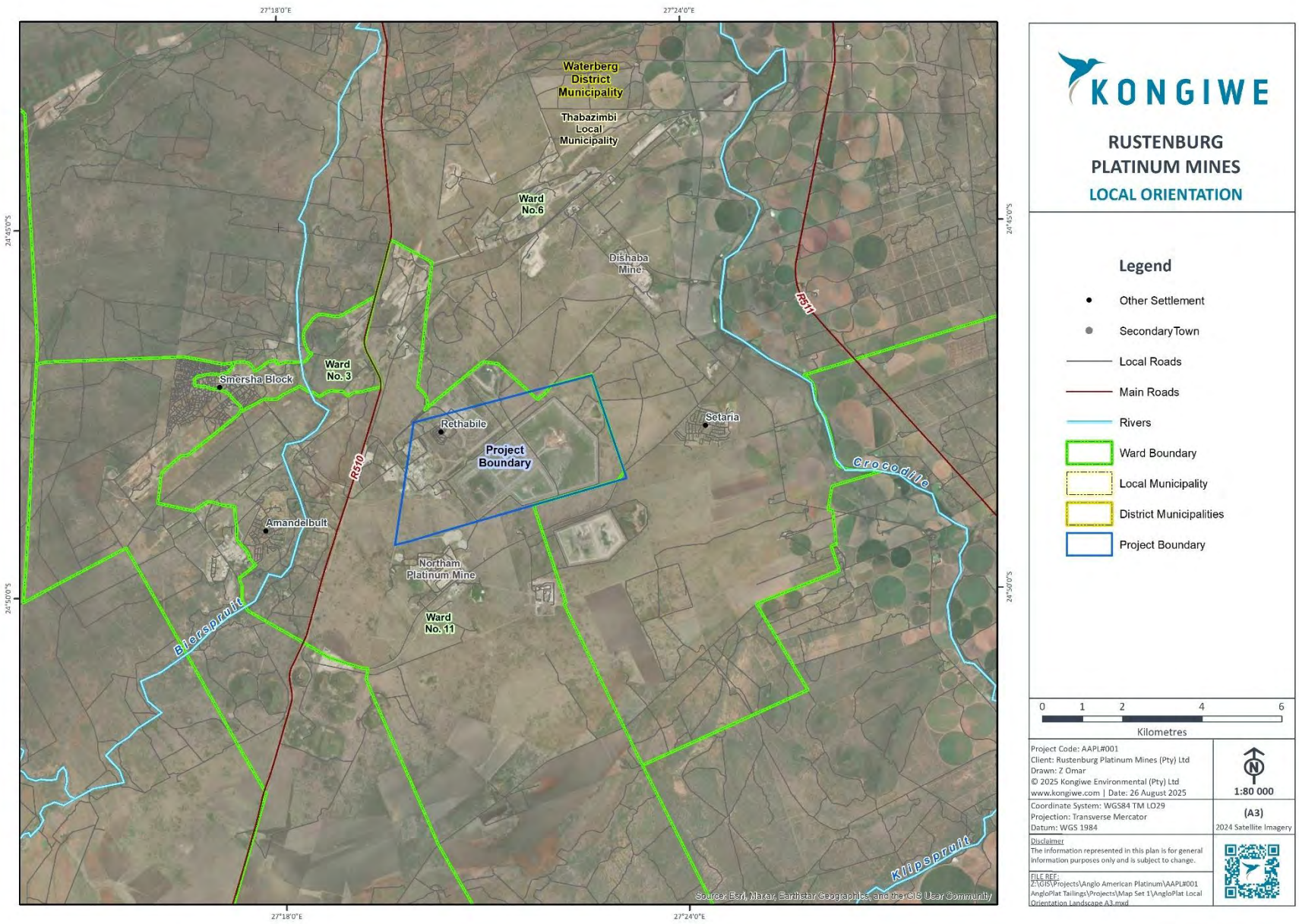
Khopi ya pampiri ya DEIA/EMPr e teng kwa mafelong a botlhe a a latelang: Amandelbult Social Performance Office le Thabazimbi Public Library.

Khopi ya pampiri ya DEIA/EMPr e e seng ya botegeniki (BID) e teng kwa mafelong a botlhe a a latelang: Smash Block Community (Thabong Children Centre), mabating a dikitsiso a Amandelbult Mine (Mlanje Hostel), Dishaba Mine Entrance (baagi ba Jabulani), Kgoro, Klabong ya Boithabiso, Setaria (Motse wa Northam Platinum) le mo Kopanong ya Batho.

KOPANO YA DIPUISANO TSA BANALESEABE: Banaleseabe ba Mantserre ba lalediwa go tsaya karolo mo dipuisanong tsa namana. Boikaelelo jwa dikopano ke go buisana ka porojeke e e kopelwang, tshedimosetso ya EIA/EMPr Report, le go naya banaleseabe tshono ya go ntsha ditshwaelo tsa bone le go buisana le setlhopha sa porojeke. Tsweetswee bona fa tlase thulaganyo ya dikopano ya banaleseabe.

Matlha a a akantshiwang	Nako	Mofuta wa Puisano/Lefelo la Kopano
Kopano ya ka Namana: Open Day		
Laboraro, 12 Ngwanaatsele 2025	09H00-12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

Gore o ikwadise jaaka I&AP tsweetswee ikgolaganye le: Setlhopha sa Kongiwe sa Dipuisano le Banaleseabe ka Porojeke
Ms Vanessa Viljoen / Mogala: (10) 140 1725 - Ms Thuli Phakathi/ Mogala: (10) 140 1726 kgotsa
Imeile: stakeholders@kongiwe.com
Setlhopha sa rona se amogela go tsaya karolo ga gago mme se lebile pele go nna le seabe ga gao mo tirong eno yotlhe.



Mmapa wa lefelo la porojeke e e kopelwang

Environmental Authorisation, Waste Management Licence, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

DMPR reference number: LP 30/5/1/2/2/48 MR

The Rustenburg Platinum Mines (Pty) Ltd, Amandelbult Mine Complex (AMB) aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex. The Amandelbult Mine Complex is situated in the Thabazimbi Local Municipality (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province. It is located approximately 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt. The project is situated in Wards 6 and 11 of the Thabazimbi Local Municipality in the Limpopo Province.

It is proposed that TSF Dam 2 be reclaimed both Hydraulicly and mechanically. The proposed project involves hydraulic mining using hydro guns to extract material, which is directed to Barge Stations 1 or 2 and then transported via a new HDPE pipeline from TSF No.2 to a slurry transfer station for secondary screening of vegetation and oversize material. Screened vegetation from TSF2 will be chipped and composted at TSF1 for future rehabilitation use. Slurry from TSF2, classified as non-hazardous under NEMWA R634, will be pumped through a 3 km pipeline to processing facilities, supported by an upgraded haul road and new powerlines from Shaft #4. Water for hydroguns and other services will be supplied from the AMB Concentrator Plant via 2.5 km pipelines. A new PGM IsaMill Flotation Plant will be integrated into the existing Merensky Facility, utilising current infrastructure and dispatch systems for both PGM and chrome products. Residual tailings from these processes will be managed through the AMB Concentrator and sent to TSF Dam 3B via existing pipelines.

AMB is required to undertake a Scoping and Environmental Impact Assessment (S&EIA) process which evaluates the environmental impacts associated with the Proposed Project as part of an Environmental Authorisation (EA). The S&EIA and specialist studies were undertaken in support of the applications for the required approvals. The following applications are made to the Department of Mineral and Petroleum Resources (DMPR), Limpopo region, for the Proposed Project:

1. **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 and GN R985 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA); and
2. **Application for a Waste Management Licence (WML)** authorising waste management activity listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).
3. **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) will be submitted to the DMPR in terms of amending the Mining Right and Mine Works Programme.

AVAILABILITY OF THE DRAFT EIA/EMP REPORT FOR PUBLIC REVIEW AND COMMENT: The Draft EIA/EMP Report for the proposed project will be made available for public review and comment for a period of 30 days.

- An electronic copy on Kongiwe's website: https://kongiwe.com/projects/.
- Copies of the non-technical summary of the DEIR/DEMPr will be distributed to all stakeholders and will be available at the meetings.

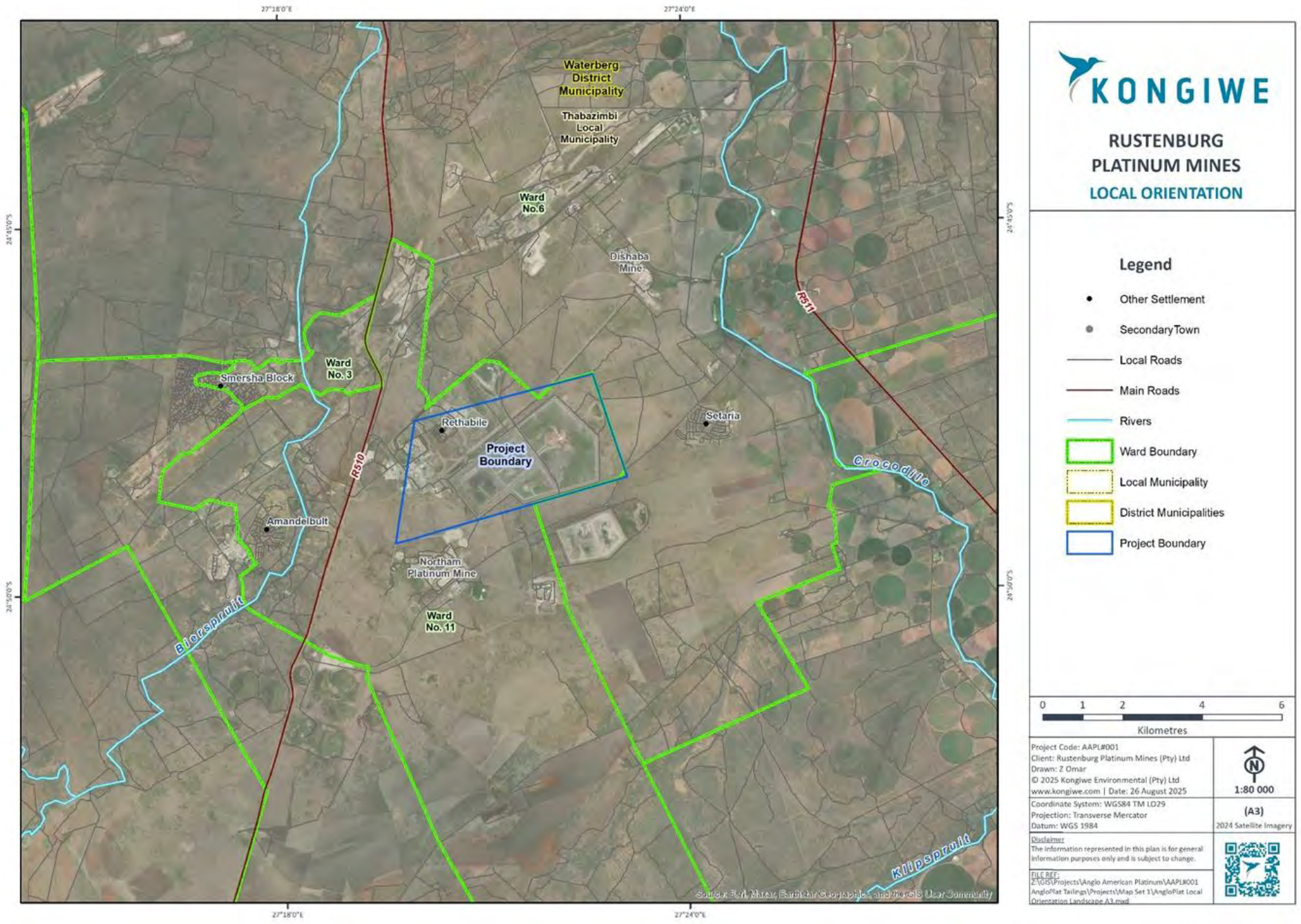
A hard copy of the DEIA/DEMPr are available at the following public places: Amandelbult Social Performance Office and Thabazimbi Public Library.

A hard copy of the DEIA/DEMPr non-technical summary is available at the following public places: Smash Block Community (Thabong Children Centre), Amandelbult Mine notice boards (Mlanje Hostel), Dishaba Mine Entrance (Jabulani residents), Rethabile village entrance and Recreation Club, Setaria (Northam Platinum's Village).

STAKEHOLDER CONSULTATION MEETINGS: Stakeholders (Interested and Affected Parties – I&APs) are invited to participate through face-to-face engagements. The purpose of these meetings is to discuss the proposed project, contents of the EIA/EMPr Phase, to provide stakeholders with an opportunity to raise their comments and to interact with the project team. Please see below the proposed stakeholders meeting schedule.

Proposed dates	Available time slots	Method of Engagement/Venue
Face-to-Face Meeting: Open Day		
Wednesday, 12 November 2025	09H00 - 12H00	AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

To register as an I&AP please contact: Kongiwe Environmental Stakeholder Engagement Team
Ms Vanessa Viljoen / Phone: (010) 140 1725 - Ms Thuli Phakathi Phone: (010) 140 1726 or
E-mail: stakeholders@kongiwe.com
Our team welcomes your participation and looks forward to your involvement throughout this process.



Locality map of the proposed project

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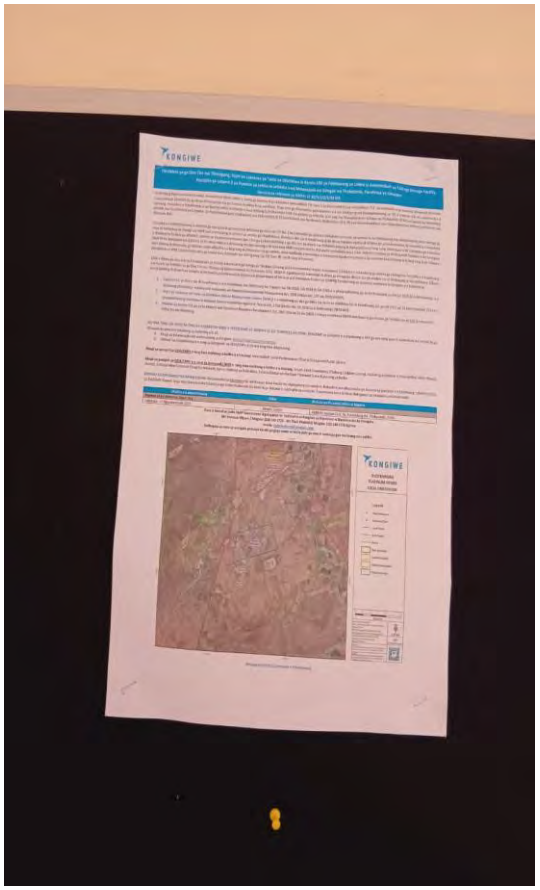
Environmental Authorisations, Waste Management Licence, Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Additional Public Notice Placement Report – November 2025

Site Notice Number	Location	Co-ordinates	Photo	
1.	Entrance to Mantserre traditional council offices and on the notice board inside.	24°57'1.61"S 27° 5'41.53"E		

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Site Notice Number	Location	Co-ordinates	Photo
2.	Entrance to Mantserre Community Hall	24°56'55.70"S 27° 5'38.86"E	

Further to the site notices placed at strategic locations:

- Communication was shared with the broader community via WhatsApp; and
- The youth leaders assisted in announcing the meeting invitation for the session held on **12 November 2025** at **AMB Rec Club, Thabazimbi, 0387**.

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Agenda

KONGIWE

1. Purpose of the Meeting
2. Important Notice
3. Introduction
4. Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)
5. Project Background
6. Project Location
7. Project Infrastructure Description
8. Rehabilitation
9. Project Alternatives
10. Specialist Studies and Impact Assessment
11. Air Quality
12. Biodiversity
13. Wetlands
14. Soil and Agriculture
15. Surface water
16. Groundwater
17. Heritage
18. Socio-Economic
19. Noise
20. Mitigation Summary
21. Legislative Framework
22. Document Availability
23. The Way Forward
24. Questions and Answers

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1. Purpose of the Meeting

- Discuss the proposed **Amandelbult Tailings Storage Facility Reclamation and Processing** Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised by I&APs for the Comments and Responses Report.

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2. Important Notice

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme).
  - **Application for a Waste Management Licence (WML)** authorising waste management activities listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).

POPIA: Safeguarding Registered Person's Personal Information

In terms of section 19 of the Protection of Personal Information Act (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party to whom the information is supplied.

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3. Introduction

- **Kongiwe Environmental:**
  - Grant Cornish-Bowden - Project Manager
  - Vanessa Viljoen - Stakeholder Engagement
  - Thuli Phakathi - Stakeholder Engagement
  - Lubabalo Zongolo - Stakeholder Engagement

- **Valterra Platinum:**
  - Hazel Fiehn - Valterra Platinum Environmental Authorisations and Permitting Principal
  - Davhana Thanyani - Valterra Platinum Engineer for Project
  - Marvey Ursula - Amandelbult Mine Environmental Manager
  - Moyo Thabo - Amandelbult Mine Social Performance Team
  - Letebele Kaitumela - Amandelbult Mine Social Performance Team
  - Tebogo Priscah Masipa - Amandelbult Mine Social Performance Team
  - Johanna Mashiatshiti - Amandelbult Mine Social Performance Team
  - Molefe Mike - Amandelbult Mine Safety, Health, Environment and Permitting Manager
  - Galeboye Kgomotso - Amandelbult Mine Environmental Officer

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4. Kongiwe's Role

- As an independent Environmental Assessment Practitioner (EAP):
  - It is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to quantify these.
  - Describe possible management and mitigations options.
  - Collect public comment and supply the DMPR with the documentation so that DMPR can determine if the project should proceed or not.

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5. Project Background

- **Applicant**: Rustenburg Platinum Mines Limited (Amandelbult Mine).
- **Activity**: Th e Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 (122 Ha).
- **Target Minerals**: PGMs and Chrome and all associated minerals in the TSF tailings – Dam 2 of the TSF complex.
- **Life of Operation**: 20 years.
- AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.
- Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned on the TSF for blending purposes, in accordance with the re-mining plan.
- AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.
- **Mechanical Reclamation:** This method involves the removal of vegetation and dry tailings material from the TSF Dam No. 2 using a truck-and-shovel operation. Multiple cuts will be made from the TSF wall which will be transported to a central area within the TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.
- **Hydraulic Reclamation:** This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

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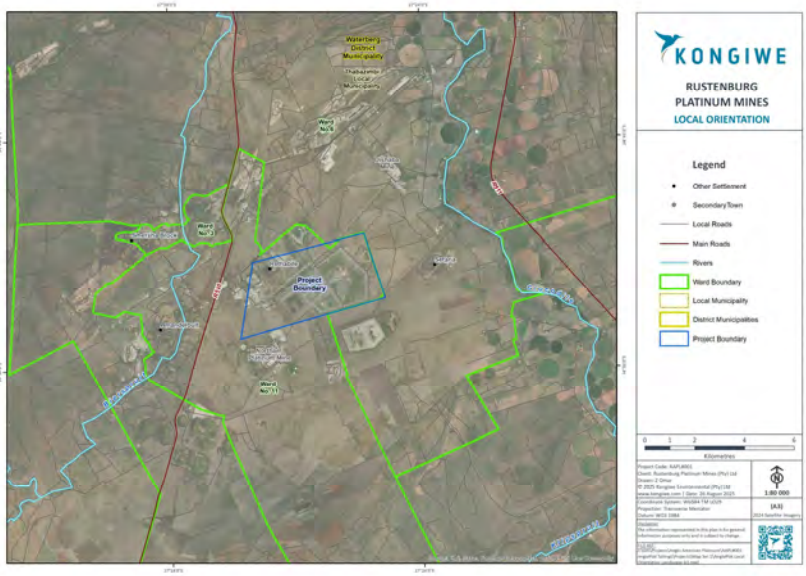
6. Project Location

- Approximately 4 km Northeast of Amandelbult Town.
- Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province.



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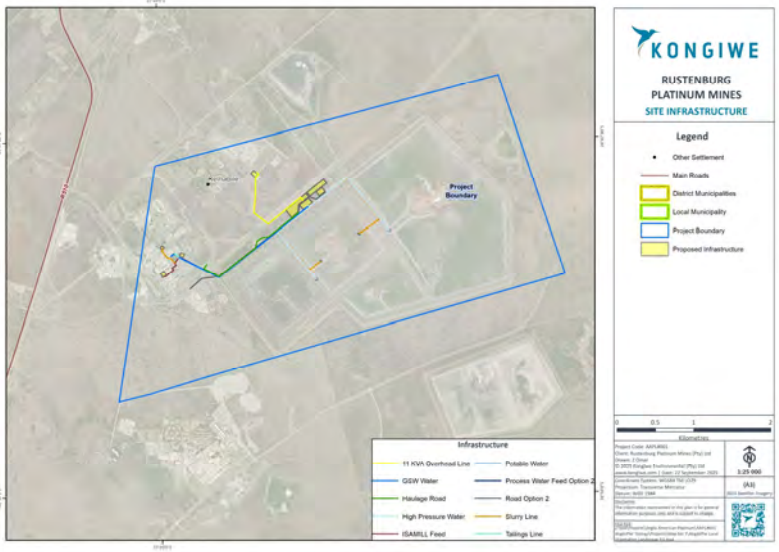
7. Project Infrastructure Description

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

- Access roads.
- Amandelbult Dam 2 TSF.
- Pipelines.
- Power Supply, Sewage, Process Water.
- Barge Pump (1&2).
- High Pressure water tapped off for Hydroguns.
- Slurry Transfer Station.
- TSF No.2 Laydown area.
- Vegetation Handling area.
- Contractors Laydown area.
- Existing PCDs.
- Gravel / Haul Road.
- Existing PGM and Chrome Processing Plant.
- PGM ore Silos/Bins and existing chrome stockpile area.
- Topsoil Stockpiles.
- Tailings Deposition onto current operational TSF3b.



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8. Rehabilitation

- Rehabilitation will be in line with AMB closure plans and EMPRs.
- After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site.
- The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.
- Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.
- Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the intention is to use the area for redeposition of tailings.

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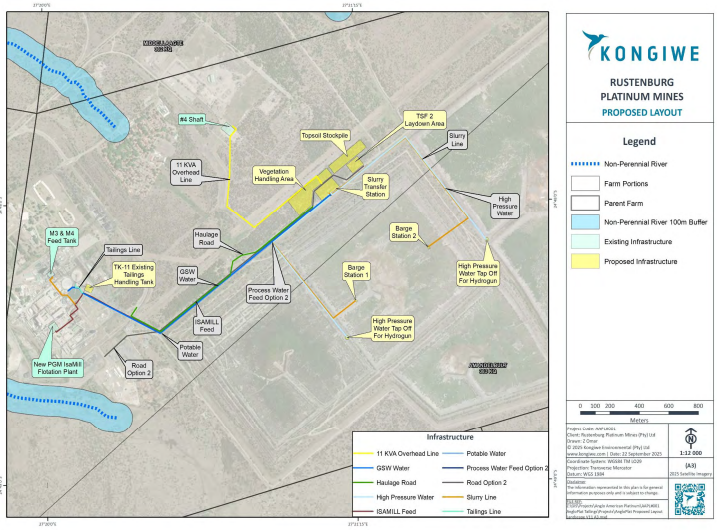
9. Project Alternatives

- **No-go alternative**
  - The "No-Go" option means the project will not proceed, leaving environmental and social conditions unchanged.
  - This avoids both positive and negative impacts. The area, consisting of historically polluting tailings storage facilities (TSFs), would remain unused and continue affecting the surrounding environment.
  - Valuable mineral reserves would remain unmined, and no reclamation or infrastructure development would occur.
- **Location Alternatives**
  - The proposed project involves reclaiming and processing TSF Dam 2, an existing tailings storage facility with no alternative sites.
  - Processing plant locations have been evaluated near the current concentrator plant.
  - The project will take place exclusively on the property housing the AMB complex and TSF Dam 2, specifically within Portion 1 and the Remaining Extents of Amandelbult 383 KQ and Middellaagte 382 KQ.
  - No other properties are under consideration.
- **Layout Alternatives**
  - The preferred layout plan was selected for its minimal footprint impact and reduced environmental risk.
  - While various alternatives were considered, the layout is largely determined by the existing TSF and existing related infrastructure.
  - The proposed layout, nature of the activity and associated infrastructure will be implemented with the aim to reduce substantial impacts on the area.



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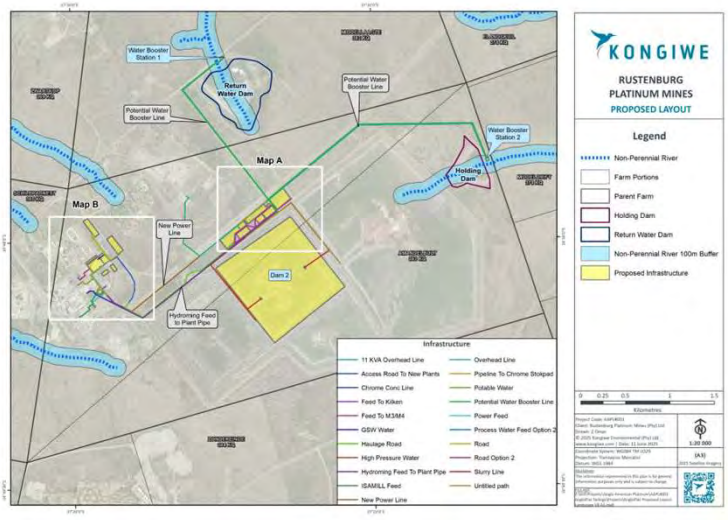
10. Specialist Studies & Impact Assessment



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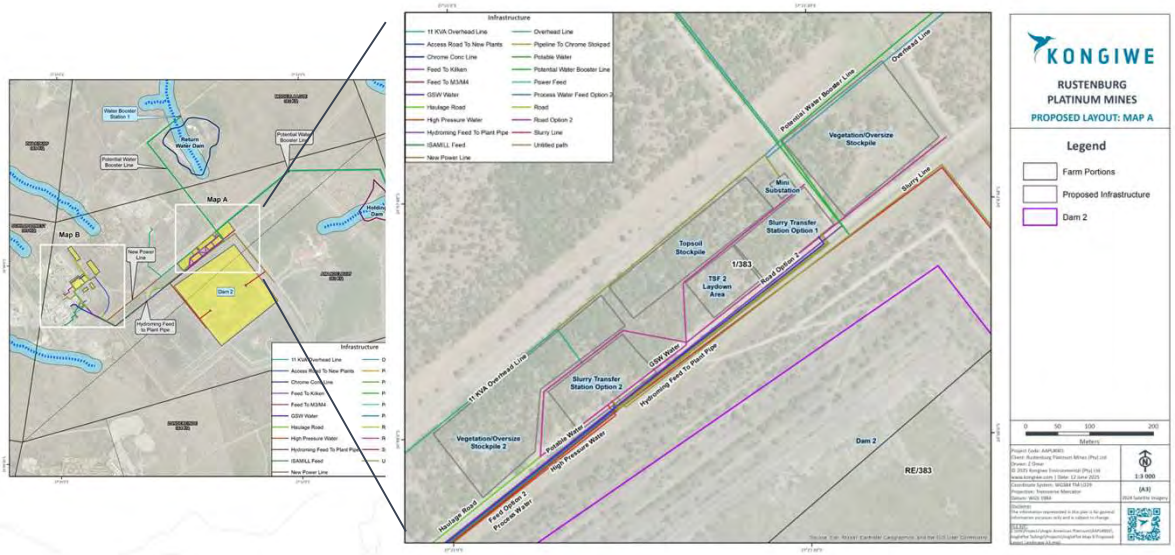
10. Specialist Studies & Impact Assessment



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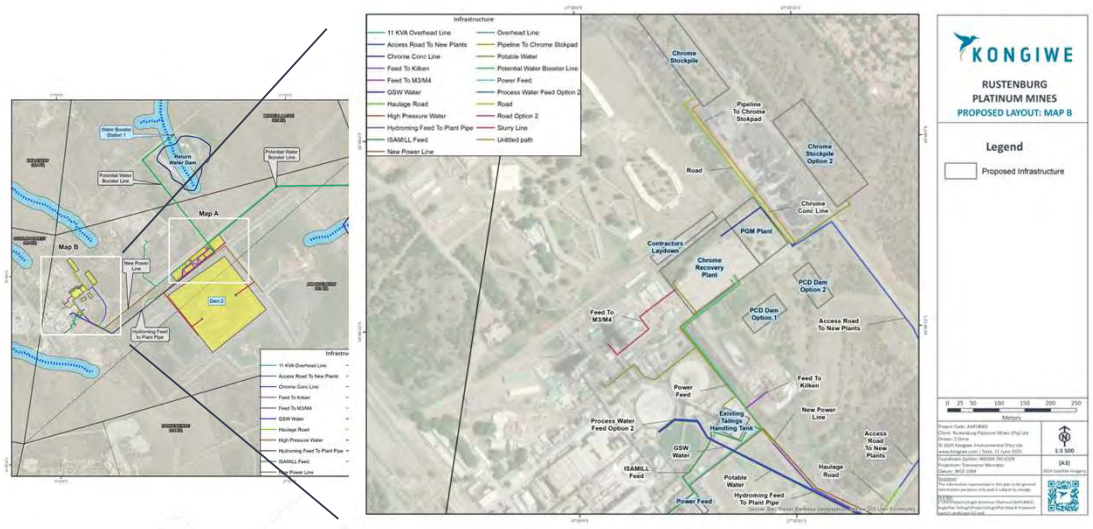
10. Specialist Studies & Impact Assessment



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10. Specialist Studies & Impact Assessment

The following specialist studies were commissioned and undertaken as part of the EIA Process:

- Air Quality
- Biodiversity (Terrestrial and Aquatic)
- Soil and Agriculture
- Groundwater
- Heritage
- Noise
- Socio-Economic
- Surface Water

Each specialist has identified potential impacts and the significance they will have before and after mitigation.

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Socio-Economic	**Construction Phase**	
	Employment and Income	Medium +
	Informal influx of job-seekers	Low -
	Nuisance factors	Low -
	Operational Phase	
	Employment and Income	Medium +
	Informal influx of job-seekers	Medium -
	Nuisance factors	Medium -
	Community health and safety	Medium -
	Impact on adjacent farmers	Low -
	Post- Closure	
	Land Restoration	Medium +
	Cessation of employment	Medium -
Air Quality	**Construction Phase, Operational and Post-Closure**	
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -
Terrestrial Biodiversity	Construction Phase	
	Environmental and Groundwater Pollution	Low+
	Introduction of alien and invasive species, especially plants	Low+
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching	Low+

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Wetlands	**Construction Phase**	
	Hydrological alterations changing the natural water flow patterns	Low+
	Habitat disturbance and fragmentation can disrupt and fragment wetland habitats	Low+
	Soil and water pollution can lead to erosion and a change in water quality	Low+
	Operational Phase	
	Temporary alteration of hydrology in the event of a pipeline leak	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Potential contamination of water from a pipeline leak	Low+
	Post- Closure	
	Temporary increase of overland flow from hardened surfaces	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Introduction and proliferation of alien invasive vegetation from disturbance	Low+
	Potential contamination of water from accidental spills and leaks of machinery and equipment used in the construction activities	Low+
Soil and Agriculture	**Construction Phase**	
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Low+
	Operational Phase	
	Loss Land Capability	Low+
	Post- Closure	
	Loss Land Capability	Low+
Heritage	**Construction Phase**	
	Destruction of cultural heritage resources	Low -
	Impact on cultural landscape	Medium +

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Noise	**Construction and Operational Phase**	
	Future Daytime& Night-time Activities – Scenario 2 & Future Night-time Activities – Scenario 2	Low -
	Worst-case daytime and Night-time operational activities	Low -
Groundwater	**Construction Phase**	
	Site clearing and infrastructures development	Low+
	Operational Phase	
	TSF reclamation – Seepage of water into underlaying formations	Low+
	TSF reclamation – Possible increase in salt and metal concentrations associated with leaching from reclamation.	Medium -
	Post- Closure Phase	
	Break down and remove all infrastructure - Once the reclamation has stopped, groundwater will start to recover to its pre-mining level.	Medium +
	Break down and remove all infrastructure – Removal of source contamination has been removed.	Medium +
Surface water	**Construction Phase**	
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Low -
	Operational Phase	
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Low -
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	Low -

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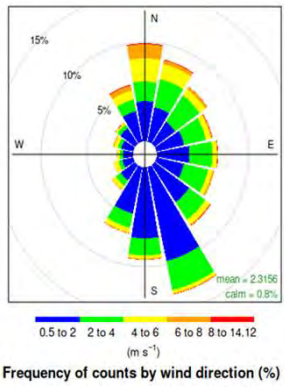
11. Specialist Findings - Air Quality

- The red isopleths represent the National Standards (National Ambient Air Quality Standards), therefore, all areas on the map that lie within the red coloured isopleth can be expected to experience exceedances of the relevant National Standards.
- The following conclusions can be made from the modelling results:
  - Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM10 and PM2.5 in downwind areas on windy days. The highest expected concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below the PM10 and PM2.5 NAAQS.
  - The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF Dam 2.
  - The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of discrete receptor 1 by approximately 30%.



Frequency of counts by wind direction (%)

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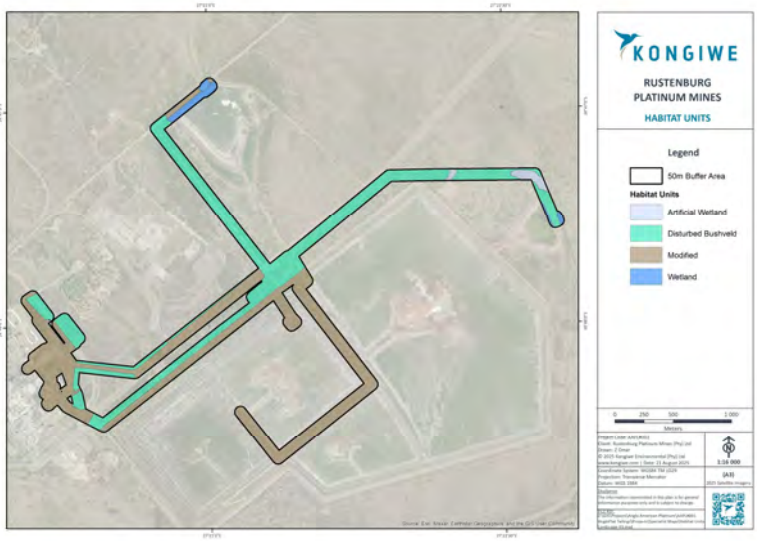
12. Specialist Findings - Biodiversity

- Three (3) main habitat types were identified across the area of the Project and include:
  - Disturbed Bushveld.
  - Water Resources (Wetlands and Artificial Wetlands).
  - Modified.



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12. Specialist Findings - Biodiversity

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist – Reasoning
Terrestrial Theme	Very Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
		Water Resources	Medium	Disputed – Even though disturbed, the ecological integrity, importance and functioning of these areas play a crucial role as a water resource system locally and regionally, and an important habitat for various fauna and flora.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna Species of Conservation Concern (SCC) may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No Species of Conservation Concern (SCCs) observed or expected.

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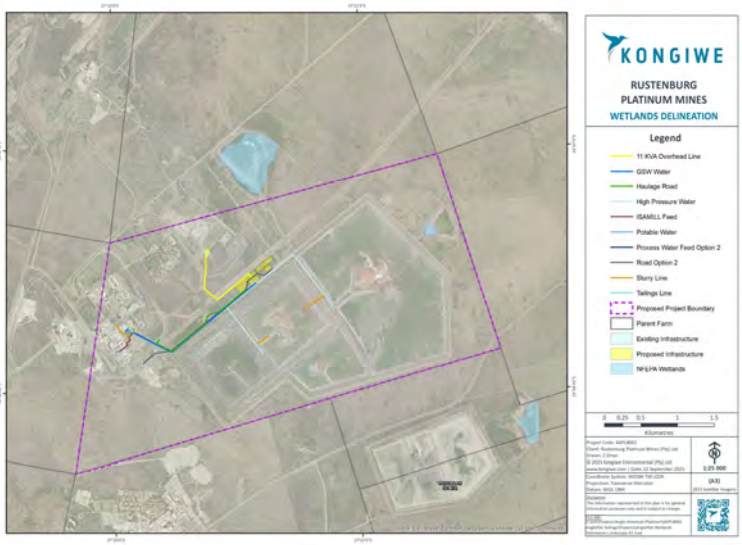
13. Specialist Findings - Wetland

- The Project area falls within the unchannelled valley-bottom wetlands and several artificial wet areas within the proposed area, including artificial depressions, dams and drainage features.
- The proposed TSF reclamation infrastructure directly intersects only the artificial depressions, while the unchannelled valley-bottom and dams are situated nearby the Project.
- Outside of the 500-meter Project Area of Influence (PAOI), two unchannelled valley-bottom wetlands were identified and grouped into a single Hydrogeomorphic (HGM) unit due to their similar function and state
- The ecological sensitivities are ranked as positive (medium moderate).



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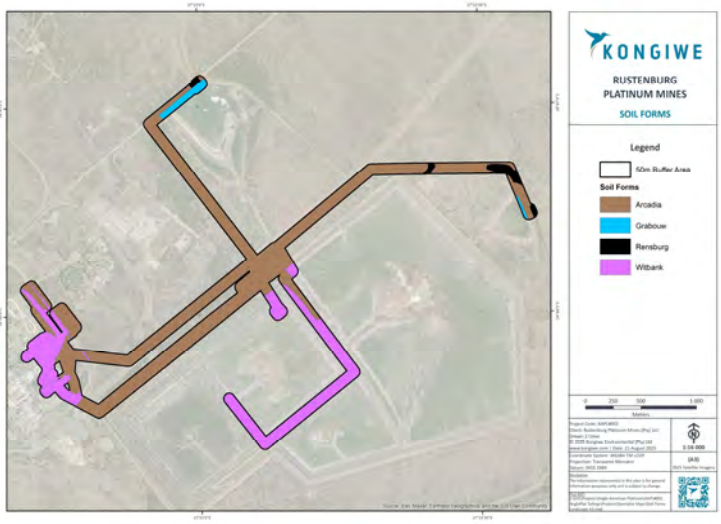
14. Specialist Findings - Soil and Agriculture

- The Project consists of soils with very low to low suitability for crop production.
- Four (4) representative soil forms were identified in the 50 m buffer of the Project area namely, Arcadia, Rensburg, Grabouw and Witbank soil forms.
- The Project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics.
- Furthermore, soils with signs of wetness, as a result of prolonged saturation conditions occur within the project area.
- DFFE Agriculture Theme Sensitivity indicates that the 50 m buffer of the Project area falls within the 'Low to High' agricultural sensitivity.
- The current project area and associated activities of the Project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.



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15.Specialist Findings - Surface Water

- The Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit).
- A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented.
- Surface water quality at the AMB Concentrator is monitored on a monthly basis. Process water contained (surface) in the recycling circuit water quality was analysed and is described below:
  - pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
  - Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
  - Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
  - Sodium and chloride exceeded the limits at all of the monitoring points during most months;
  - Elevated levels of nitrate were recorded at most of the monitoring points;
  - Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
  - E.coli was elevated at all monitoring points.

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16. Specialist Findings - Groundwater

- Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly.
- Groundwater quality mostly within SANS drinking water quality standards.
- The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.
- Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole
- The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography,
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- No risk of decant was identified for this project.

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17. Specialist Findings - Heritage

- During the fieldwork no heritage features or resources were identified.
- According to the DFFE heritage screening report, the project area has a Low Heritage Sensitivity.
- The fieldwork has shown that there are no archaeological or other tangible heritage resources present within the study area and therefore, the DFFE screening rating remains low.
- As no tangible heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as **MEDIUM NEGATIVE** before and **LOW NEGATIVE** after mitigation if a chance finds procedure is followed.
- The ongoing reclamation of the TSF is assessed as having a negligible impact on the cultural landscape, given that it is integrated into the current mining operations and does not entail the complete eradication of tangible remnants of the mine and its associated history.
- According to the SAHRIS Palaeontological the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website). No further studies will be needed.

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18. Specialist - Socio-Economic

- The project will have positive impacts on local employment during the construction and operational phases.
- Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.
- Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years.
- These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

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19. Specialist Findings - Noise

- The Project site is in an area with a mixed-use development character. The major noise sources in the area include vehicular traffic on the national and provincial roads in the areas, noises from the local communities and mining related noises.
- Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.
- Considering only noise, people in the area not directly affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project.
- A noise model was developed to illustrate the potential existing noise level contours, with the locations of the various noise sources conceptualised. The projected existing noise levels are illustrated in Maps below and defined per Noise-sensitive Receptor (NSR) for the daytime period.

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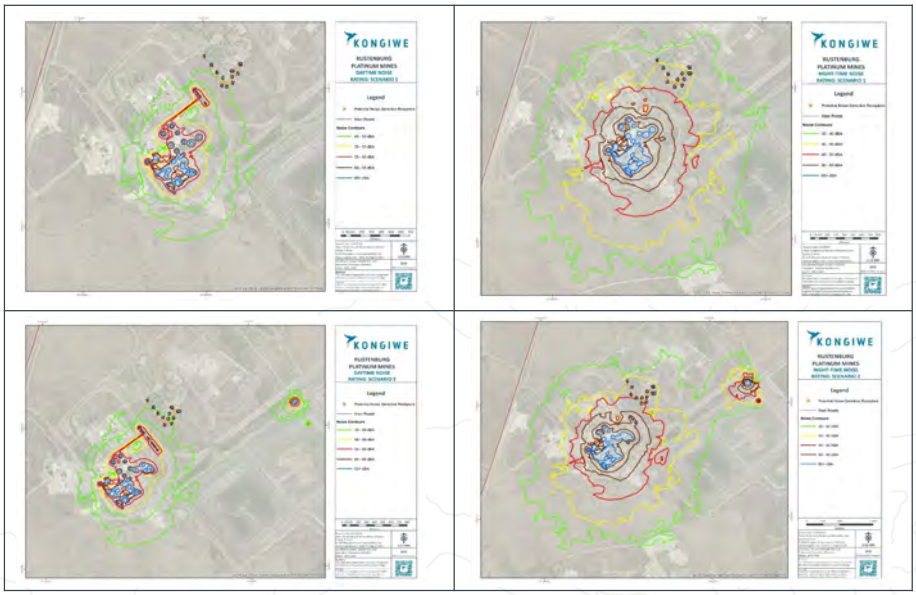
19. Specialist Findings – Noise



20. Mitigation Summary

Field	Main Impacts	Mitigation Measure
Terrestrial Biodiversity	• Environmental and Groundwater Pollution • Introduction of alien and invasive species, especially plants • Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	• Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. • No servicing of machines, vehicles and equipment outside of designated laydown areas. • Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.
Wetlands	• Habitat disturbance and fragmentation can disrupt and fragment wetland habitats; and • Oil and water pollution can lead to erosion and a change in water quality.	• Follow best practices for installation, dismantling and removing equipment to prevent spills. • Ensure that all disturbed areas are stabilised before the onset of rainy seasons. • Conduct regular monitoring and removal of invasive species.
Surface water	• Erosion and wash off of exposed soils leading to siltation in downgradient watercourses.	• Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around exposed working areas; and • The Stormwater Management Plan (SWMP) must be implemented as a first step during the construction phase.
Groundwater	• Quantity impacts are not expected during Construction. • Disturbance of the mine dump or exposure of the ground surface may enable water and air to infiltrate the tailings material, particularly following rainfall. • Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces. • Additional quality impacts are suspected to be low during Construction.	• Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time. • Continue with the groundwater monitoring program at AMB before reclamation starts. • Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. • Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.

20. Mitigation Summary Cont…

Field	Main Impacts	Mitigation Measures
Air Quality	• Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	• Spray-on surface treatments on the haul roads to reduce dust generation. • Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. • Restriction of the stripped band to the minimum width practical. • Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. • Keeping the area of mechanical reclamation to a minimum.
Social	• Impact on employment and income; • Positive contribution to social funds; • Impact on community health and safety; • Potential influx of people to the project area; and	• Consider formal training of unskilled workers mobilised during the construction phase; • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels. • Strict adherence to the mitigation measures of the traffic and air quality impact reports. • A grievance management mechanism should be in place to receive incident related queries.
Heritage	• Destruction of cultural heritage resources • Undiscovered cultural heritage resources	• A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. • Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted.
Noise	• Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors and pumps during the operational phase	• AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. • AMB could investigate the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas.
Soil and Agriculture	• Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility	• Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas. • Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilised to avoid impacts on adjacent areas

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21. Legislative Framework

- An integrated Environmental Authorisation (EA) application has been submitted to the DMPR as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMPR are as follows:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);.
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme;.
  - **Application for a waste management licence (WML)** authorising waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA.

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22. Document Availability

Location	Physical Adress	Contact Person
Draft EIA/EMPr		
Corporate Affairs and Sustainability (previously Social Performance) Office	Amandelbult Mine, Main Office, R510, Office Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm
Online availability		**Online availability**
Kongiwe Environmental website	https://kongiwe.com/projects/	Kongiwe Environmental website
An electronic copy of the Draft EIA/EMPr will be made available upon a request directed to the stakeholder engagement team. Stakeholders are encouraged to contact the stakeholder engagement team (Vanessa Viljoen/Thuli Phakathi), Tel: (010) 140 1725 / (010) 140 1726, email: stakeholders@kongiwe.com should they require assistance with accessing Draft EIA/EMPr or have queries regarding the Proposed Project.		

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23. Timeframe

- NEMA application submission: Tuesday, 17 June 2025
- NEMA application accepted: 19 July 2025
- Project Announcement: Thursday 19 June 2025
- Scoping Phase Public Participation Period: Wednesday, 18 June 2025 to Thursday, 17 July 2025.
  - Online Meetings: Friday, 27 June 2025
  - **Public Meeting / Open Day:** Monday 23 June 2025, Tuesday 24 June and Friday, 11 July 2025 at at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
- Final Scoping Report Submission: Monday 28 July 2025
- Announce availability of DEIA/EMPr, Friday, 19 September 2025
- EIA Public Participation Period: Friday, 26 September 2025 until Monday, 27 October 2025.
  - **Public Meeting / Open Day:** Thursday 9 October 2025 and Friday 10 October 2025 at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

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Comments and Discussion

- Discussion
- Closing

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Contact

- **Grant Cornish-Bowden**
- **082 448 1921**
- **gcornish-bowden@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa
PostNet Suite No 163, Private Bag X21, Bryanston, 2021, South Africa

info@kongiwe.com
www.kongiwe.com

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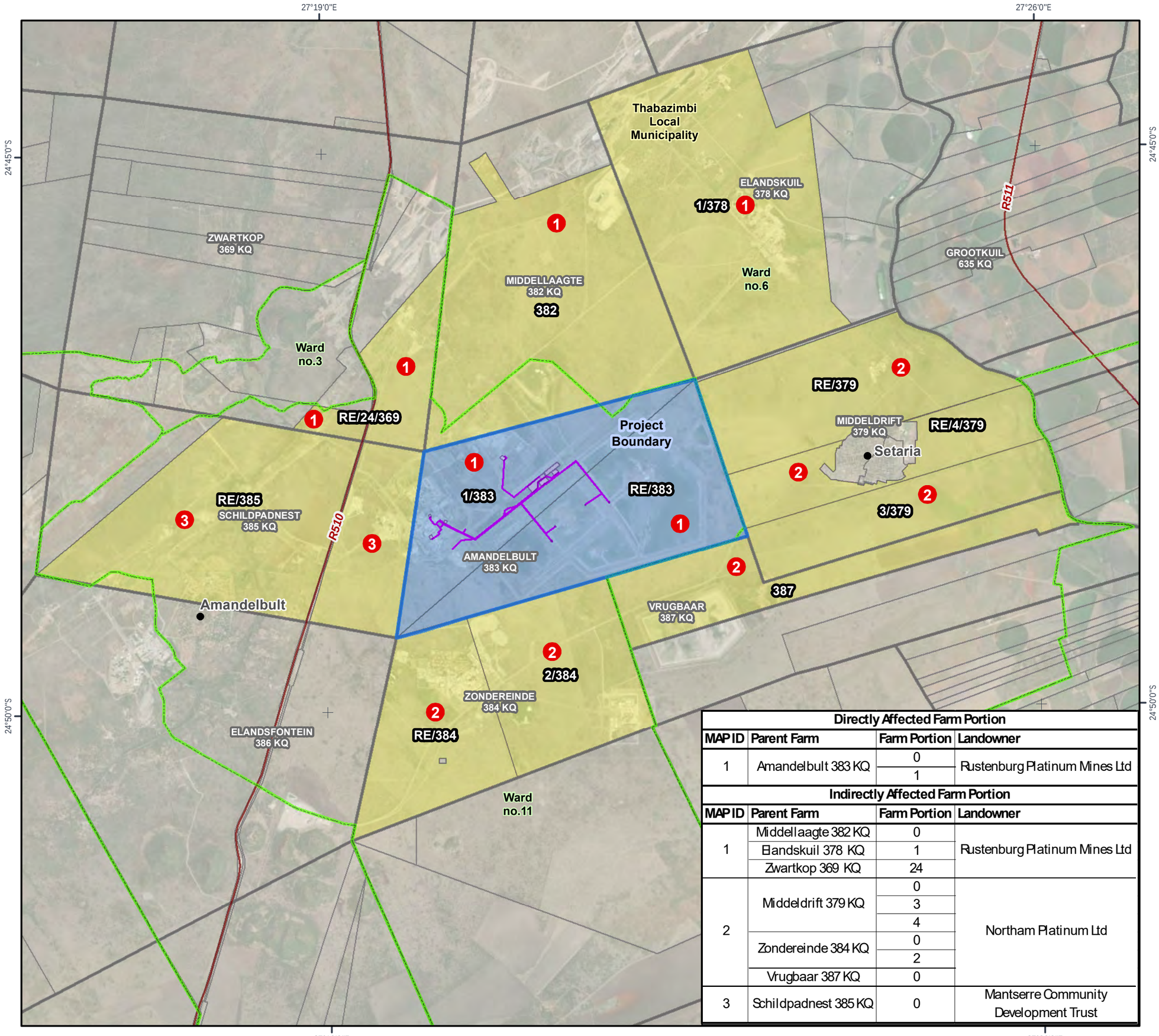

Directly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Amandelbult 383 KQ	0	Rustenburg Platinum Mines Ltd
		1	

Indirectly Affected Farm Portion			
MAP ID	Parent Farm	Farm Portion	Landowner
1	Middellaagte 382 KQ	0	Rustenburg Platinum Mines Ltd
	Elandskuil 378 KQ	1	
	Zwartkop 369 KQ	24	
2	Middeldrift 379 KQ	0	Northam Platinum Ltd
		3	
		4	
	Zondereinde 384 KQ	0	
		2	
	Vrugbaar 387 KQ	0	
3	Schildpadnest 385 KQ	0	Mantserre Community Development Trust

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RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT

Legend

- Suburbs
- Main Roads
- TSF Proposed Layout Lines
- Farm Portions
- Parent Farm
- Ward Boundary
- Local Municipality
- Project Boundary
- Directly Affected
- Indirectly Affected
- Proposed Infrastructure

0 0.5 1 2 3 4

Kilometers

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 22 September 2025

1:60 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
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FILE REF:
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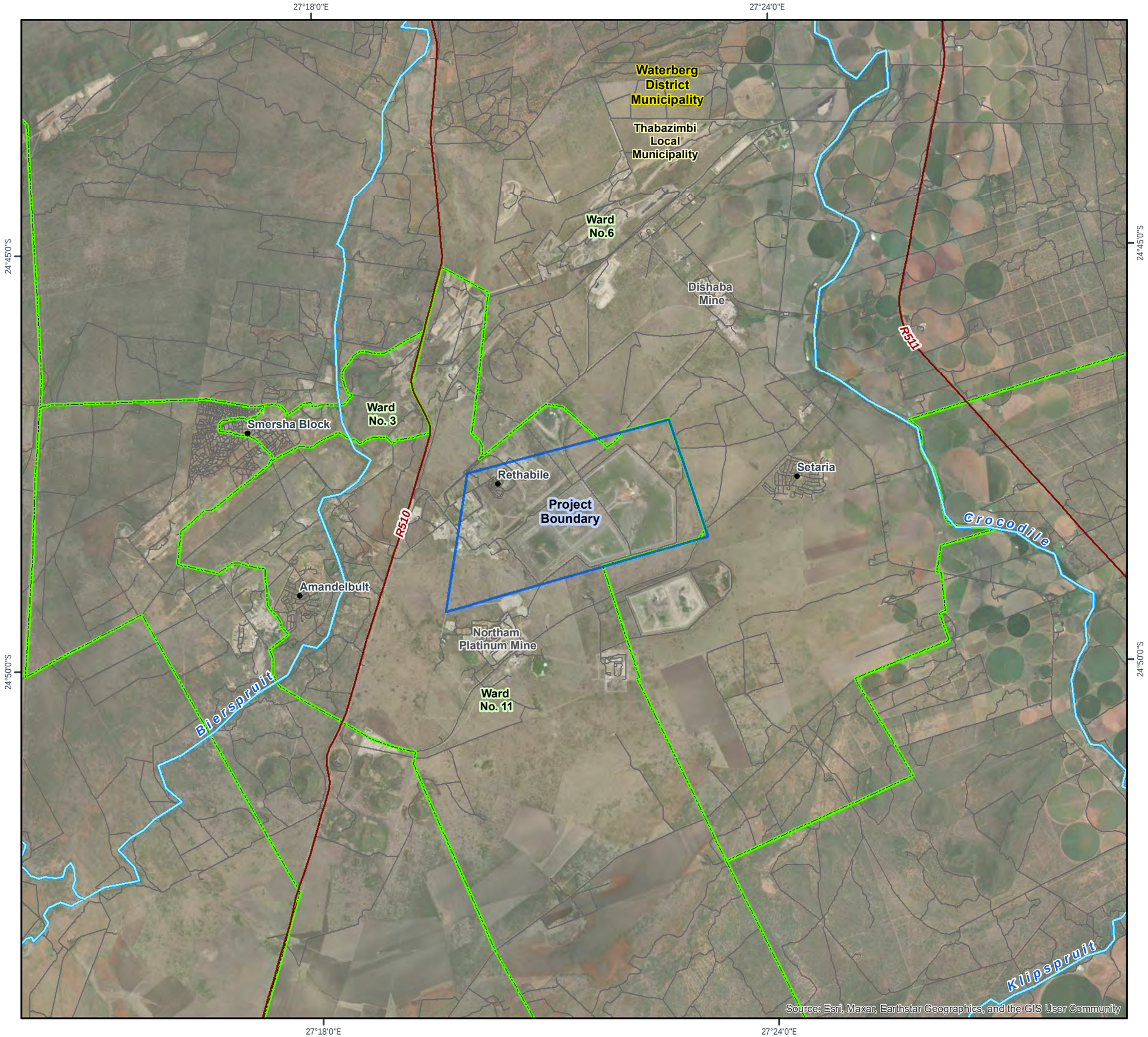

KONGIWE

RUSTENBURG PLATINUM MINES

LOCAL ORIENTATION

Legend

- Other Settlement
- SecondaryTown
- Local Roads
- Main Roads
- Rivers
- Ward Boundary
- Local Municipality
- District Municipalities
- Project Boundary

0 1 2 4 6

Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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1:80 000

Coordinate System: WGS84 TM LO29
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Datum: WGS 1984

(A3)
2024 Satellite Imagery

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FILE REF:
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27°20'0"E

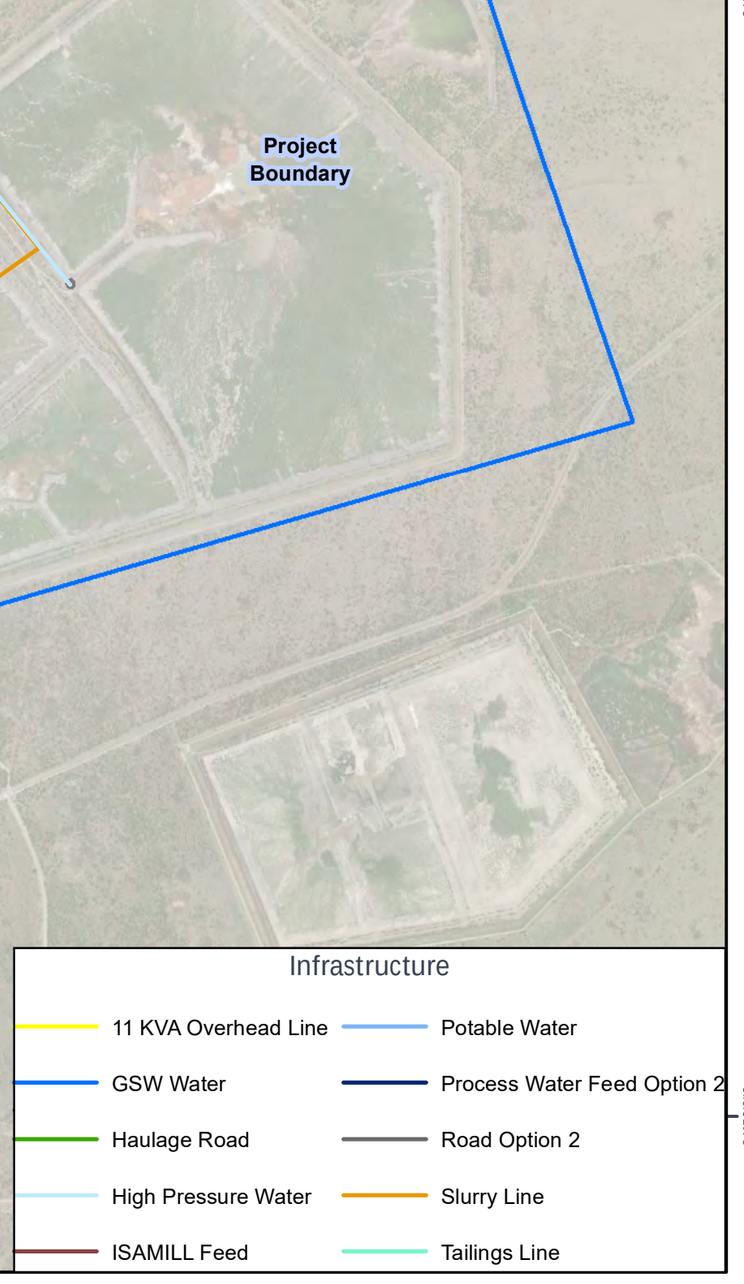
24°47'30"S

24°50'0"S

R510

Rethabile

Project Boundary



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RUSTENBURG PLATINUM MINES

SITE INFRASTRUCTURE

Legend

- Other Settlement
- Main Roads
- District Municipalities
- Local Municipality
- Project Boundary
- Proposed Infrastructure

0 0.5 1 2

Kilometres

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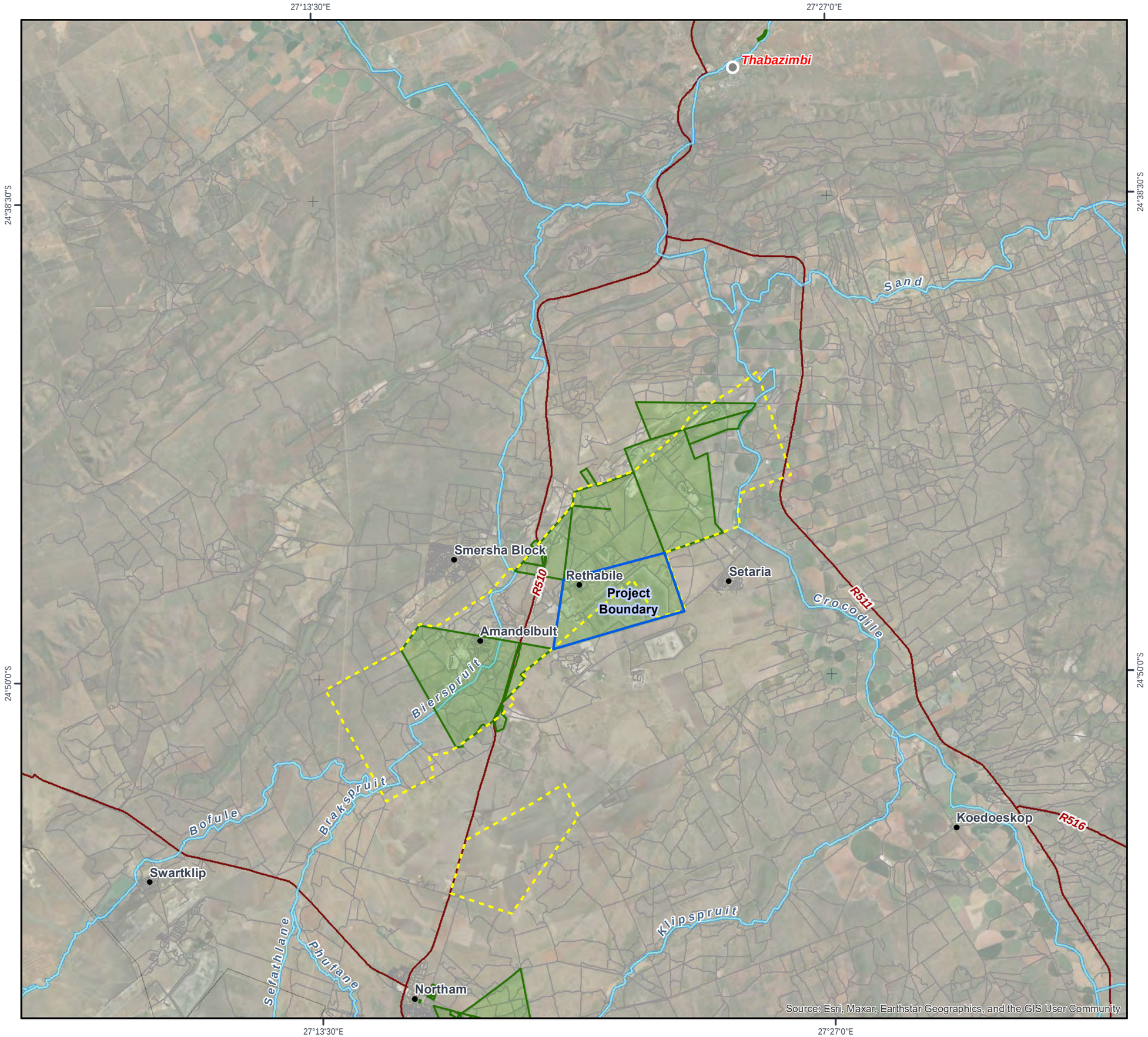

KONGIWE

RUSTENBURG PLATINUM MINES
AMANDELBULT OPERATIONS
EXTENT

Legend

- Other Settlement
- Secondary Town
- Local Roads
- Main Roads
- Rivers
- Amandelbult Mining Rights
- Project Boundary
- Amandelbult Surface Rights Freehold

0 1 2 4 6 8 10 12
Kilometres

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
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2024 Satellite Imagery

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FILE REF:
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MINUTES OF MEETING: DEPARTMENT OF MINERAL AND PETROLEUM RESOURCES (DMPR) AND DEPARTMENT OF WATER AND SANITATION (DWS)			
Date	Thursday, 13 November 2025	**Time**	09:30 – 11:00 AM
Venue	MS Teams		
Subject	**Waste Record of Decision (RoD) Checklist Inquiries Meeting with Department of Mineral and Petroleum Resources (DMPR) and Department of Water and Sanitation (DWS)**		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Department of Water and Sanitation (DWS)	Mr Noe Malise	DWS - Official
Department of Mineral and Petroleum Resources (DMPR)	Ms Reshoketswe Mphaphuli	DMPR - Case Officer
Valterra Platinum Limited (Valterra)	Ms Marvey Ursula	Amandelbult Mine Environmental Manager
Kongiwe Environmental (Pty) Ltd (Kongiwe)	Mr Grant Cornish-Bowden	Project Manager
Kongiwe	Ms Umeshree Naicker	Principal Environmental Consultant
Kongiwe	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe	Mr Phathutshedzo Munyai	Environmental Consultant

Apologies		
Organisation	**Name of Attendee**	**Designation**
Valterra	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Ms Reshoketswe Mphaphuli welcomed all the online attendees.	Ms Reshoketswe Mphaphuli (Ms Mphaphuli)	13 November 2025
1.2	Grant Cornish-Bowden then presented the proposed project to Department of Water and Sanitation (DWS).	Mr Grant Cornish-Bowden (Mr Cornish-Bowden)	
2	**Meeting Purpose**		
2.1	Discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.	Mr Cornish-Bowden	13 November 2025
2.2	Provide an overview of the specialist study's findings.		
2.3	Discuss the Waste Record of Decision (RoD) and the requirements		
2.4	Timelines for submission of reports		
2.5	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).		
3	**Meeting Agenda**		
3.1	Removal of the water use application.	All attendees.	13 November 2025
3.2	Waste Management Licence (WML) process and Record of Decision (RoD) Checklist and removal of the need to include information listed under item 3 c & i water uses.		
3.3	Guidance on the way forward regarding RoD requirements.		
3.4	Comments and Discussion.		
4	**Discussion**		
Refer to the table below			

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Stakeholder	Comment	Response
Ms Mphaphuli	Ms Mphaphuli informed the attendees that she wished to first share with her colleague, Mr Malise, the questions that Kongiwe intended to raise with the DWS. She explained that this was to ensure that all parties were fully informed, aligned, and able to continue the discussion in a coordinated and clear manner. She proposed that Mr Cornish-Bowden first share the presentation and thereafter discuss any questions.	Mr Cornish-Bowden acknowledged the request and proceeded to present the proposed Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project (Proposed Project).
Ms Mphaphuli	Ms Mphaphuli noted that the presentation was informative. She mentioned that this was her second time receiving the presentation, as an earlier session had been held, which ultimately led to the convening of the current meeting. She further indicated that some clarifications had already been sought from the DWS regarding the checklist. She then handed the discussion over to DWS.	Mr Cornish-Bowden thanked Ms Mphaphuli for her remarks.
Mr Noe Malise (Mr Malise)	Mr Malise thanked Ms Mphaphuli. Mr Malise wanted to know from Kongiwe, which waste storage facility the applicant intends to apply for, requesting clarity in simple terms.	Mr Cornish-Bowden responded by referring to the map of the Amandelbult Mine Complex TSFs. He explained that the complex consists of several tailings storage facilities (TSFs), all of which are described in detail in the Environmental Impact Assessment (EIA). He clarified the following: • The original TSF (Dam 1) is an existing but dormant facility and is not the target for reclamation. • Adjacent to it is TSF Dam 2, followed by two smaller facilities, Dam 3A and the larger active facility, Dam 3B, which is currently receiving deposition. • TSF Dam 2 is the only facility targeted in the current application. It is an existing but inactive (dormant) TSF with no ongoing deposition.

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		The project involves reclaiming and reprocessing material from TSF Dam 2 through the existing plant. Once valuable fractions (chrome and PGM content) are extracted, the remaining material will be deposited back onto the active TSF Dam 3B.
Mr Malise	Mr Malise sought further clarity and asked whether the TSFs, including the specific TSF under discussion, currently hold an approved Water Use Licence (WUL).	Mr Cornish-Bowden confirmed that all the TSFs within the Amandelbult Complex are fully licensed. He stated that the facilities are monitored in accordance with Global Industry Standard on Tailings Management (GISTM) requirements and all operations fall within the existing authorised mining area. He emphasised that the project does not involve applying for a new TSF or initiating any new waste-related infrastructure. The activity is limited to reclaiming material from TSF Dam 2, processing it, and depositing the residue back into the already licensed operational TSF.
Mr Malise	Mr Malise noted that the primary objective is to recover and remove waste materials from TSF 2 for PGM and Chrome mineral recovery purposes. He further stated that all resultant unwanted waste material will be transferred from the site to TSF 3B for deposition.	Mr Cornish-Bowden confirmed this understanding and acknowledged the comment.
Mr Malise	Mr Malise requested clarity on the construction of the slurry transfer station, specifically asking how it will be built and what components it will contain.	Mr Cornish-Bowden explained that the slurry transfer station is essentially a pump station equipped with screening facilities. He clarified that the core function is pumping rather than any storage. He added that a schematic layout could be provided upon request. He noted that slurry arriving from the TSF is liquefied and may contain vegetation or organic materials. The screening unit removes this material before the slurry is pumped through the pipeline system. The transfer station effectively serves as the link between the high-pressure water hose / barge system and the processing facilities. He further explained that the barge receives “rough slurry,” which may include roots or organic matter from vegetation on the TSF. While larger

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		vegetation is cleared beforehand, some roots or organic material may still be present within the tailings. The slurry transfer station screens this rough slurry and pumps it forward as a more refined liquid.
Mr Malise	Mr Malise sought confirmation on whether the existing infrastructure related to the project is already authorised and licensed.	Mr Cornish-Bowden confirmed that all existing infrastructure is fully authorised and licensed. He noted that although new PCDs were initially planned for this area, the current PCDs will be utilized instead due to their proximity to the slurry transfer station. He pointed out the locations of the existing PCDs on the map and reiterated that these are licensed and fully compliant facilities.
Mr Malise	Mr Malise asked whether TSF 2 would be used again in the future once all material has been removed.	Mr Cornish-Bowden explained that the current land-use plan does allow for the potential future use of TSF 2. The area forms part of the existing, approved TSF complex, which means that if future deposition is required, it can be accommodated without opening new greenfield sites or creating additional environmental impact. He added that any future use would depend on a needs assessment at that time. If no further use is required, TSF 2 would be rehabilitated to its pre-TSF condition. This would involve clearing the area to natural earth, applying topsoil, and undertaking full rehabilitation.
Mr Malise	Mr Malise expressed concern that if the area were to be used in the future for the development of a new facility, such as a potential TSF 4 or TSF 5, this would constitute a new activity and therefore require the appropriate authorisations and permits.	Mr Cornish-Bowden confirmed that any future development of that nature would indeed require the necessary permitting processes. He explained that such a decision would follow a needs assessment, a legal review, and a gap analysis to determine all applicable requirements at that time. While the area is intended for potential future use, any activity would still be subject to the legal and regulatory framework in place at the time of application.
Mr Malise	Mr Malise sought confirmation that all final material produced after processing will be deposited at the Dam 3B.	Mr Cornish-Bowden confirmed that this understanding is correct and that all final processed material will indeed be deposited at the Dam 3B.

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Mr Malise	Mr Malise requested clarification on whether TSF Dam 3B has sufficient capacity to accommodate the material that will be deposited on it. He also asked whether stability assessments have been conducted to confirm that the facility can withstand the additional load.	Mr Cornish-Bowden confirmed that TSF Dam 3B has adequate capacity for the planned material deposition. He stated that the facility is active, continuously monitored, and that the relevant assessments indicate it can safely accommodate the expected load.
Mr Malise	Mr Malise asked whether, during the scoping report phase, comments were obtained from the Department of Water and Sanitation (DWS) regional office regarding this activity.	Mr Cornish-Bowden confirmed that comments were indeed sourced from the DWS regional office during the scoping phase.
Mr Malise	Mr Malise noted that, based on the presentation and the current authorisations in place for the existing infrastructure, it appears that the activity may not require a new water use licence authorisation. He stated that the infrastructure involved is already authorised and that the activity largely involves removing constructed infrastructure that has existing approvals. He advised that, for procedural certainty, the applicant should still submit the planned documentation in December. Once received, the Department will review the activity in full. Should the Department conclude that no authorisation is required, a letter will be issued to the DMPR indicating that the activity has been reviewed and does not necessitate a Waste RoD, allowing the activity to proceed within the current EIA process.	Mr Cornish-Bowden explained that the assessment and legal interpretation indicate that the project involves the reprocessing of existing mine residue to extract remaining minerals and managing the resultant waste material. He clarified that no new facility is being established that would trigger a Water Use Licence requirement. He emphasised that the Environmental Authorisation (EA) Application remains linked to the Waste Licence process and the Section 102 Amendment, which necessitates a Waste RoD. He further explained that, for clarity to the DWS, the Applicant (Valterra) has indicated that no Section 21(c), (i) or (g) water use activities are applicable. He also added that the RoD checklist will compile all supporting documentation relevant to the EIA process, including layout plan representing both the Waste Licence and EIA application requirements. He highlighted one key point for clarification: the engineering requirements normally associated with a Section 21(c) or (i) WUL application are not relevant as there is no such application being made. He noted that Section 21(c) or (i) applications require detailed, engineer-signed drawings, but in this case, there is no such application being made and as such no activity that would require such drawings. As such, Mr

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		Cornish-Bowden stated that the applicant will submit EIA-level design information, including the proposed layout, which is appropriate for the nature of the activity. In the detailed checklist within the application, the team will reference the relevant layout plans and provide justification where formal engineered drawings are not applicable. He sought confirmation that this approach is acceptable and aligned with departmental expectations.
Mr Malise	Mr Malise noted the proposed way forward and indicated that he was not in disagreement but did recommend that Kongiwe submit all available information, including any studies you have, and then we can proceed from there. Regarding water usage, you previously mentioned using return water dam but then moved away from that option. Mr Malise wanted clarification regarding the source of water for the process.	Mr Cornish-Bowden noted that water for the process will be sourced from the existing licensed process water system. There is currently an approved water abstraction in place, and no new water sources will be required. The same process water will be reused and recycled within the site operations.
Mr Malise	Mr Malise confirmed that, based on the current understanding, no new infrastructure or activities that require WUL are planned. The process will involve the recirculation of existing resources and the deposition of materials classified as waste onto areas that have already been authorised.	Mr Cornish-Bowden confirmed that the approach, as no additional infrastructure is required for these activities.
Mr Malise	Mr Malise advised that all available documentation should be submitted for review, including any relevant studies. Based on the current plans and the fact that some infrastructure has been removed, Mr Malise wanted confirmation if there was an intention to apply for new Section 21(c) or amendments to the existing license related to Section 21(c) and (i).	Mr Cornish-Bowden confirmed that no new applications or amendments under Section 21(c) or (i) will be required, as the activities will utilise existing authorised infrastructure.
5	**Closing**	
Mr Cornish-Bowden	Mr Cornish-Bowden thanked everyone for their time and the meeting was adjourned at 11:00 AM.	

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Valterra Platinum

Rustenburg Platinum Mines Limited Amandelbult Mine: Environmental Authorisation, Waste Management Licence and Section 102 Stakeholder Engagement Meeting

13 November 2025

Agenda

1. Purpose of the Meeting
2. Introduction
3. Project Introduction
4. Environmental Report: Draft EIA
5. Project Location
6. Project Infrastructure Description
7. Rehabilitation
8. Project Alternatives
9. Specialist Studies & Impact Assessment
10. Mitigation Summary
11. Legislative Framework
12. Waste Record of Decision
13. Document Availability
14. Timeframes

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1. Purpose of the Meeting

- Discuss the proposed **Amandelbult Tailings Storage Facility Reclamation and Processing** Project.
- Provide an overview of the specialist studies conducted and their findings.
- Discuss the Waste Record of Decision (RoD) and the requirements
- Timelines for submission of reports.

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2. Introduction

- **Kongiwe Environmental:**
  - Grant Cornish-Bowden - Project Manager
  - Umeshree Naicker - Environmental Assessment Practitioner
  - Thuli Phakathi - Stakeholder Engagement
  - Phathutshedzo Munyai - Stakeholder Engagement
- **Valterra Platinum:**
  - Ursula Marvey - Amandelbult Mine Environmental Manager

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3. Project Introduction

- **Applicant**: Rustenburg Platinum Mines Limited (Amandelbult Mine)
- **Activity**: The Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 (122 Ha)
- **Target Minerals**: PGMs and Chrome and all associated minerals in the TSF tailings – Dam 2 of the TSF complex.
- **Life of Operation**: 20 years
- AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.
- Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned on the TSF for blending purposes, in accordance with the re-mining plan.
- AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.
- **Mechanical Reclamation:** This method involves the removal of vegetation and dry tailings material from the TSF Dam No. 2 using a truck-and-shovel operation. Multiple cuts will be made from the TSF wall which will be transported to a central area within the TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.
- **Hydraulic Reclamation:** This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

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4. Environmental Report: Draft EIA

- To enable authorities to assess whether the proposed development is environmentally acceptable and aligns with regulatory and sustainability goals. The S&EIA and specialist studies were undertaken to support the applications for the required EA approvals.

Component	Description
Project Description	Scope, location, activities, and objectives
Environmental Baseline	Air Quality, Biodiversity (Terrestrial and Aquatic), Soil and Agriculture, Groundwater, Heritage, Noise , Socio-Economic Surface Water.
Impact Assessment	Identification and evaluation of potential impacts
Mitigation Measures	Strategies to avoid, reduce, or offset negative effect
Alternatives Considered	Options explored and rationale for preferred choice
Stakeholder Engagement	Summary of public participation and concerns raised
WUL Screening Confirmation	Evidence that no Water Use License is required

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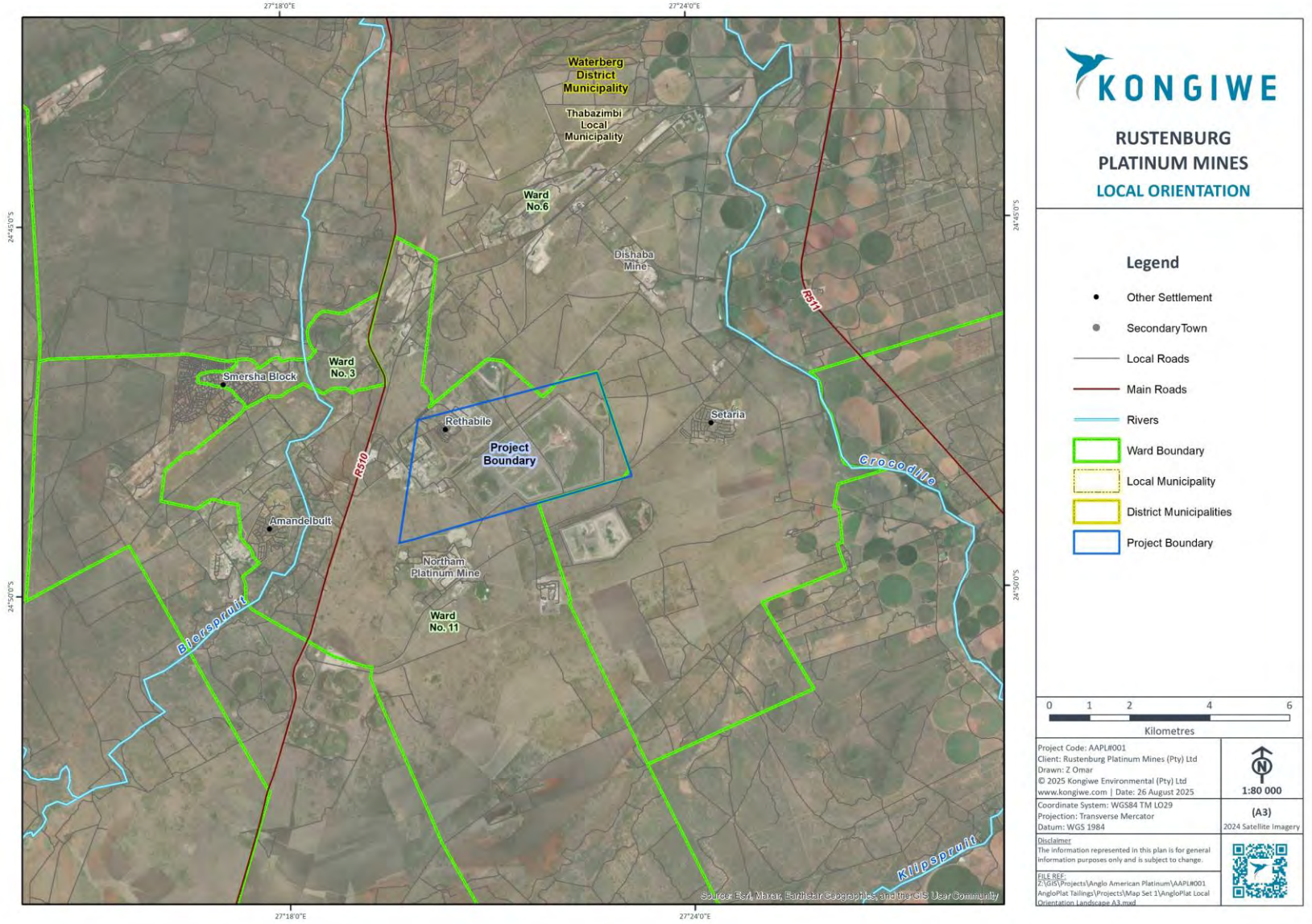
5. Project Location

- Approximately 4 km Northeast of Amandelbult Town.
- Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province.



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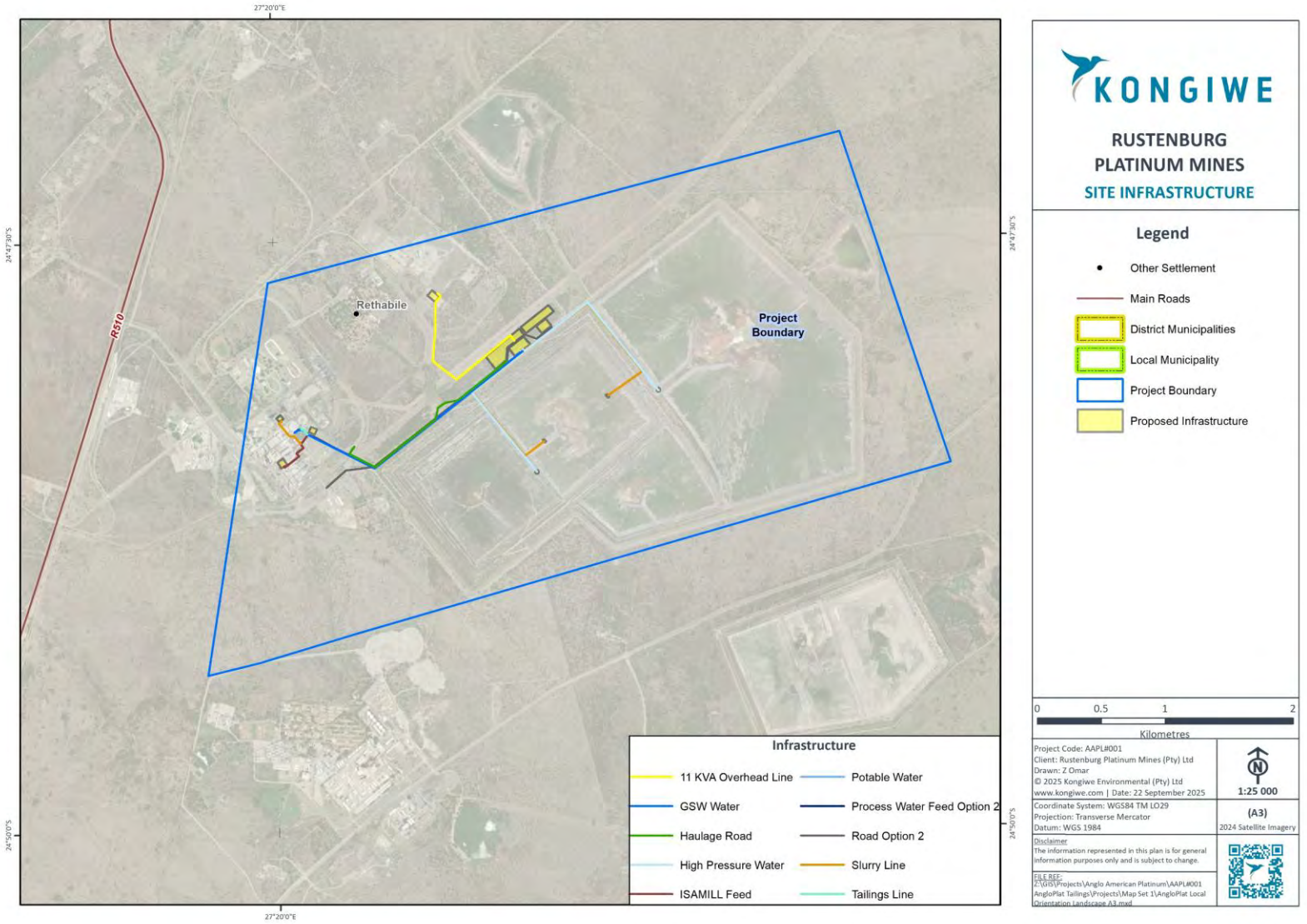
6. Project Infrastructure Description

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

- Access roads;
- Amandelbult Dam 2 TSF;
- Pipelines;
- Power Supply, Sewage, Process Water;
- Barge Pump (1&2);
- High Pressure water tapped off for Hydroguns;
- Slurry Transfer Station;
- TSF No.2 Laydown area;
- Vegetation Handling area;
- Contractors Laydown area;
- Existing PCDs;
- Gravel / Haul Road;
- Existing PGM and Chrome Processing Plant;
- PGM ore Silos/Bins and existing chrome stockpile area;
- Topsoil Stockpiles; and
- Tailings Deposition onto current operational TSF3b.



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7. Rehabilitation

- Rehabilitation will be in line with AMB closure plans and EMPRs.
- After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site.
- The overall TSF footprint will form part of AMB overall Rehabilitation Strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.
- Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.
- Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the intention is to use the area for redeposition of tailings.

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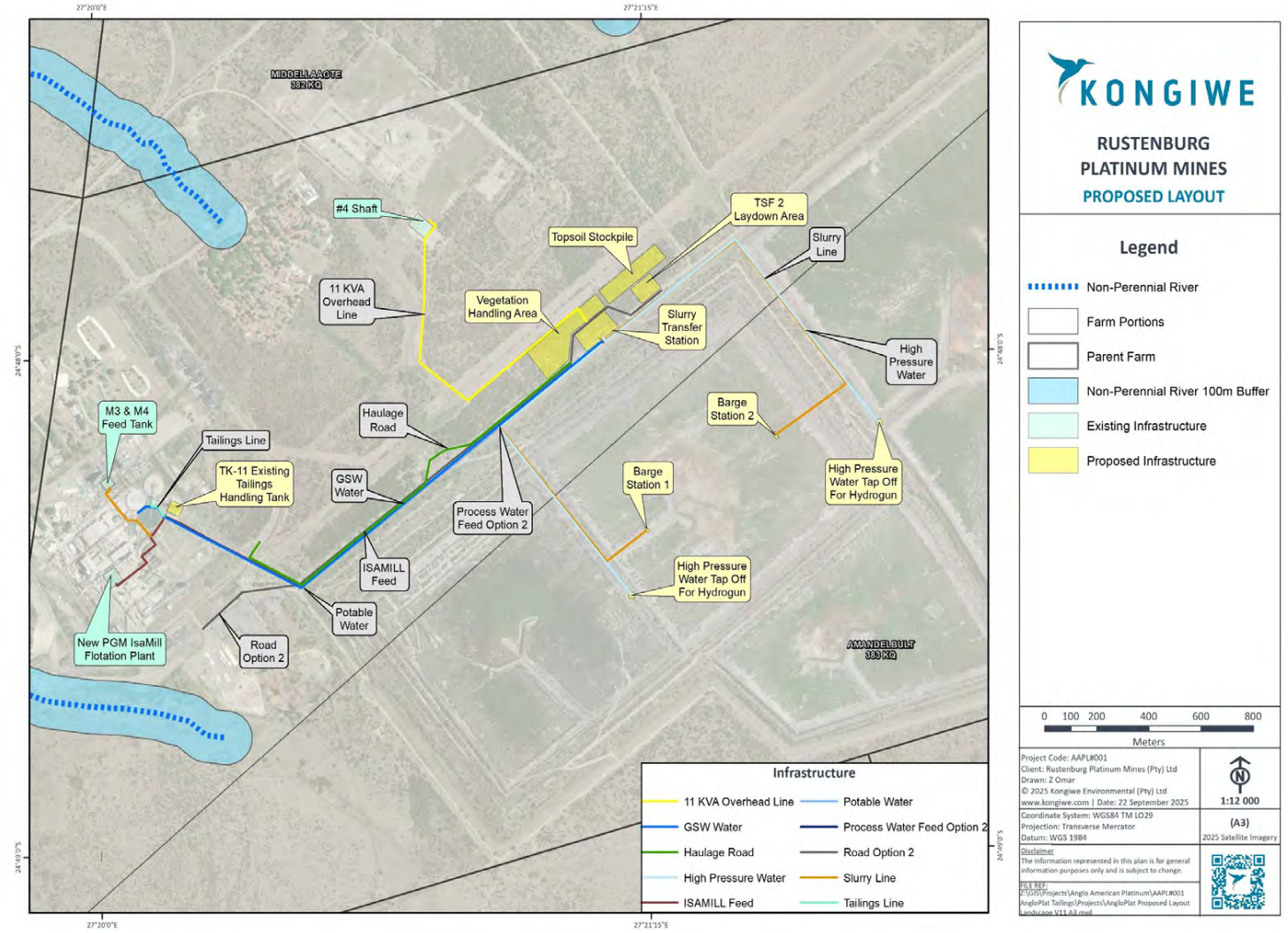
8. Project Alternatives

- **No-go alternative**
  - The "No-Go" option means the project will not proceed, leaving environmental and social conditions unchanged.
  - This avoids both positive and negative impacts. The area, consisting of historically polluting tailings storage facilities (TSFs), would remain unused and continue affecting the surrounding environment.
  - Valuable mineral reserves would remain unmined, and no reclamation or infrastructure development would occur.
- **Location Alternatives**
  - The proposed project involves reclaiming and processing TSF Dam 2, an existing tailings storage facility with no alternative sites.
  - Processing plant locations have been evaluated near the current concentrator plant.
  - The project will take place exclusively on the property housing the AMB complex and TSF Dam 2, specifically within Portion 1 and the Remaining Extents of Amandelbult 383 KQ and Middellaagte 382 KQ.
  - No other properties are under consideration.
- **Layout Alternatives**
  - The preferred layout plan was selected for its minimal footprint impact and reduced environmental risk.
  - While various alternatives were considered, the layout is largely determined by the existing TSF and existing related infrastructure.
  - The proposed layout, nature of the activity and associated infrastructure will be implemented with the aim to reduce substantial impacts on the area.



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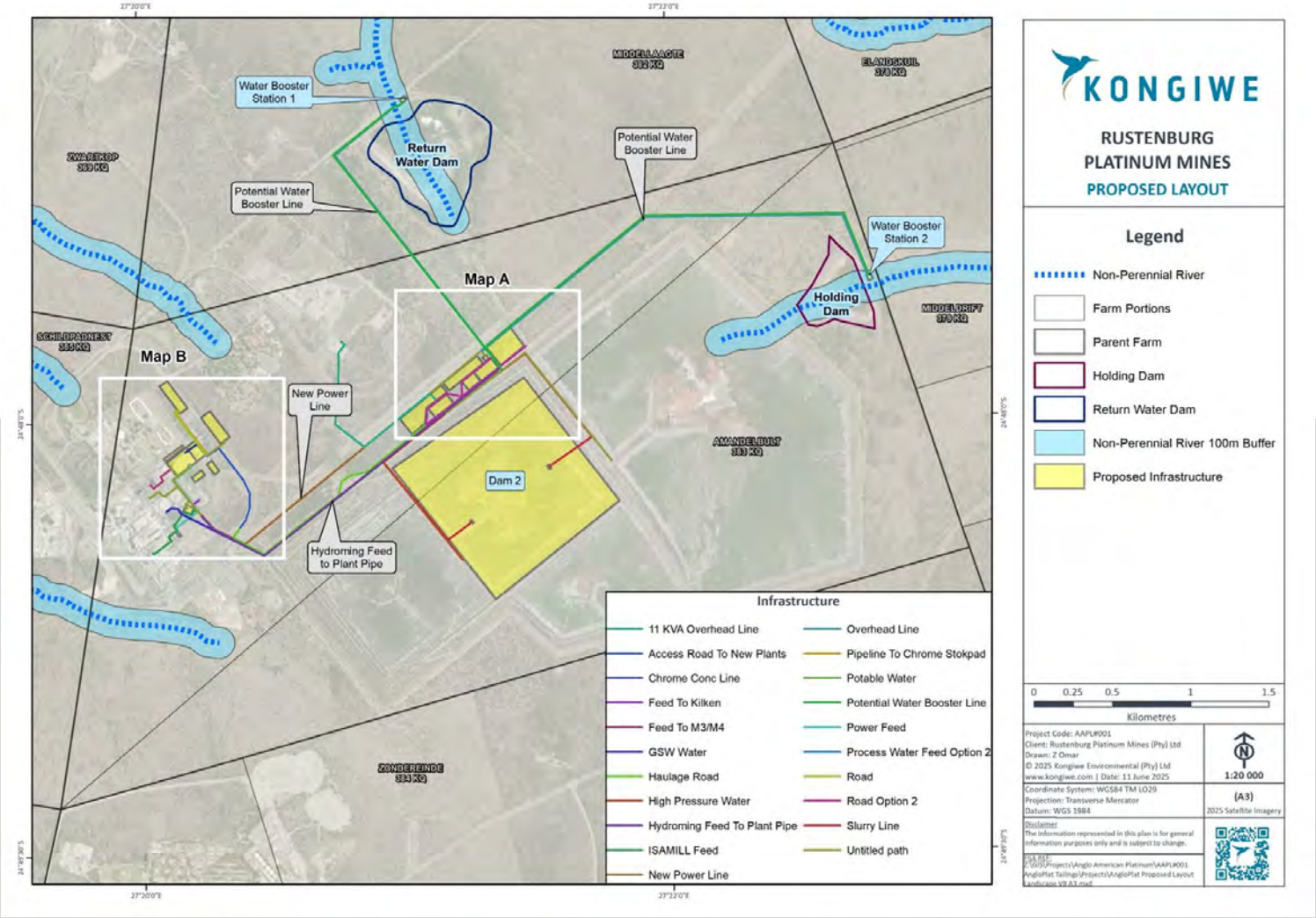
9. Specialist Studies & Impact Assessment



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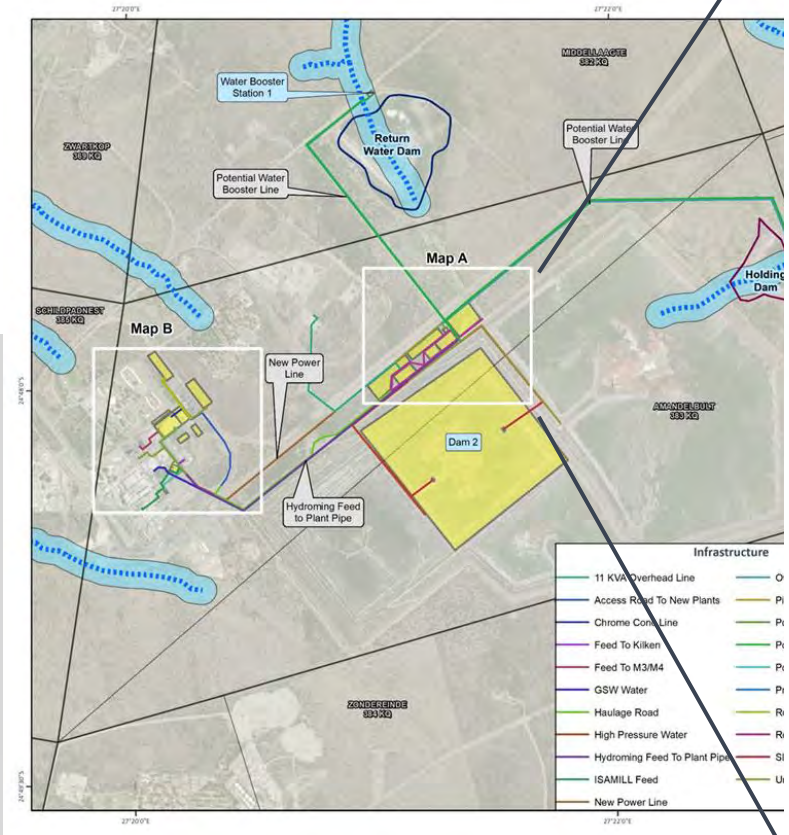
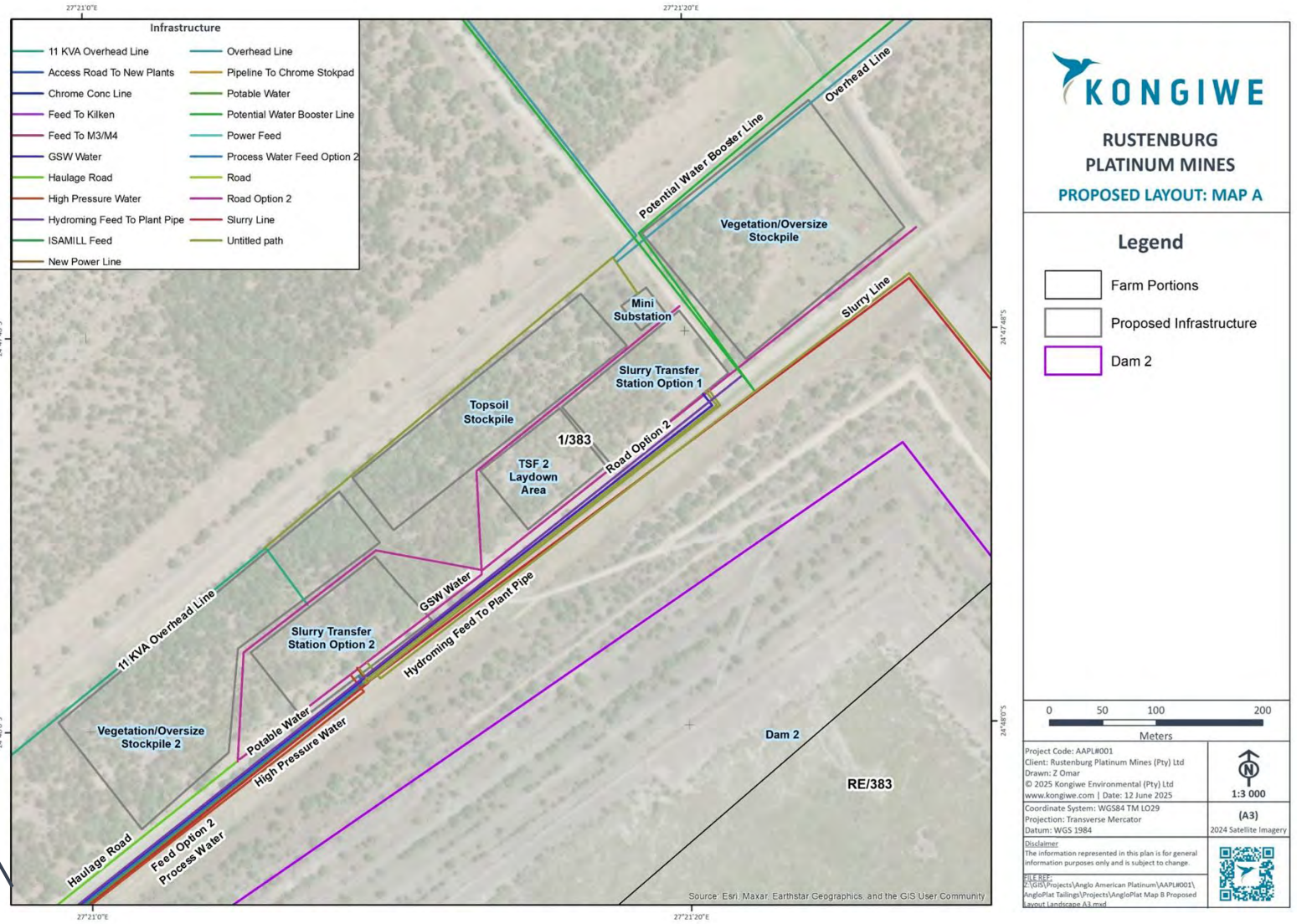
10. Specialist Studies & Impact Assessment





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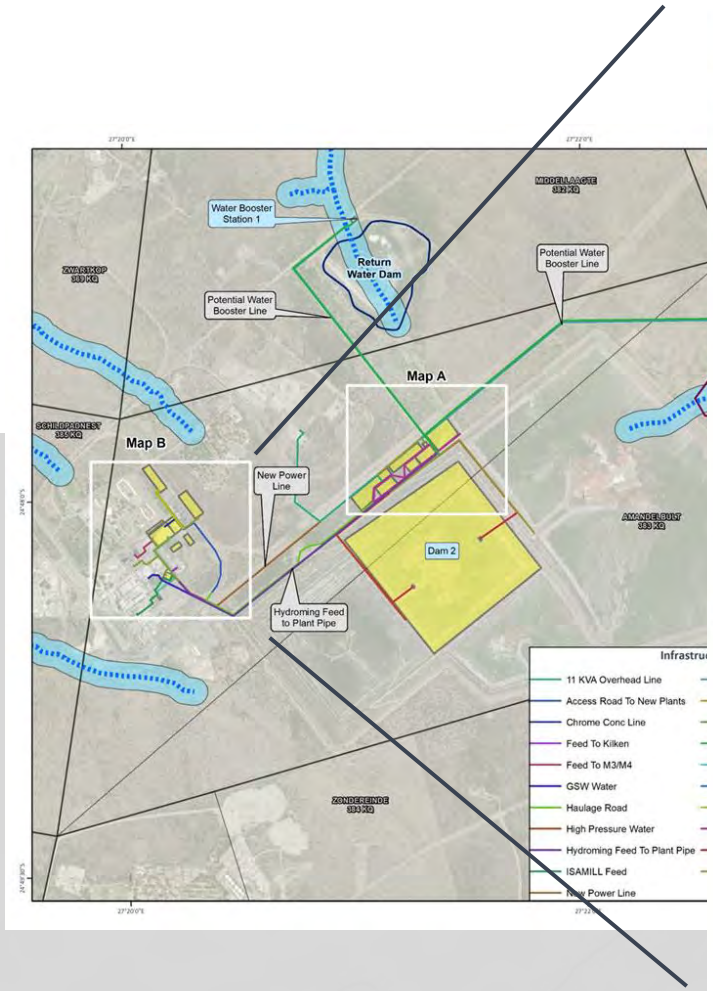
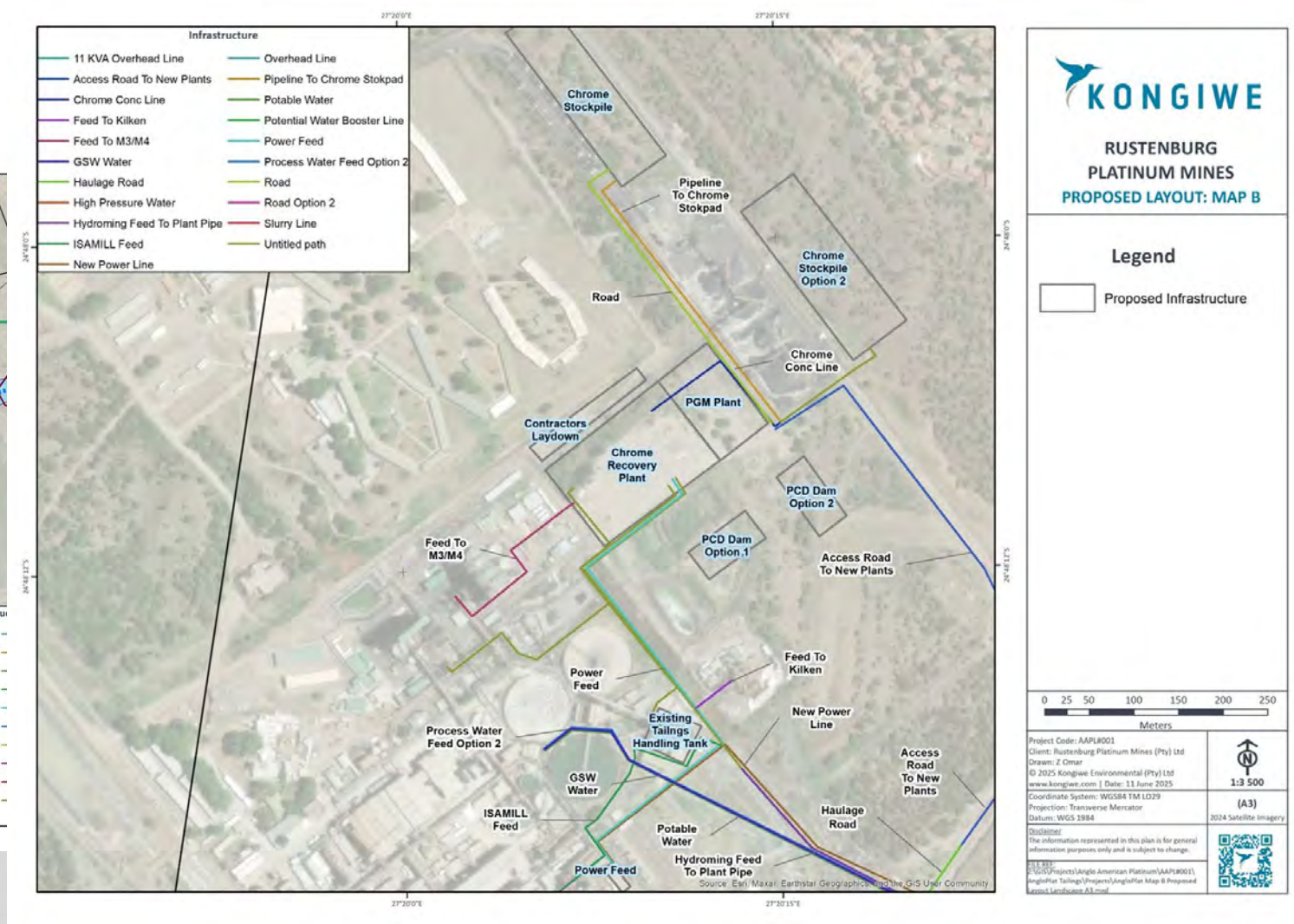
11. Specialist Studies & Impact Assessment





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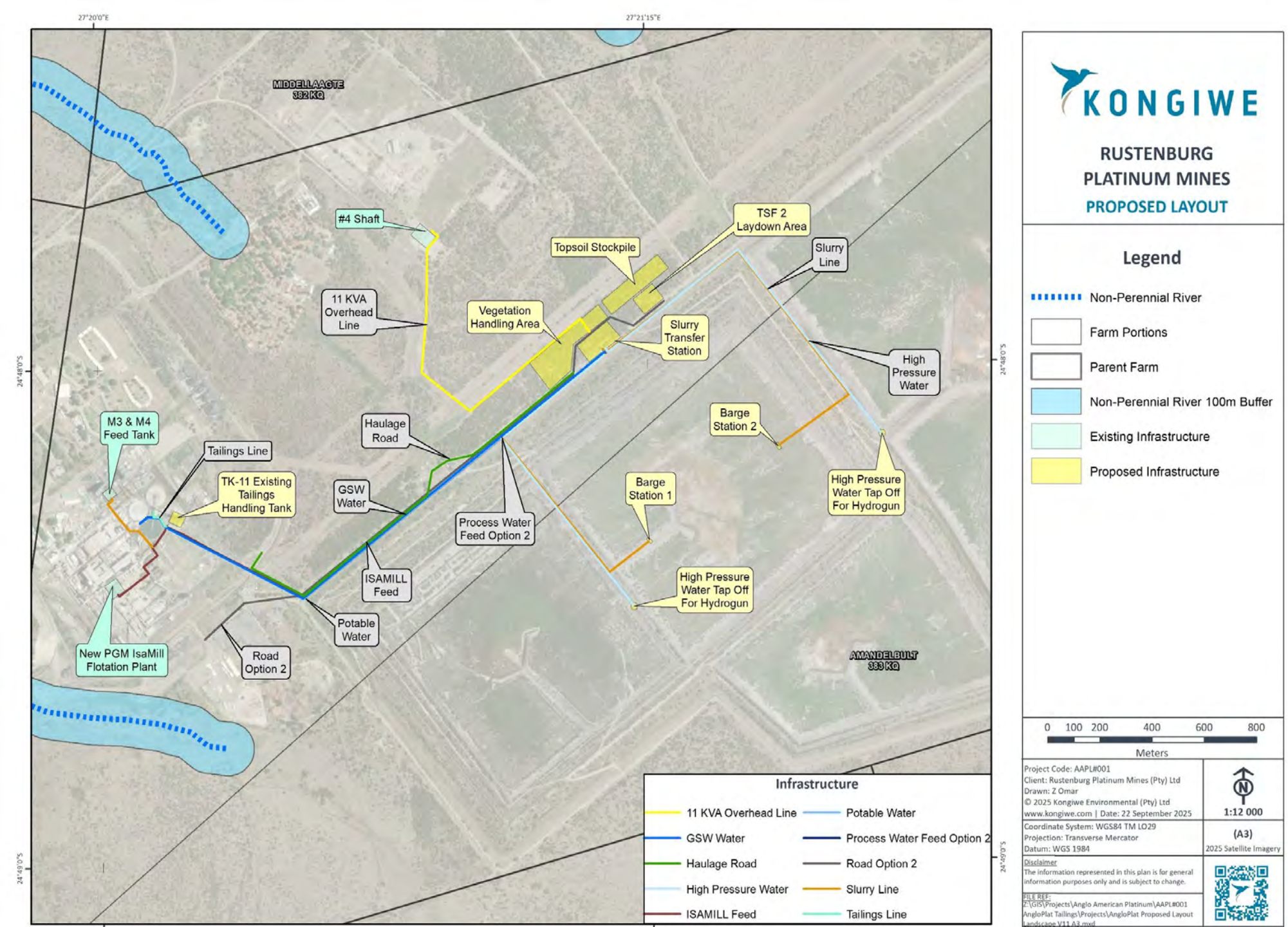

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT

Legend

- Non-Perennial River
- Farm Portions
- Parent Farm
- Non-Perennial River 100m Buffer
- Existing Infrastructure
- Proposed Infrastructure

0 100 200 400 600 800

Meters

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
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www.kongiwe.com | Date: 22 September 2025

1:12 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Proposed Layout Landscape V11 A3.mxd

13. Specialist Studies & Impact Assessment

The following specialist studies were commissioned and undertaken as part of the EIA Process:

- Air Quality
- Biodiversity (Terrestrial and Aquatic)
- Soil and Agriculture
- Groundwater
- Heritage
- Noise
- Socio-Economic
- Surface Water

Each specialist has identified potential impacts and the significance they will have before and after mitigation.

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14. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Socio-Economic	**Construction Phase**	
	Employment and Income	Medium +
	Informal influx of job-seekers	Low -
	Nuisance factors	Low -
	Operational Phase	
	Employment and Income	Medium +
	Informal influx of job-seekers	Medium -
	Nuisance factors	Medium -
	Community health and safety	Medium -
	Impact on adjacent farmers	Low -
	Post- Closure	
	Land Restoration	Medium +
	Cessation of employment	Medium -
Air Quality	**Construction Phase, Operational and Post-Closure**	
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -
Terrestrial Biodiversity	Construction Phase	
	Environmental and Groundwater Pollution	Low+
	Introduction of alien and invasive species, especially plants	Low+
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching	Low+

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15. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Wetlands	**Construction Phase**	
	Hydrological alterations changing the natural water flow patterns	Low+
	Habitat disturbance and fragmentation can disrupt and fragment wetland habitats	Low+
	Soil and water pollution can lead to erosion and a change in water quality	Low+
	Operational Phase	
	Temporary alteration of hydrology in the event of a pipeline leak	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Potential contamination of water from a pipeline leak	Low+
	Post- Closure	
	Temporary increase of overland flow from hardened surfaces	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Introduction and proliferation of alien invasive vegetation from disturbance	Low+
	Potential contamination of water from accidental spills and leaks of machinery and equipment used in the construction activities	Low+
Soil and Agriculture	**Construction Phase**	
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Low+
	Operational Phase	
	Loss Land Capability	Low+
	Post- Closure	
	Loss Land Capability	Low+
Heritage	**Construction Phase**	
	Destruction of cultural heritage resources	Low -
	Impact on cultural landscape	Medium +

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16. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Noise	**Construction and Operational Phase**	
	Future Daytime& Night-time Activities – Scenario 2 & Future Night-time Activities – Scenario 2	Low -
	Worst-case daytime and Night-time operational activities	Low -
Groundwater	**Construction Phase**	
	Site clearing and infrastructures development	Low+
	Operational Phase	
	TSF reclamation – Seepage of water into underlaying formations	Low+
	TSF reclamation – Possible increase in salt and metal concentrations associated with leaching from reclamation.	Medium -
	Post- Closure Phase	
	Break down and remove all infrastructure - Once the reclamation has stopped, groundwater will start to recover to its pre-mining level.	Medium +
	Break down and remove all infrastructure – Removal of source contamination has been removed.	Medium +
Surface water	**Construction Phase**	
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Low -
	Operational Phase	
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Low -
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	Low -

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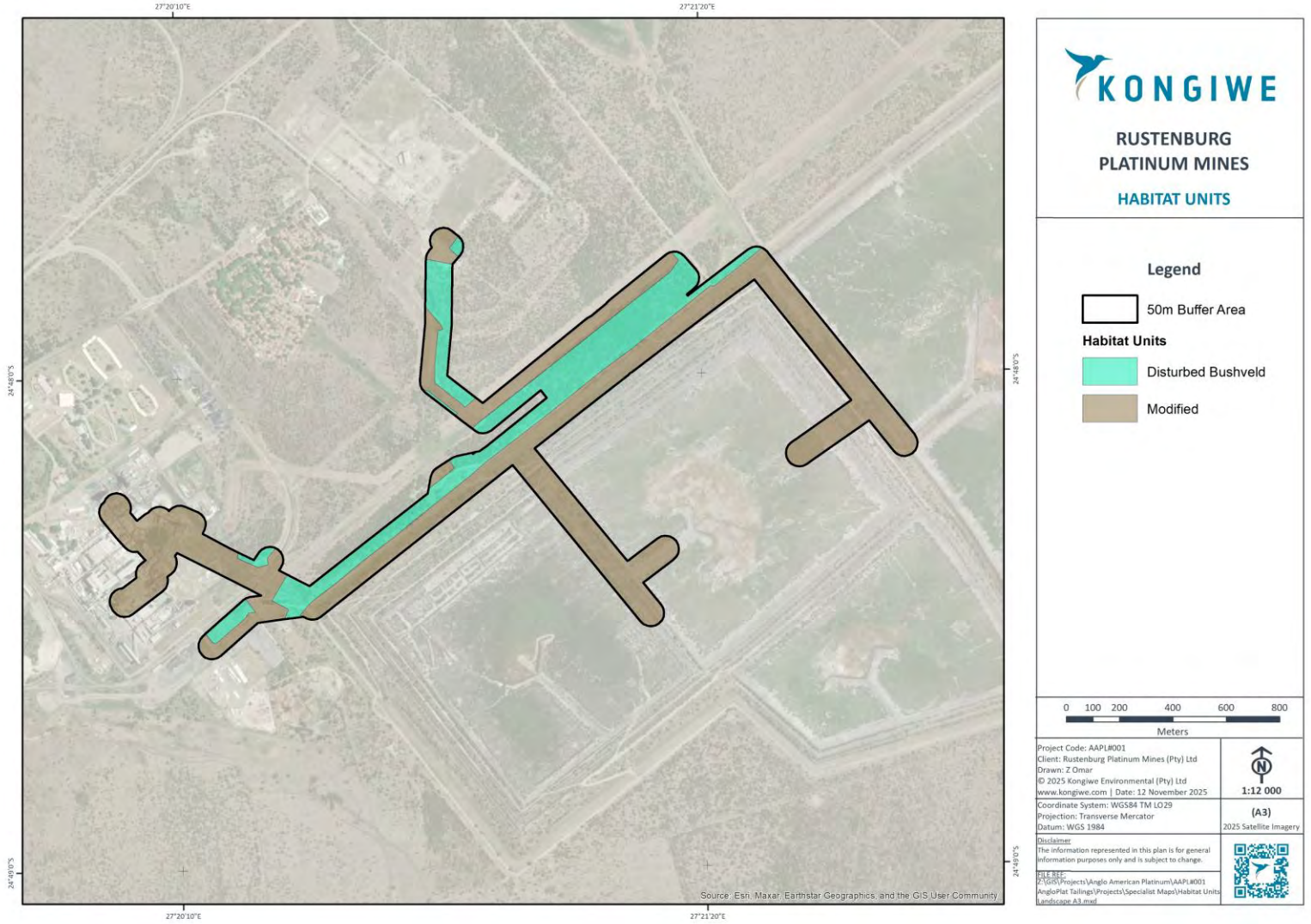
17. Specialist Findings-Biodiversity

- Two (2) main habitat types were identified across the area of the Project and include:
  - Disturbed Bushveld; and
  - Modified.



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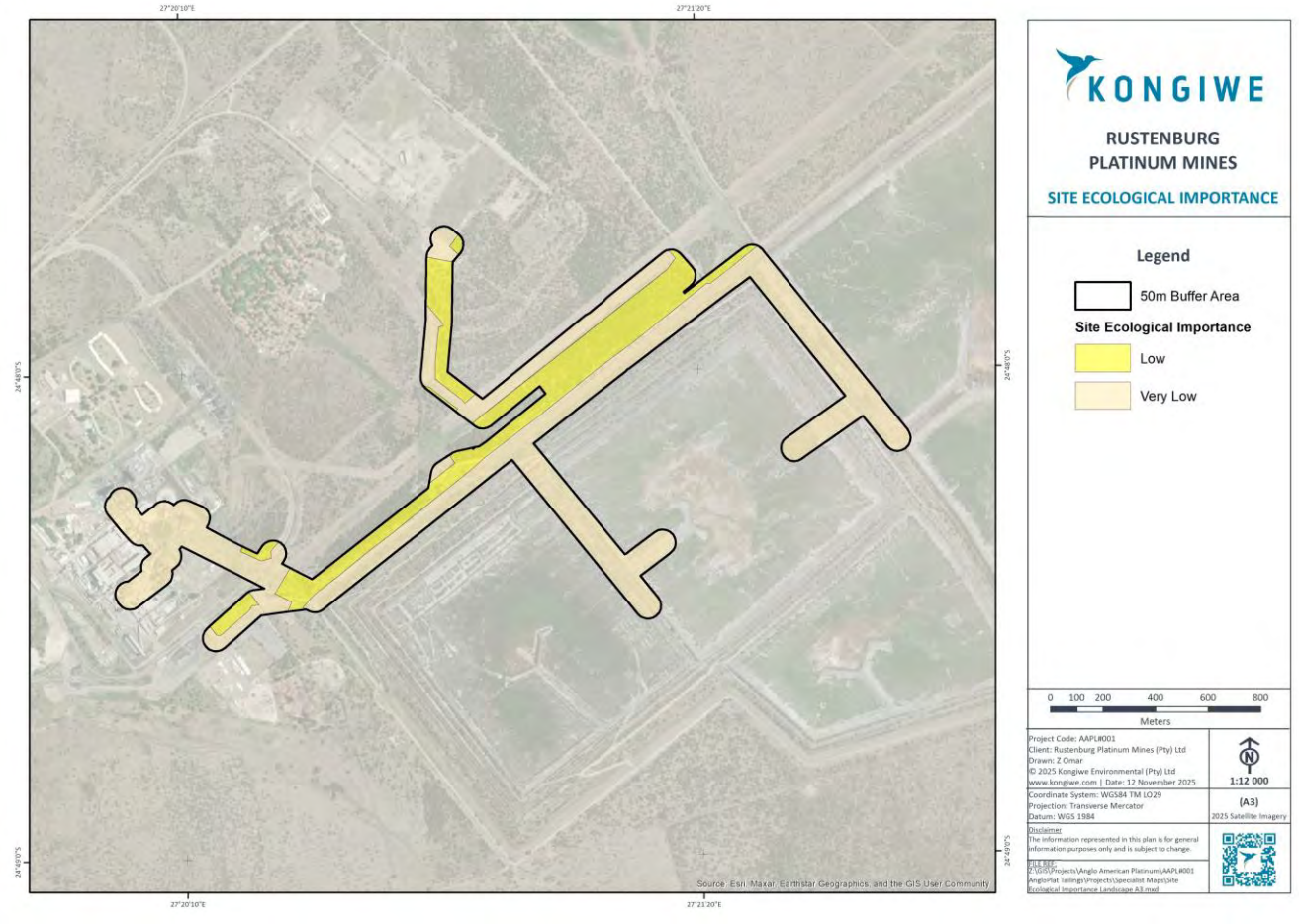
18. Specialist Findings - Biodiversity

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Very Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna Species of Conservation Concern (SCC) may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No Species of Conservation Concern (SCCs) observed or expected.



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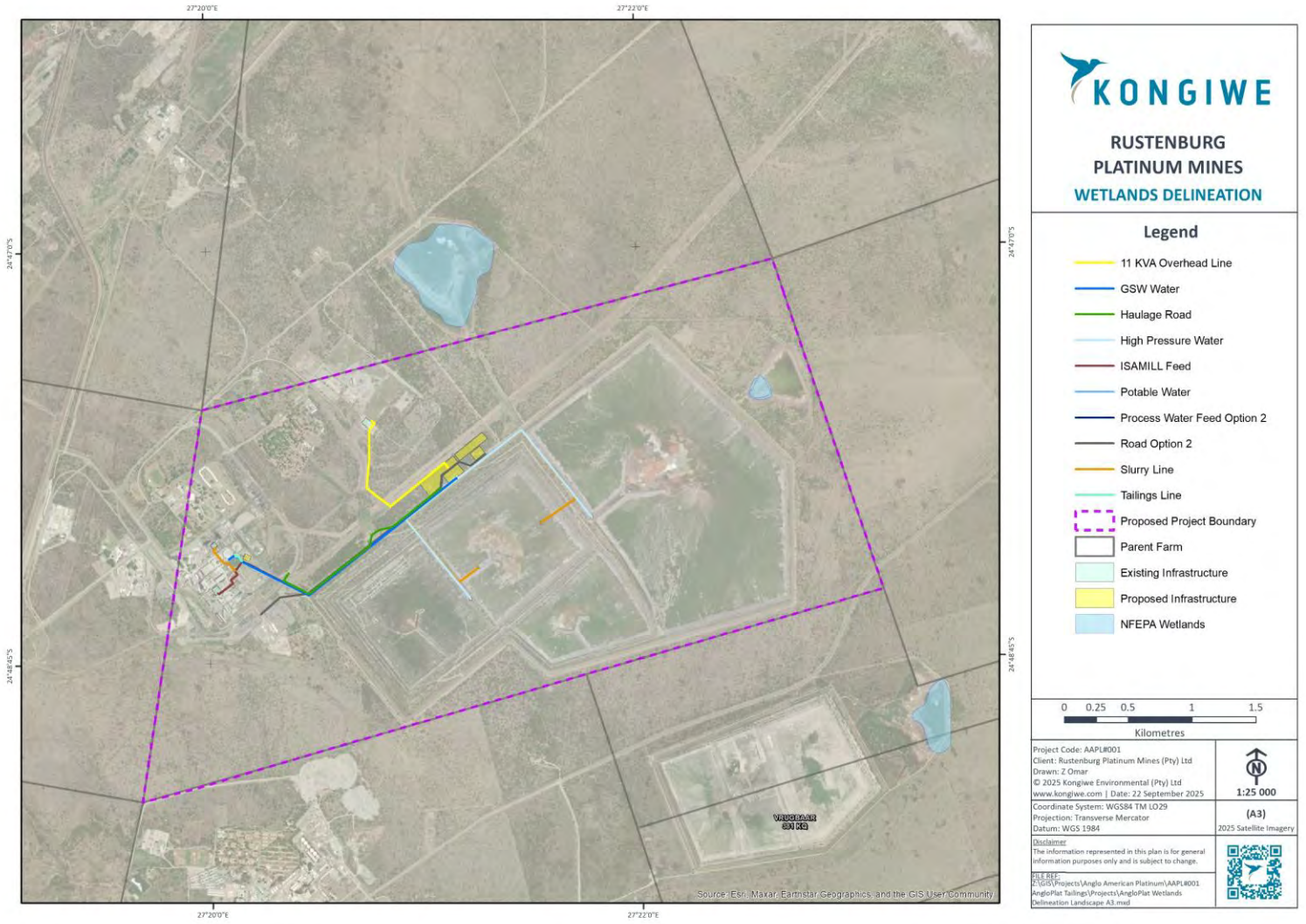
19. Specialist Findings - Wetland

- The Project area falls within the drainage features.
- Outside the 500-metre PAOI, two drainage features were identified and all other identified features are effectively avoided by the development area.
- The ecological sensitivities are ranked as positive (Low).
- A wetland drainage buffer of 32 m was calculated for the wetlands drainage features in the pre-mitigation scenario, which can be reduced to a minimum post-mitigation buffer of 15 m.
- In consideration of the current layout, the proposed development sufficiently avoids the suggested buffers.
- The proposed activities do not fall within the 100 m NWA and 32 m NEMA regulated area of a natural watercourse. The zones of regulation were only computed for the delineated extent of the watercourses.



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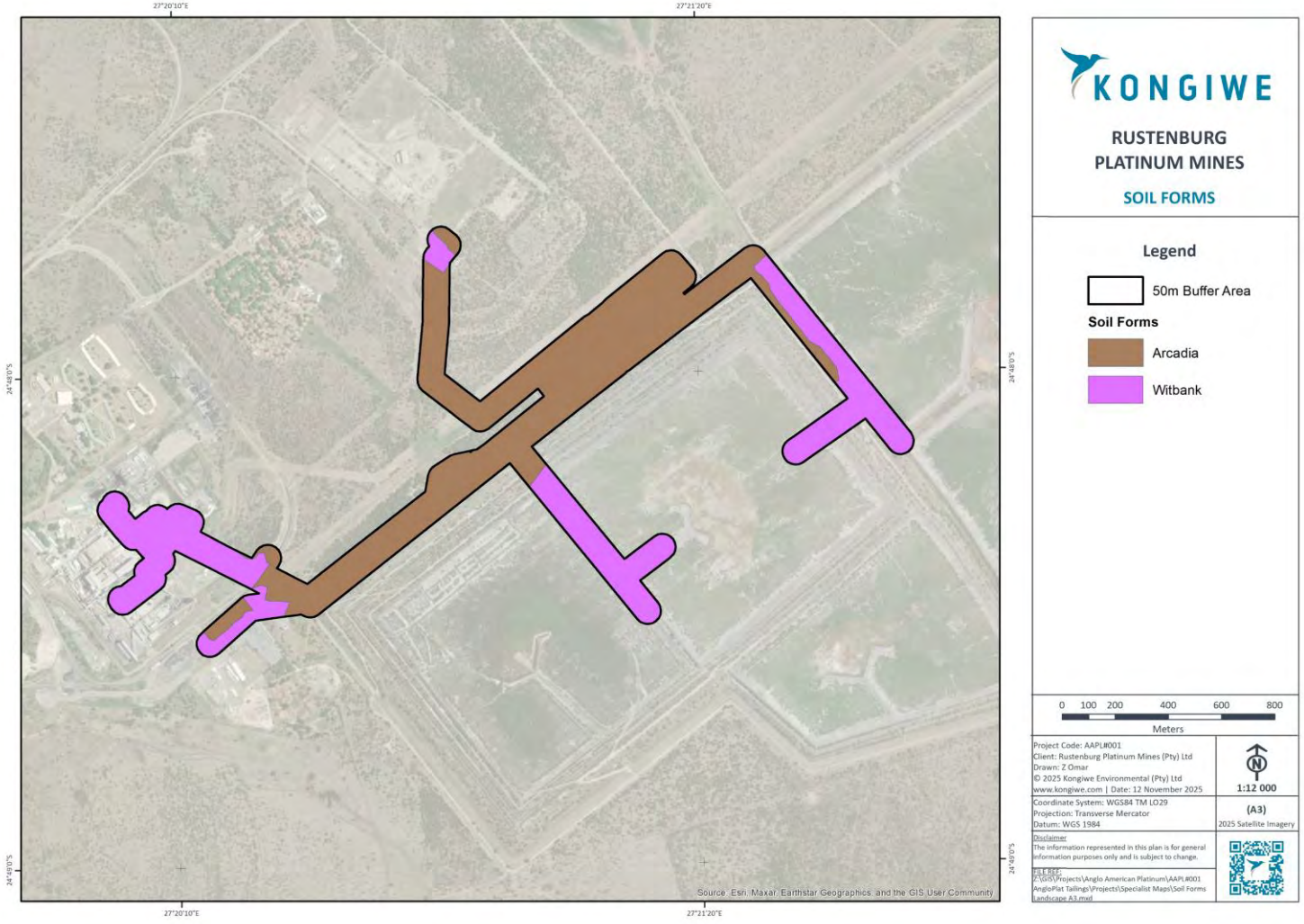
20. Specialist Findings-Soil and Agriculture

- The Project consists of soils with very low to low suitability for crop production.
- Two (2) representative soil forms were identified in the 50 m buffer of the proposed project area namely, Arcadia and Witbank soil forms.
- The Project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics.
- DFFE Agriculture Theme Sensitivity indicates that the 50 m buffer of the Project area falls within the 'Low-Moderate" sensitivity.
- The current project area and associated activities of the Project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.



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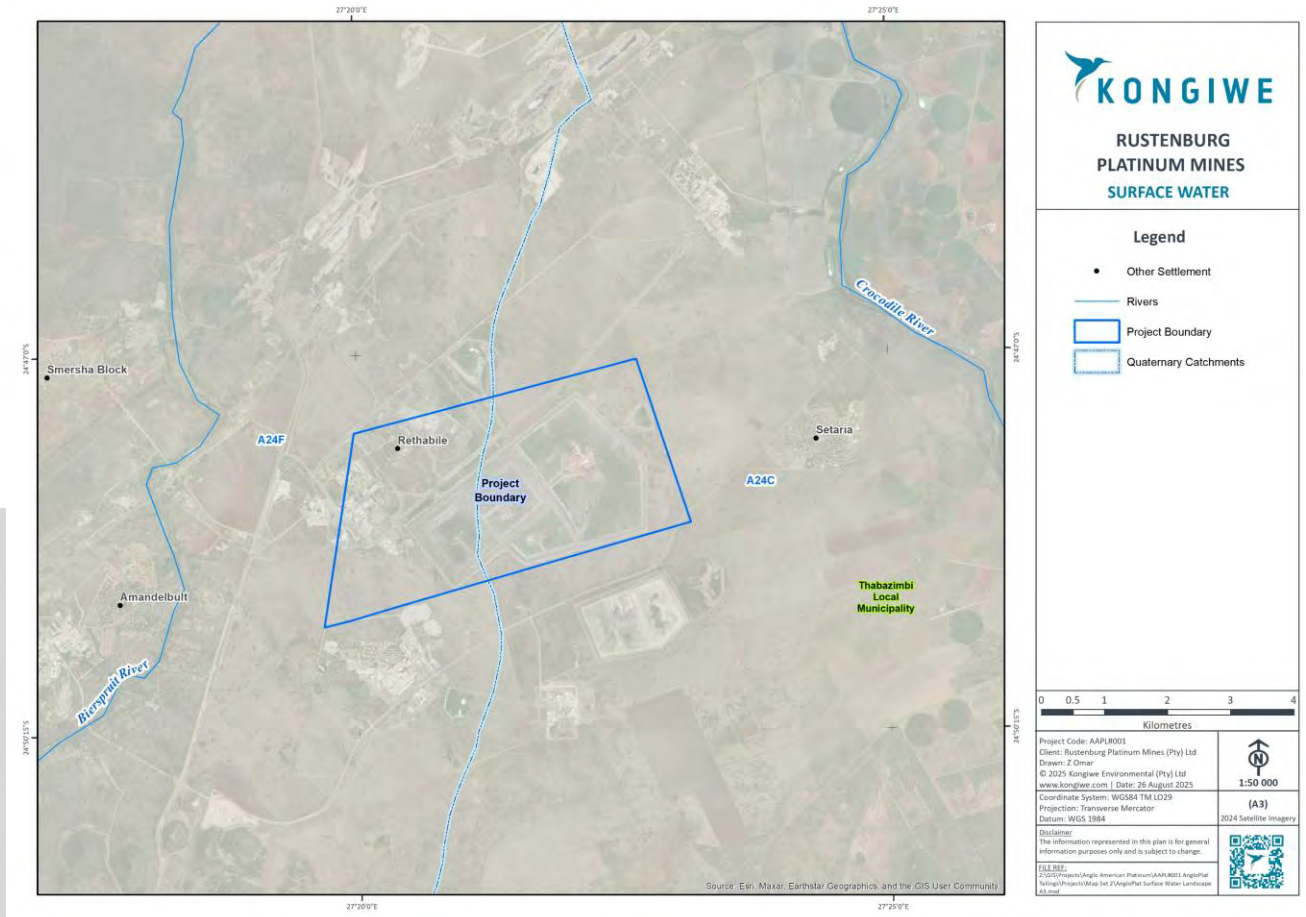
21.Specialist Findings – Surface Water

- The Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit).
- A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented.
- Surface water quality in and around the AMB Concentrator is monitored on a monthly basis



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22. Specialist Findings-Groundwater

- Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly.
- Groundwater quality mostly within SANS drinking water quality standards.
- The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.
- Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole.
- The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography,
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- No risk of decant was identified for this project.

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23. Mitigation Summary

- Mitigation plans have been developed by each subject matter specialist and have been included in both the specialist reports and the EMPr.
- This specifically includes (but is not limited to) surface water, wetlands, biodiversity, soils and ground water.

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25. Legislative Framework

- An integrated Environmental Authorisation (EA) application has been submitted to the DMPR as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMPR are as follows:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme;
  - **Application for a Waste Management Licence (WML**) authorising waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA.

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26. Waste Record of Decision (RoD)

- **Waste management licence application form:** Integrated application submitted to DMPR reference number: LP 30/5/1/2/2/48 MR
- Relevant Specialist Studies
  - **Hydrogeological study:** Hydrocensus, Geophysical investigation, Description of geology, Aquifer type and aquifer classification, Aquifer vulnerability assessment , Aquifer characterization, Groundwater quality.
  - **Groundwater Model:** Groundwater Pollution Potential, Possible impacts on the down-gradient resources/users, Groundwater Flow Direction, Groundwater monitoring programme, Geohydrological report for understanding flow drivers to watercourses).
  - **Freshwater Compliance Statement:** Eco-hydrological perspective.
  - **Hydrological Study:** 1 in 100 year flood lines pre- and post-development, Eco-hydrological perspective.
  - **Final closure and rehabilitation Report**: Amandelbult platinum mine (Mine Closure Cost Liability Estimate)- Rehabilitation Plan, Landscape maintenance plan.
  - **Draft Environmental Management Programme (EMPr)**: Management Plan for infrastructure, Monitoring and Auditing Plan for surface water resource, Storm Water Management Plan

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27. Waste Record of Decision (RoD)

- Specialist studies not applicable
  - Hydropedological Assessments (Level 1, 2 or 3 based on risk): Not applicable, this is a Tailings storage Facilities, Reclamation and Processing of a pre-existing TSF and there is no hydropedological study applicable.
  - Plant Species Plan drawing by landscape architect or botanist
  - Dolomite Risk Management and Emergency Plan: Does not fall within a dolomite risk zone and is not situated in a dolomite geological formation.
  - Confirmation from the Rock Engineer about possibility of subsidence and safety factor of underground workings: existing TSF complex.

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28. Waste Record of Decision (RoD)

❖ **Section 21 (C) and (I): Impeding and Altering – specific requirements**

- The proposed project does not involve any activities that would require a water use licence (WUL), and therefore no WUL application has been submitted.
- Master Layout Plan (must indicate ALL infrastructure and associated infrastructure in relation to delineated watercourses, 1:100 year floodlines and buffer zones) in conjunction with landscape architect: Submit a Layout Plan
- Method Statement: Generic Method Statements.

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29. Timeframe

- ❖NEMA application submission: Tuesday, 17 June 2025
- ❖NEMA application accepted: 19 July 2025
- ❖Project Announcement: Thursday 19 June 2025
- ❖Scoping Phase Public Participation Period: Wednesday, 18 June 2025 to Thursday, 17 July 2025.
  - Online Meetings: Friday, 27 June 2025
  - **Public Meeting / Open Day:** Monday 23 June 2025, Tuesday 24 June and Friday, 11 July 2025 at at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
- ❖Final Scoping Report Submission: Monday 28 July 2025
- ❖Final Scoping Report Acceptance letter received: Tuesday 02 September 2025
- ❖Announce availability of DEIA/EMPr, Friday, 19 September 2025
- ❖EIA Public Participation Period: Friday, 26 September 2025 until Monday, 27 October 2025.
  - **Public Meeting / Open Day:** Thursday 9 October 2025 and Friday 10 October 2025 at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
  - **Mantserre Open Day**: Wednesday 12 November 2025
  - **Department of Water and Sanitation (DWS)**: Online meeting Thursday 13 November 2025
  - Final EIA/EMPr submission: 5 December 2025

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30. Timeframe

- Final EIA/EMPr submission to DMPR: 5 December 2025:
  - Decision on Final EIA/EMPr expected on 15 April 2025.

- Waste ROD submission to DMPR/DWS: 5 December 2025:
  - Decision on Waste ROD expected on 15 April 2025.

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Comments & Discussion

- Discussion
- Closing

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Contact

- **Grant Cornish-Bowden**
- **082 448 1921**
- **gcornish-bowden@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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MINUTES OF MEETING: ONLINE MEETING WITH BROADER STAKEHOLDERS TO PRESENT THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT (EIA/EMPR) AND SPECIALISTS FINDINGS.			
Date	Monday, 24 November 2025	**Time**	11:00 AM – 12:30 PM
Venue	MS Teams (Online Meeting)		
Subject	**Online Meeting with Broader Stakeholder to present the Draft Environmental Impact Assessment and Environmental Management Programme Report (EIA/EMPr) and Specialist Findings.**		
Description	**Broader Stakeholder Virtual Meeting –** This refers to an online engagement session conducted as part of the EIA process, during which all relevant stakeholders including community members, government authorities, interested and affected parties (I&APs), NGOs, landowners, and other key role-players are invited to participate preferably if they cannot attend the in person meetings such as the Open Days or Public Participation Meetings.		

List of Attendees		
Organisation	**Name of Attendee**	**Designation**
Valterra Platinum Limited (Valterra)	Ms Hazel Fiehn	Valterra Platinum Environmental Authorisations and Permitting Principal
Valterra	Ms Marvey Ursula	Amandelbult Mine Environmental Manager
Valterra	Ms Galeboye Kgomotso	Valterra Environmental Officer
Valterra	Mr Tshepo Monyaka	Environmental specialist
Valterra	Mr Davhana Thanyani	Valterra Engineer for Project
Valterra	Mr Thabo Moyo	Amandelbult Mine Social Performance Manager
Federation for a Sustainable Environment (FSE)	Ms Mariette Liefferink	Chief Executive Officer
Baphalane Ba Mantserre Community Development Trust	Ms Dineo Peta	Independent Trustee
Baphalane Ba Mantserre Community Development Trust	Mr Thabo Seleke	Independent Trustee
Kongiwe Environmental (Pty) Ltd (Kongiwe)	Mr Grant Cornish-Bowden	Project Manager
Kongiwe	Ms Thuli Phakathi	Stakeholder Engagement Consultant
Kongiwe	Mr Phathutshedzo Munyai	Environmental Consultant

Apologies		
Organisation	**Name of Attendee**	**Designation**
	N/A	

Note: These minutes are not intended as a verbatim transcript of the meeting, but rather as a summary of the salient discussions which took place

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No	Item	Responsible Person	Due Date
1	**Welcome and Introductions**		
1.1	Mr Cornish-Bowden welcomed all online attendees and invited everyone present to introduce themselves.	Mr Grant Cornish-Bowden (Mr Cornish-Bowden)	24 November 2025
2	**Meeting Purpose: Mr Cornish-Bowden noted the purpose of the meeting which was indicated as follows:**		
2.1	Present and discuss the proposed Amandelbult Tailings Storage Facility (TSF) Reclamation and Processing Project.	Mr Cornish-Bowden	24 November 2025
2.2	Provide an overview of the specialist study's findings completed for the EIA study.		
2.3	Provide stakeholders with an opportunity to raise comments, seek clarity, and provide input on this EIA process.		
2.4	Record comments raised by Interested and Affected Parties (I&APs) for the Comments and Responses Report (CRR).		
3	**Meeting Agenda**		
3.1	Purpose of the meeting	All attendees.	24 November 2025
3.2	Important Notice		
3.3	Introduction		
3.4	Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)		
3.5	Project Background		
3.6	Project Location		
3.7	Project Infrastructure Description		
3.8	Rehabilitation		
3.9	Project Alternatives		
3.10	Specialist Studies & Impact Assessment		

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No	Item	Responsible Person	Due Date
3.11	Air Quality		
3.12	Biodiversity		
3.13	Wetlands		
3.14	Soil and Agriculture		
3.15	Surface Water		
3.16	Groundwater		
3.17	Heritage		
3.18	Socio-Economic		
3.19	Noise		
3.20	Mitigation Measures		
3.21	Legislative Framework		
3.22	Document Availability		
3.23	The Way Forward		
3.24	Questions & Answers		
4	**Discussion**		
Refer to the table below.			

Stakeholder	Comment	Response
Mr Cornish-Bowden	Mr Cornish-Bowden noted that in the previous meeting of this nature, Ms Liefferink had come well prepared and had reviewed the Non-	Ms Liefferink stated that she would appreciate viewing the presentation. However, she requested that the issue regarding the applicable legal

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	Technical Summary (NTS). He indicated that he had a presentation available to share but was also willing to proceed directly to any questions she had prepared, depending on her preference.	matrix for the reclamation activities be addressed, noting that her understanding is that the operation involves the reclamation of residual Platinum Group Metals (PGMs) using both hydraulic and mechanical methods. She asked for confirmation of this understanding. Mr Cornish-Bowden confirmed Ms Liefferink's understanding was correct.
Ms Liefferink	Ms Liefferink raised a concern regarding the information contained in the Non-Technical Summary. She noted that the introductory paragraph states that the EIA has been undertaken in terms of National Environmental Management Act (NEMA) (as amended) and the EIA Regulations, and that the proposed project involves an application for amendments under the Mineral and Petroleum Resources Development Act (MPRDA) to the Department of Mineral and Petroleum Resources (DMPR) for the inclusion of the Tailings Storage Facilities (TSF) in the mining work programme. She indicated that, based on ongoing discussions in the sector, her understanding is that the reclamation of residual PGMs from historic TSF may not require a mining right, as such activities could fall under the National Environmental Management: Waste Act. She requested clarity on whether the Amandelbult TSF in question is considered a historic TSF.	Mr Cornish-Bowden explained that the Amandelbult TSFs differ significantly from the types of facilities typically considered in historic reclamation projects, such as those in Johannesburg (Gauteng). The TSFs at Amandelbult form part of an active operational complex. TSF Dam 2 is the current target for reclamation; and TSF Dams 3A and 3B continue to form part of the operational system, with Dam 3B still actively receiving tailings. He emphasised that Dam 2 was operational until very recently and remains an integral component of the active tailings management system. The material reclaimed from Dam 2 will be deposited into Dam 3B. He further noted that this context differs substantially from projects such as those undertaken by reclamation focused companies, which typically involve historic, standalone TSFs not associated with active mining operations. He added that the presentation to follow would include maps and layout plans to illustrate this context.
Ms Liefferink	Ms Liefferink requested clarification on why a mining right was not previously required. She noted that, given the extraction of PGMs and the need to establish financial guarantees, Valterra would ordinarily have needed to apply for a mining right. She asked why Valterra is now seeking an amendment to include the TSF, and whether the TSF had not originally formed part of the existing mining right.	Mr Cornish-Bowden explained that the site was under a mining right, but that the reprocessing activity was not included in the original mining right. As a result, the associated methodologies and operational details need to be incorporated through an amendment to ensure that the project is fully legitimate and compliant with regulatory requirements.

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Ms Liefferink	Ms Liefferink noted that she now understands the clarification provided. She acknowledged that a mining right does exist, but that an amendment is required to include the reclamation activities.	Mr Cornish-Bowden confirmed that the existing mining right will indeed require an amendment to authorise the reclamation and reprocessing activities proposed for the project.
Ms Fiehn	Ms Fiehn clarified that Valterra currently holds a mining right over only a portion of the TSF, while the Environmental Management Programme (EMPr) covers the entire TSF footprint. She explained that Valterra seeks to formalise and align the authorisation by amending the mining right to ensure that the company is legally permitted to conduct mining-related activities over the full extent of the TSF.	Ms Liefferink thanked Ms Fiehn for the clarification provided.
Ms Liefferink	Ms Liefferink requested clarity regarding the water source for the project, noting that the information is likely included in the EIA Report but requested for confirmation of where the client (Valterra) sources water.	Mr Cornish-Bowden explained that the water is sourced from the existing Amandelbult Operational Complex, specifically from the Concentrator Plant, and is utilised under the current licenced operations. He confirmed that the project uses process water already used within the established Plant infrastructure. Ms Liefferink acknowledged the clarification.
Ms Liefferink	Ms Liefferink sought clarification regarding the existing Pollution Control Dams (PCDs), specifically asking whether they are lined.	Mr Cornish-Bowden confirmed that the existing PCDs are lined. He noted that while there were initially considerations to construct new PCDs, the Scoping process for the proposed project determined that it would be sufficient and appropriate to utilise the existing PCDs rather than establish new ones.
Ms Liefferink	Ms Liefferink raised a concern regarding the stockpiling of topsoil, noting that the life of the mine is 20 years. She requested clarification on how Kongiwe would ensure that the seed bank in the topsoil remains viable and conducive for future rehabilitation.	Mr Cornish-Bowden explained that a Soil Management Plan forms part of the EIA. The plan establishes maximum stockpile heights and includes measures to allow for natural vegetation establishment, ensuring that the topsoil remains viable for rehabilitation purposes.
Ms Liefferink	Ms Liefferink sought clarification regarding the predetermined future land use of the footprint. She acknowledged that in the interim, the area	Mr Cornish-Bowden clarified that the footprint is part of the current licenced tailings operation within the overall TSF complex. It will continue to be used for tailings deposition in the future. The ultimate land use will

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	will be used for deposition/redeposition of tailings but requested confirmation of the ultimate land use as indicated in the EIA documents.	remain as a tailing's facility, which will be rehabilitated and vegetated, but will not be removed or repurposed for other uses. He further commented that there is a mine wide rehabilitation strategy that considers the final land use.
Ms Liefferink	Ms Liefferink raised a concern regarding the EMPr regulations, noting that rehabilitation and closure objectives must be established from the commencement of mining or any operational activity and must comply with the principles of sustainable development. She emphasised the importance of ensuring sustainable livelihood opportunities for communities following the cessation of mining or the relinquishment of a mining right. She highlighted that while the TSF will remain in situ and may be vegetated (e.g., grassed), this does not constitute a sustainable land use beyond stabilisation of the site. She requested clarification on whether Kongiwe had engaged with I&APs, particularly the local communities, regarding suggestions for the future land use of the area.	Ms Fiehn responded that Valterra has a closure plan covering the entire mine, including the TSF. She noted that the area in question was previously designated as wilderness. Valterra is currently evaluating various projects to identify viable opportunities for the use of existing infrastructure on site, including potential benefits for local communities. She further explained that Valterra has been collaborating closely with Anglo American in this process, and that these considerations form part of Valterra's ongoing closure planning and objectives.
Ms Liefferink	Ms Liefferink expressed a concern regarding the concept of "wilderness status". She noted that while areas may be designated as wilderness, this designation does not necessarily align with the principles of sustainable development. She requested clarification on the definition and implications of wilderness status within the context of mine closure and rehabilitation.	Ms Fiehn explained that wilderness status generally refers to maintaining a natural environment. However, she emphasised that Valterra is actively exploring viable opportunities for the future use of existing infrastructure on site, taking into consideration community needs and potential demand for resources. For example, opportunities such as reworking tailings for brickmaking which would in future be assessed in collaboration with the community. Ms Ursula confirmed that Ms Fiehn's response sufficiently addressed the concern.
Ms Liefferink	Ms Liefferink sought clarification regarding engagement with communities, specifically asking what decisions or suggestions have	Ms Fiehn explained that Valterra has primarily conducted internal studies to assess potential opportunities. Once Valterra determines feasible options, discussions will be held with the relevant communities.

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	been made by the communities and whether Valterra has had discussions with them regarding future land use and closure planning.	She noted that the mine remains far from full closure and that many communities are not in close proximity to the operations. Valterra has, however, engaged at a high level through workshops with Anglo American. Detailed community engagement will occur as the project progresses and closure planning advances.
Ms Liefferink	Ms Liefferink raised a concern regarding the upcoming amendments to the national Air Quality: Dust regulations. She noted that mining companies will now be required to prepare a Dust Management Plan, which includes penalties for exceedances, replacing the previous Dust Monitoring Plan that did not include such penalties. She sought confirmation that the client (Valterra) will be preparing a Dust Management Plan in compliance with the new regulations.	Mr Cornish-Bowden confirmed that the preparation of a Dust Management Plan is included within the mitigation measures outlined in the EIA/EMPr report.
Ms Liefferink	Ms Liefferink requested clarification on whether cumulative impacts have been considered in the assessment, noting that the project area has received multiple community complaints regarding dust fallout within the broader Platinum Group Metal (PGM) region. She also inquired whether the site falls within a designated Air Quality Priority Area.	Mr Cornish-Bowden stated that he does not recall whether the site is within an air priority area but confirmed that cumulative impacts have been considered as part of the EIA studies. Ms Fiehn noted that this was an Air Quality Priory Area.
Ms Liefferink	Ms Liefferink expressed her appreciation for the project, noting that she had no major concerns. She commended the use of brownfield sites and the minimisation of impacts on greenfield areas, as well as the use of process water. She stated that she has no objection to the project. She further suggested that future considerations should focus not only on-site rehabilitation after mining but also on delivering value to the landscapes and communities affected. She highlighted the importance of ensuring that mining operations do not create dependency and that beneficiation or diversification of activities occurs during the life of the mine.	Mr Cornish-Bowden thanked Ms Liefferink for her comments and confirmed that the public participation process was well attended, with several meetings conducted that were lively and engaging. He noted that all comments were recorded, reflecting good progress in the process. Ms Phakathi advised that over 540 stakeholders participated.

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	Ms Liefferink also inquired whether the public participation process was well attended.	
Ms Liefferink	Ms Liefferink expressed her appreciation for the presentation and raised a point regarding adherence to the Global Industry Standard on Tailings Management (GISTM) principles. She noted that, as Anglo American adhered to these principles, she assumes that Valterra, as its successor, also subscribes to GISTM. She emphasised that GISTM involves not only ensuring TSF safety and emergency preparedness but also requires meaningful engagement throughout all phases of a project, including development, construction, operation, decommissioning, closure, and post-closure. This engagement should allow sufficient time, provide adequate information, and ensure that the comments and opinions of Interested and Affected Parties are considered in decision-making. Ms Liefferink highlighted that a common challenge within the mining sector is the lack of closure certificates for major operations, sometimes resulting in care and maintenance or transfer of operations to smaller companies. She expressed the sincere hope that Valterra will not exploit any legislative loopholes and will adhere to best practice principles.	Mr Cornish-Bowden acknowledged Ms Liefferink's comments and confirmed that her concerns are well noted. He expressed appreciation for her input.
Ms Liefferink	Ms Liefferink thanked Mr Cornish-Bowden for the presentation, noting that it was very informative and beneficial. She expressed her appreciation for being invited and provided ample time to offer her comments.	Mr Cornish-Bowden acknowledged her appreciation and responded that it was his pleasure to facilitate the discussion.
Ms Liefferink	Ms Liefferink inquired whether the trust mentioned by Ms Peta and Mr Seleke represents the communities.	Mr Seleke confirmed that it is the Community Development Trust of the Baphalane Ba Mantserre Community.
Ms Liefferink	Ms Liefferink sought clarification on whether there is a formal agreement, such as a Mining Lease or Use (MLU), between the mine and	Ms Peta confirmed that the mine operates on the community's land under a notarial lease agreement between the former Anglo American

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	the community, and how this relates to the Social Labour Plan objectives, procurement, and skills development initiatives.	and the community. She further confirmed that a Social Labour Plan is in place, over which the community has oversight.
Ms Liefferink	Ms Liefferink inquired whether the agreement has benefited the community or if grievances have been expressed.	Ms Peta requested that Mr Seleke respond, as her audio line was unstable and she could not hear Ms Liefferink's comment. Mr Cornish-Bowden responded, noting that as this is a historic mine, there have been both grievances and positive outcomes for the community. He highlighted that the community has made numerous requests and contributions during the stakeholder engagement process, which are captured in the draft EIA report and will be included in the final EIA report. He emphasised that the relationship between the mine and the community has been long-standing, with expected challenges and achievements over time.
Ms Liefferink	Ms Liefferink noted that, given the current unemployment and economic situation in South Africa, and the challenges faced by municipalities, communities are often dependent on the mining industry for the provision of services.	Mr Cornish-Bowden thanked Ms Liefferink and all attendees for their participation. He confirmed that, in the absence of further questions or comments, the meeting would be concluded. He extended his gratitude to all stakeholders and the Valterra team for their attendance and contributions.
5	**Closing**	
Mr Cornish-Bowden	Mr Cornish-Bowden thanked everyone for their time and the meeting was adjourned at 12:30 PM.	

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Valterra Platinum

Rustenburg Platinum Mines Limited Amandelbult Mine: Environmental Authorisation, Waste Management Licence and Section 102 Stakeholder Engagement Meeting

9 & 10 October 2025

Agenda

1. Purpose of the Meeting
2. Important Notice
3. Introduction
4. Kongiwe's Role as an Independent Environmental Assessment Practitioner (EAP)
5. Project Background
6. Project Location
7. Project Infrastructure Description
8. Rehabilitation
9. Project Alternatives
10. Specialist Studies & Impact Assessment
11. Air Quality
12. Biodiversity
13. Wetlands
14. Soil and Agriculture
15. Surface water
16. Groundwater
17. Heritage
18. Socio-Economic
19. Noise
20. Mitigation Summary
21. Legislative Framework
22. Document Availability
23. The Way Forward
24. Questions & Answers

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1. Purpose of the Meeting

- Discuss the proposed **Amandelbult Tailings Storage Facility Reclamation and Processing** Project.
- Provide an overview of the specialist study findings.
- Provide you with an opportunity to raise comments/seek clarity and provide input.
- Record comments raised by I&APs for the Comments and Responses Report.

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2. Important Notice

- This meeting is a formal consultation in terms of the requirements as stipulated in the:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme).
  - **Application for a Waste Management Licence (WML)** authorising waste management activities listed in GN R921 of 29 November 2013 published in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (as amended) (NEM:WA).

POPIA: Safeguarding registered person's personal information

In terms of section 19 of the Protection of Personal Information Act (POPIA), a responsible party must, subject to Sections 9 and 11 of the Act, ensure the integrity and confidentiality of personal information in its possession or under its control by taking appropriate, reasonable technical and organisational measures to prevent loss of, damage to or unauthorised destruction of personal information, unlawful access to or processing of personal information. POPIA requires that personal information should be adequately protected to avoid unauthorised access. Therefore, Kongiwe continuously reviews security controls and procedures to ensure that personal information is secured. It should be noted that in terms of Section 11, personal information may be processed to the extent that this is necessary for pursuing the legitimate interests of the responsible party to whom the information is supplied.

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3. Introduction

- **Kongiwe Environmental:**
  - Grant Cornish-Bowden - Project Manager
  - Vanessa Viljoen - Stakeholder Engagement
  - Thuli Phakathi - Stakeholder Engagement
  - Lubabalo Zongolo - Stakeholder Engagement
- **Valterra Platinum:**
  - Hazel Fiehn - Valterra Platinum Environmental Authorisations and Permitting Principal
  - Davhana Thanyani - Valterra Platinum Engineer for Project
  - Marvey Ursula - Amandelbult Mine Environmental Manager
  - Moyo Thabo - Amandelbult Mine Social Performance Team
  - Letebele Kaitumela - Amandelbult Mine Social Performance Team
  - Tebogo Priscah Masipa - Amandelbult Mine Social Performance Team
  - Johanna Mashiatshiti - Amandelbult Mine Social Performance Team
  - Molefe Mike - Amandelbult Mine Safety, Health, Environment and Permitting Manager
  - Galeboye Kgomotso - Amandelbult Mine Environmental Officer

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4. Kongiwe's Role

❖As an independent Environmental Assessment Practitioner (EAP):

- It is our role to perform an objective assessment of what the positive and negative environmental impacts of the proposed project may be, to quantify these;
- Describe possible management and mitigations options; and
- Collect public comment and supply the DMPR with the documentation so that DMPR can determine if the project should proceed or not.

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5. Introduction

- **Applicant**: Rustenburg Platinum Mines Limited (Amandelbult Mine)
- **Activity**: Th e Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 (122 Ha)
- **Target Minerals**: PGMs and Chrome and all associated minerals in the TSF tailings – Dam 2 of the TSF complex.
- **Life of Operation**: 20 years
- AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.
- Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned on the TSF for blending purposes, in accordance with the re-mining plan.
- AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.
- **Mechanical Reclamation:** This method involves the removal of vegetation and dry tailings material from the TSF Dam No. 2 using a truck-and-shovel operation. Multiple cuts will be made from the TSF wall which will be transported to a central area within the TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.
- **Hydraulic Reclamation:** This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

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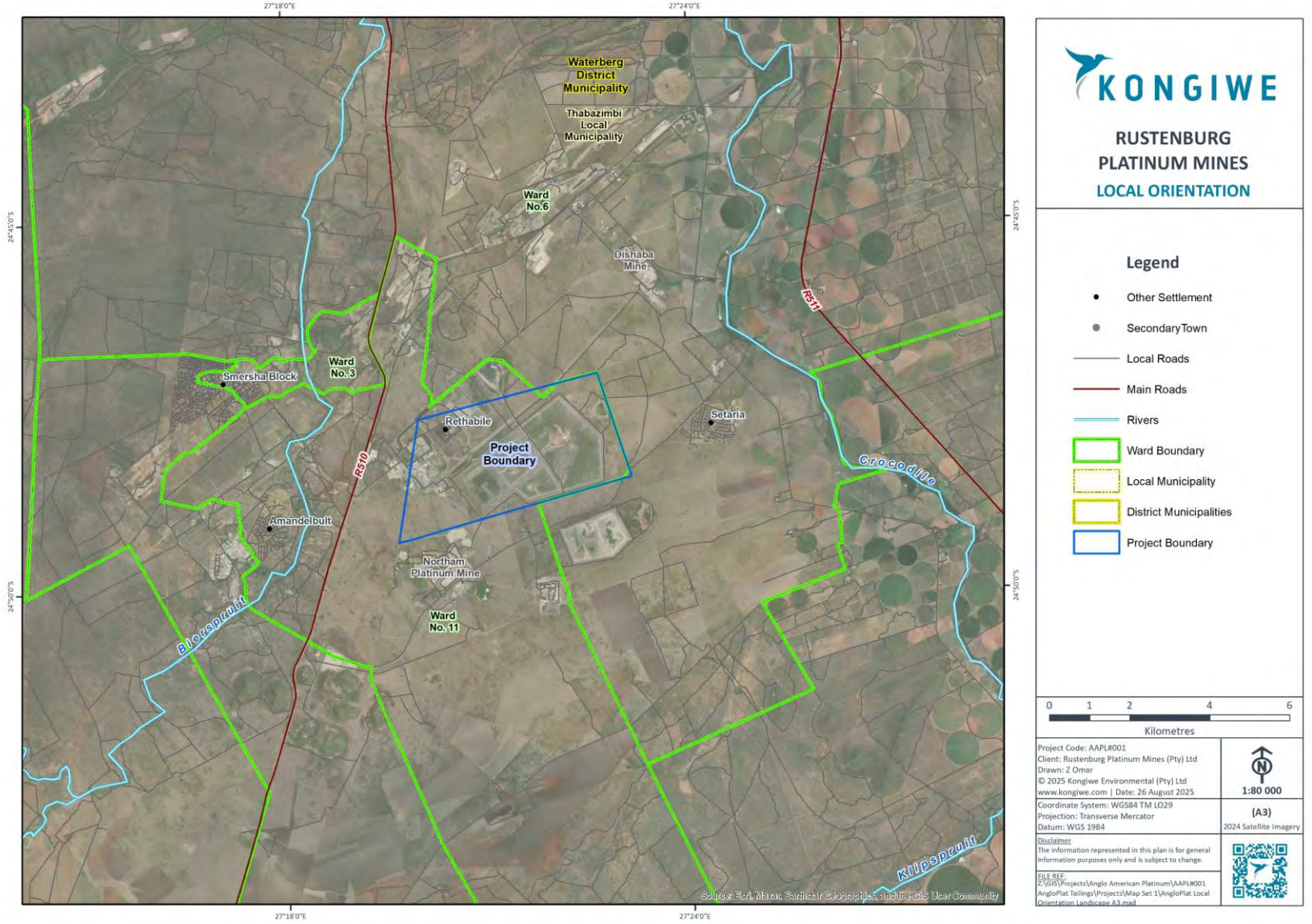
6. Project Location

- Approximately 4 km Northeast of Amandelbult Town.
- Wards 6 and 11 of the Thabazimbi Local Municipality (TLM) in the Limpopo Province.



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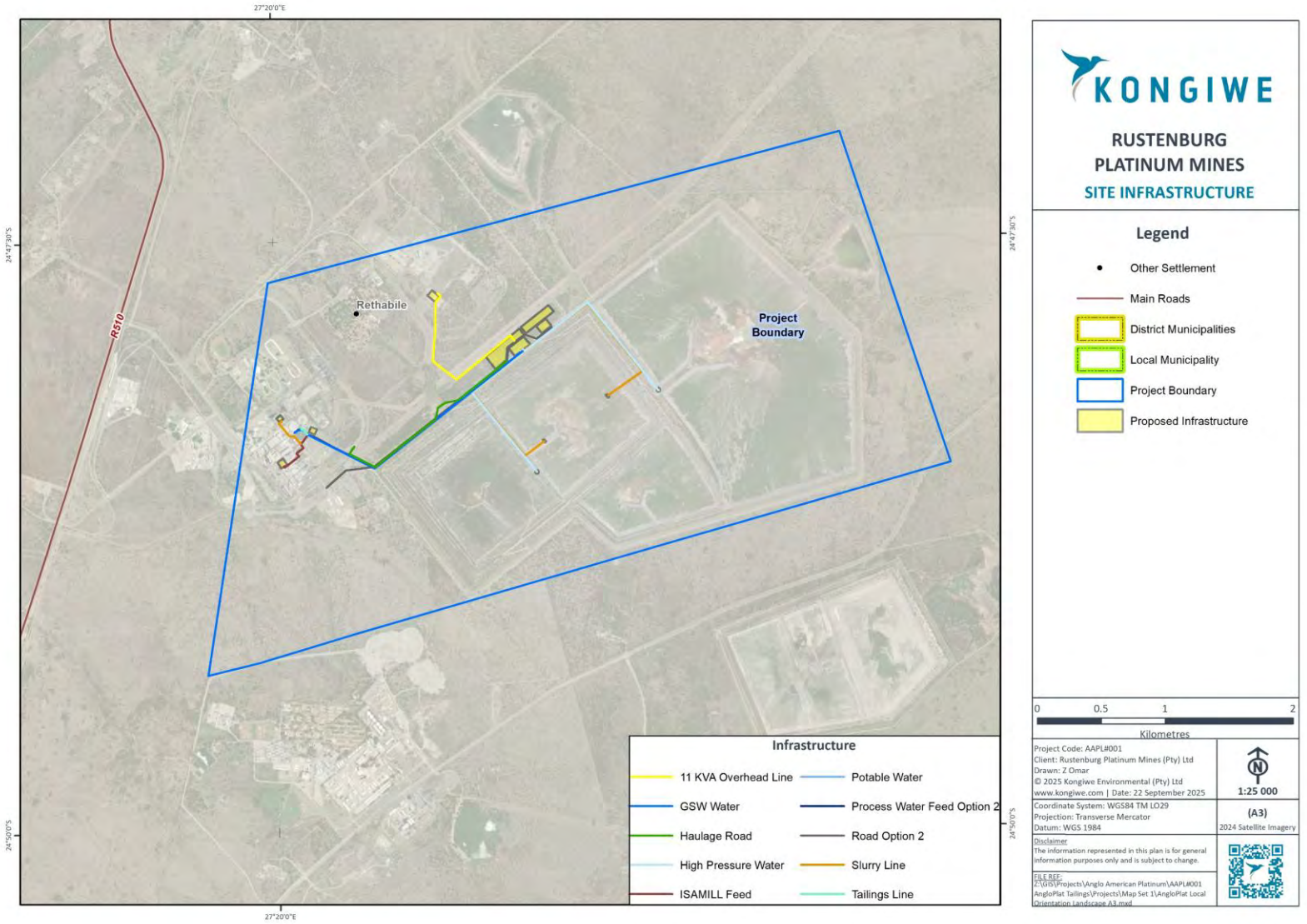
7. Project Infrastructure Description

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

- Access roads;
- Amandelbult Dam 2 TSF;
- Pipelines;
- Power Supply, Sewage, Process Water;
- Barge Pump (1&2);
- High Pressure water tapped off for Hydroguns;
- Slurry Transfer Station;
- TSF No.2 Laydown area;
- Vegetation Handling area;
- Contractors Laydown area;
- Existing PCDs;
- Gravel / Haul Road;
- Existing PGM and Chrome Processing Plant;
- PGM ore Silos/Bins and existing chrome stockpile area;
- Topsoil Stockpiles; and
- Tailings Deposition onto current operational TSF3b.



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8. Rehabilitation

- Rehabilitation will be in line with AMB closure plans and EMPRs.
- After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site.
- The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.
- Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.
- Once the TSF has been reclaimed, processed, and decommissioning of facilities where required has been undertaken, the intention is to use the area for redeposition of tailings.

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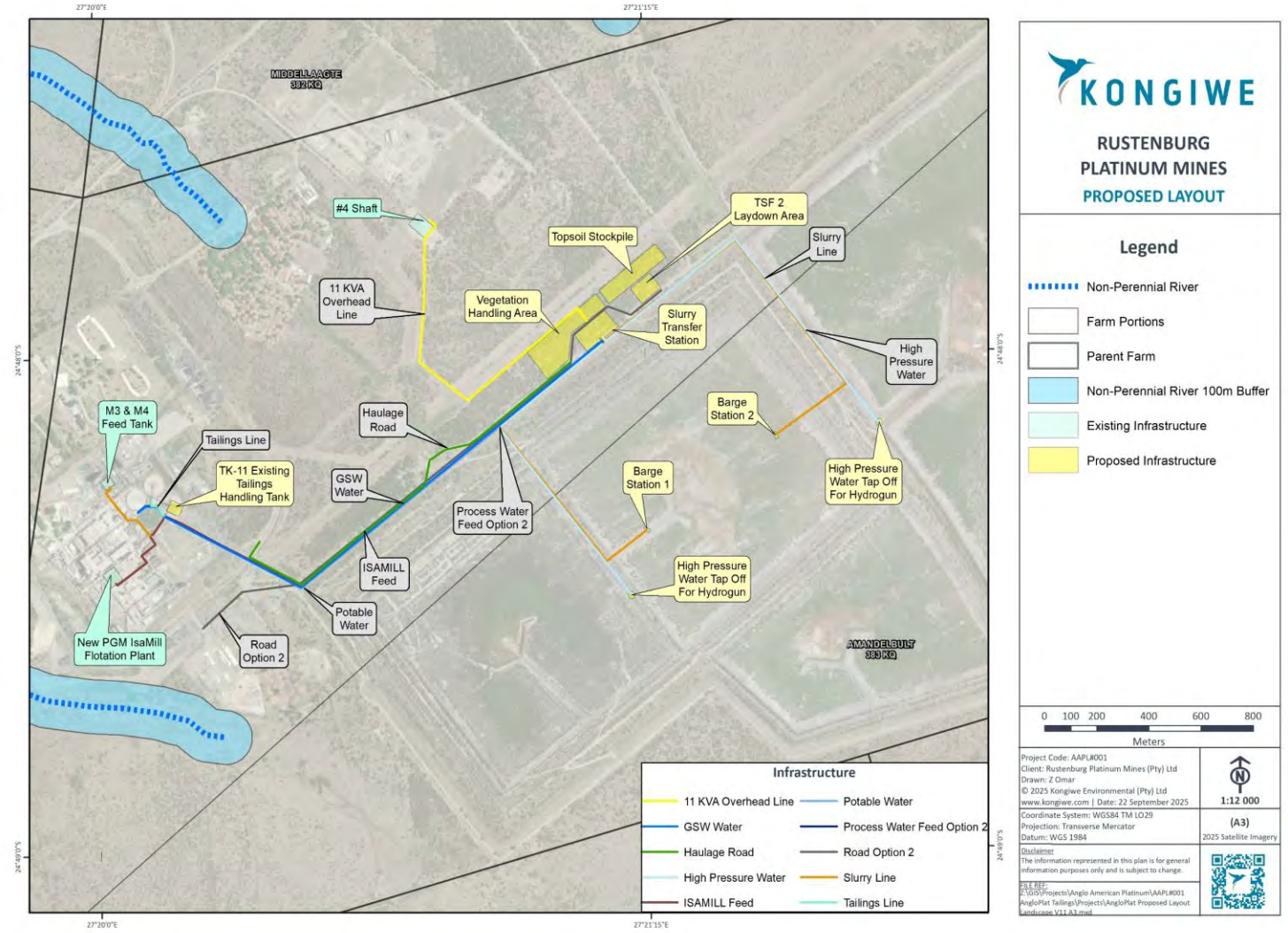
9. Project Alternatives

- **No-go alternative**
  - The "No-Go" option means the project will not proceed, leaving environmental and social conditions unchanged.
  - This avoids both positive and negative impacts. The area, consisting of historically polluting tailings storage facilities (TSFs), would remain unused and continue affecting the surrounding environment.
  - Valuable mineral reserves would remain unmined, and no reclamation or infrastructure development would occur.
- **Location Alternatives**
  - The proposed project involves reclaiming and processing TSF Dam 2, an existing tailings storage facility with no alternative sites.
  - Processing plant locations have been evaluated near the current concentrator plant.
  - The project will take place exclusively on the property housing the AMB complex and TSF Dam 2, specifically within Portion 1 and the Remaining Extents of Amandelbult 383 KQ and Middellaagte 382 KQ.
  - No other properties are under consideration.
- **Layout Alternatives**
  - The preferred layout plan was selected for its minimal footprint impact and reduced environmental risk.
  - While various alternatives were considered, the layout is largely determined by the existing TSF and existing related infrastructure.
  - The proposed layout, nature of the activity and associated infrastructure will be implemented with the aim to reduce substantial impacts on the area.



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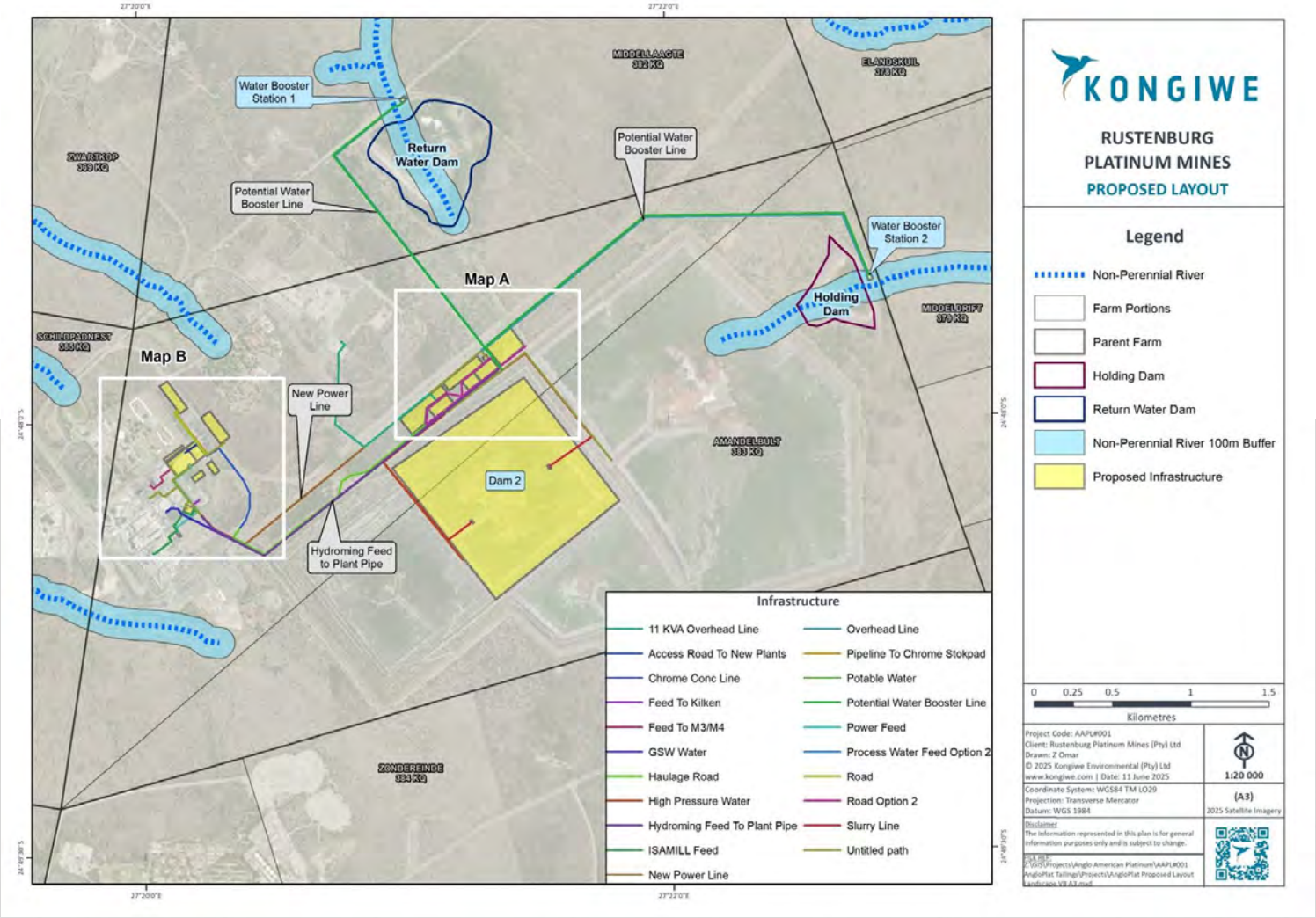
10. Specialist Studies & Impact Assessment



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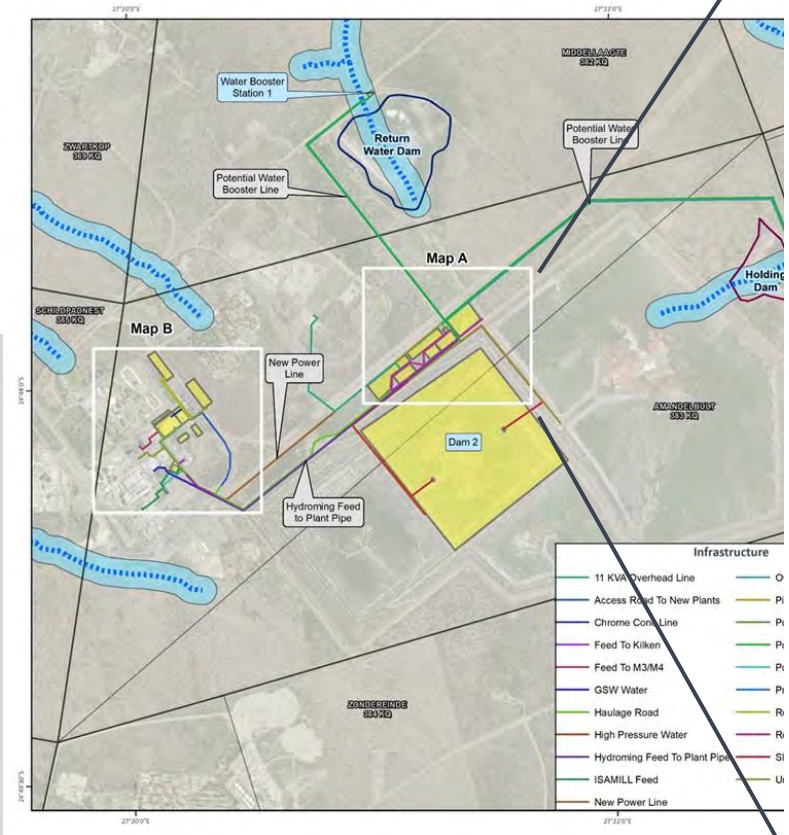
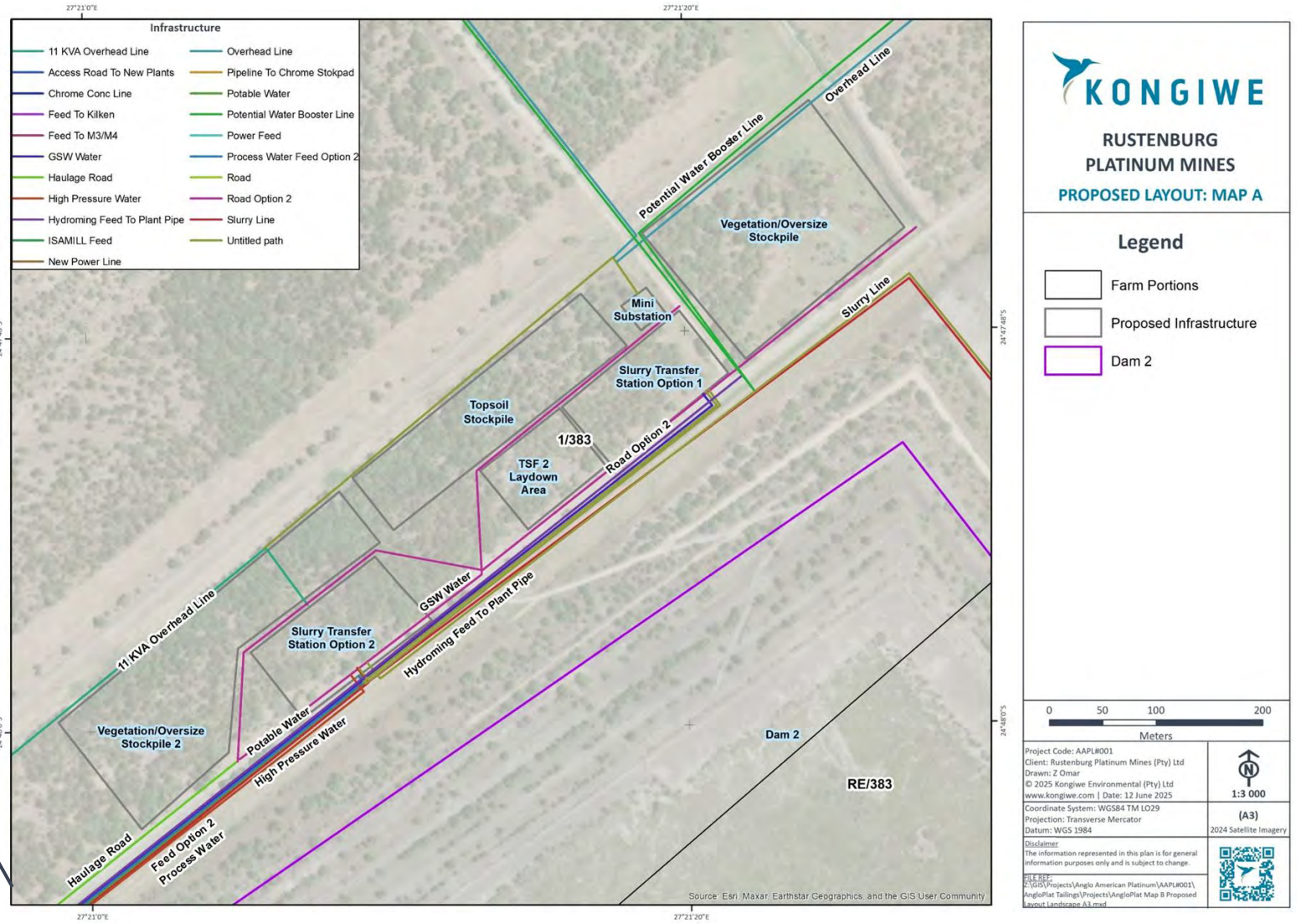
10. Specialist Studies & Impact Assessment





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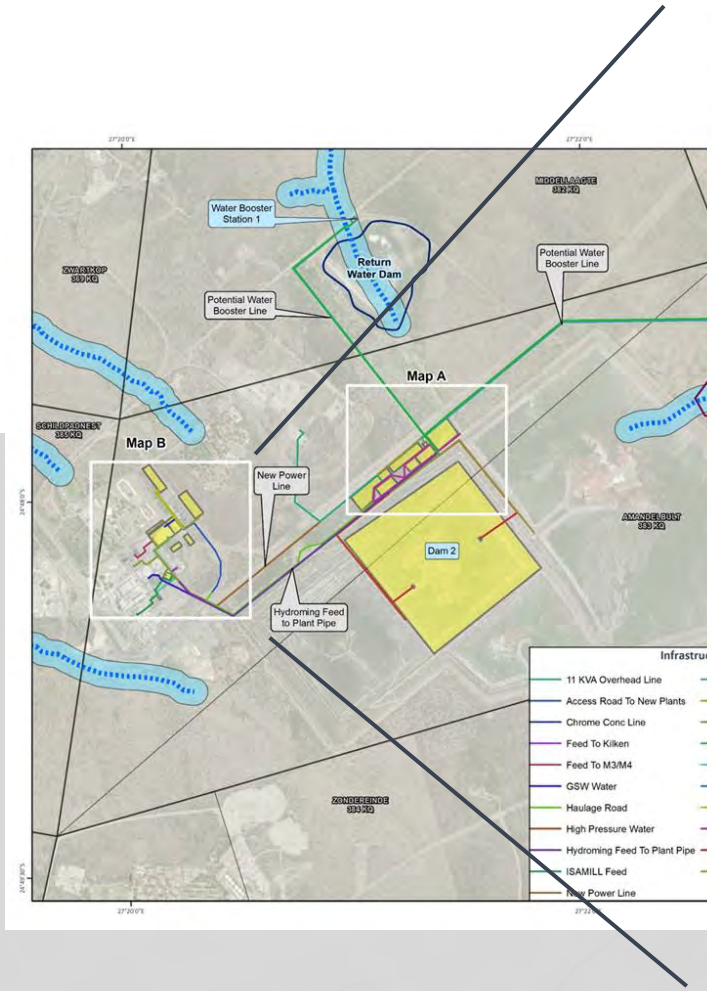
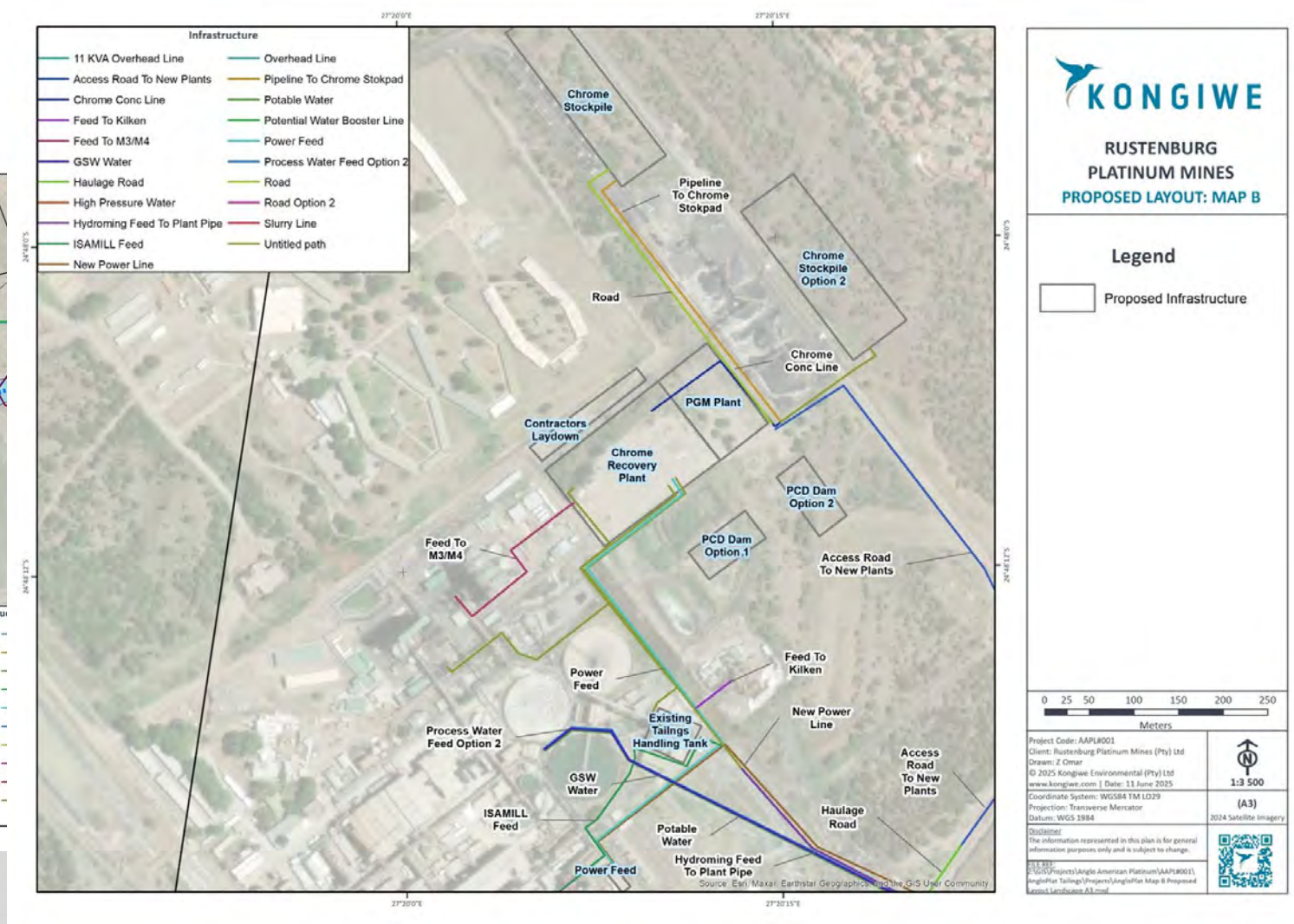
10. Specialist Studies & Impact Assessment





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10. Specialist Studies & Impact Assessment

The following specialist studies were commissioned and undertaken as part of the EIA Process:

- Air Quality
- Biodiversity (Terrestrial and Aquatic)
- Soil and Agriculture
- Groundwater
- Heritage
- Noise
- Socio-Economic
- Surface Water

Each specialist has identified potential impacts and the significance they will have before and after mitigation.

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Socio-Economic	**Construction Phase**	
	Employment and Income	Medium +
	Informal influx of job-seekers	Low -
	Nuisance factors	Low -
	Operational Phase	
	Employment and Income	Medium +
	Informal influx of job-seekers	Medium -
	Nuisance factors	Medium -
	Community health and safety	Medium -
	Impact on adjacent farmers	Low -
	Post- Closure	
	Land Restoration	Medium +
	Cessation of employment	Medium -
Air Quality	**Construction Phase, Operational and Post-Closure**	
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -
Terrestrial Biodiversity	Construction Phase	
	Environmental and Groundwater Pollution	Low+
	Introduction of alien and invasive species, especially plants	Low+
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching	Low+

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Wetlands	**Construction Phase**	
	Hydrological alterations changing the natural water flow patterns	Low+
	Habitat disturbance and fragmentation can disrupt and fragment wetland habitats	Low+
	Soil and water pollution can lead to erosion and a change in water quality	Low+
	Operational Phase	
	Temporary alteration of hydrology in the event of a pipeline leak	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Potential contamination of water from a pipeline leak	Low+
	Post- Closure	
	Temporary increase of overland flow from hardened surfaces	Low+
	Potential erosion and sedimentation from increased flows	Low+
	Introduction and proliferation of alien invasive vegetation from disturbance	Low+
	Potential contamination of water from accidental spills and leaks of machinery and equipment used in the construction activities	Low+
Soil and Agriculture	**Construction Phase**	
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Low+
	Operational Phase	
	Loss Land Capability	Low+
	Post- Closure	
	Loss Land Capability	Low+
Heritage	**Construction Phase**	
	Destruction of cultural heritage resources	Low -
	Impact on cultural landscape	Medium +

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10. Specialist Studies & Impact Assessment

Specialist Study	Impact Description	After Mitigation Significance
Noise	**Construction and Operational Phase**	
	Future Daytime& Night-time Activities – Scenario 2 & Future Night-time Activities – Scenario 2	Low -
	Worst-case daytime and Night-time operational activities	Low -
Groundwater	**Construction Phase**	
	Site clearing and infrastructures development	Low+
	Operational Phase	
	TSF reclamation – Seepage of water into underlaying formations	Low+
	TSF reclamation – Possible increase in salt and metal concentrations associated with leaching from reclamation.	Medium -
	Post- Closure Phase	
	Break down and remove all infrastructure - Once the reclamation has stopped, groundwater will start to recover to its pre-mining level.	Medium +
	Break down and remove all infrastructure – Removal of source contamination has been removed.	Medium +
Surface water	**Construction Phase**	
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Low -
	Operational Phase	
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Low -
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	Low -

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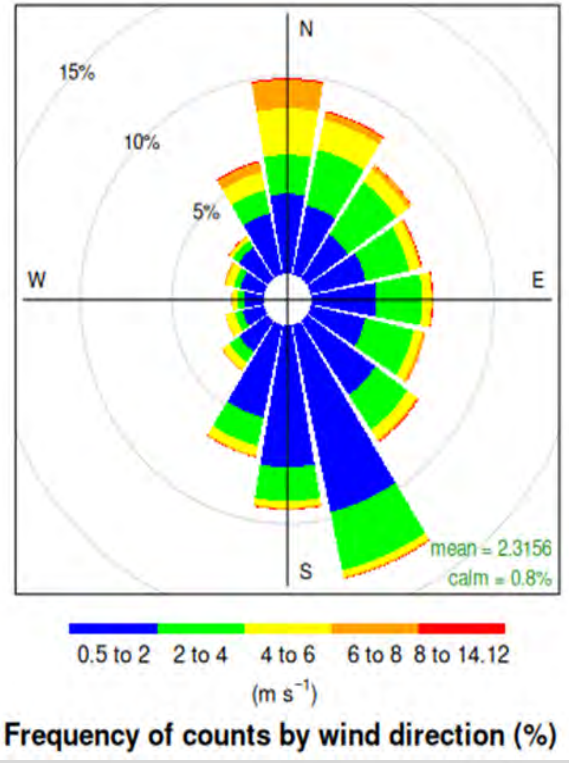
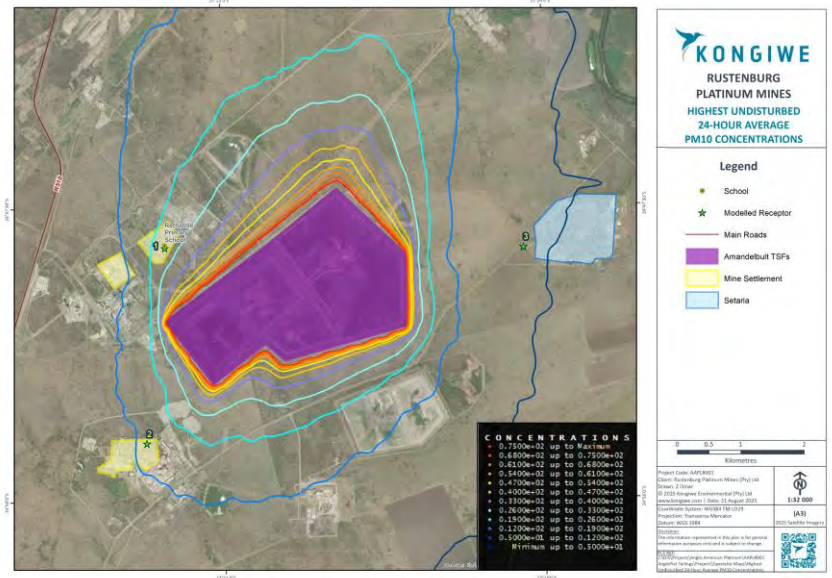
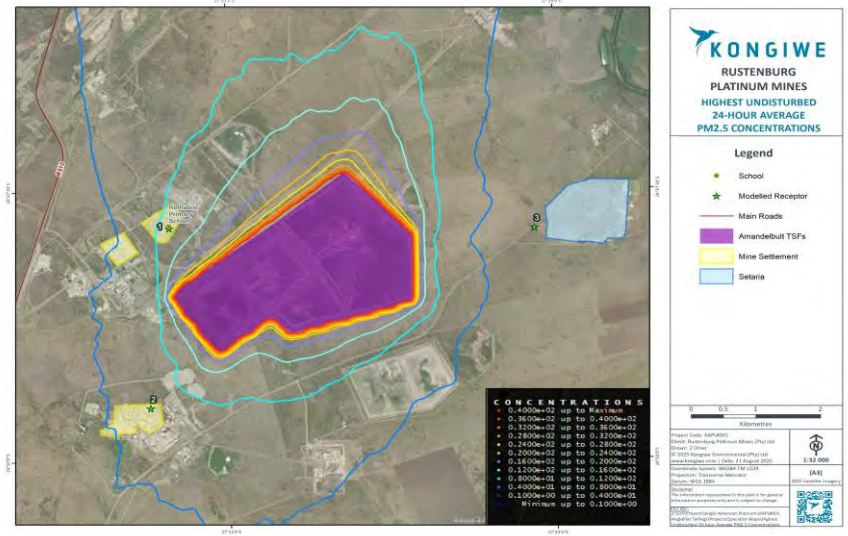
11. Specialist Findings- Air Quality

- The red isopleths represent the National Standards for the National Ambient Air Quality Standards, therefore, all areas on the map that lie within the red coloured isopleth can be expected to experience exceedances of the relevant National Standards.
- The following conclusions can be made from the modelling results:
  - Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM10 and PM2.5 in downwind areas on windy days. The highest expected concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below the PM10 and PM2.5 NAAQS.
  - The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF dams, particularly to the north-west of the TSF Dam 2.
  - The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of discrete receptor 1 by approximately 30%.



Frequency of counts by wind direction (%)





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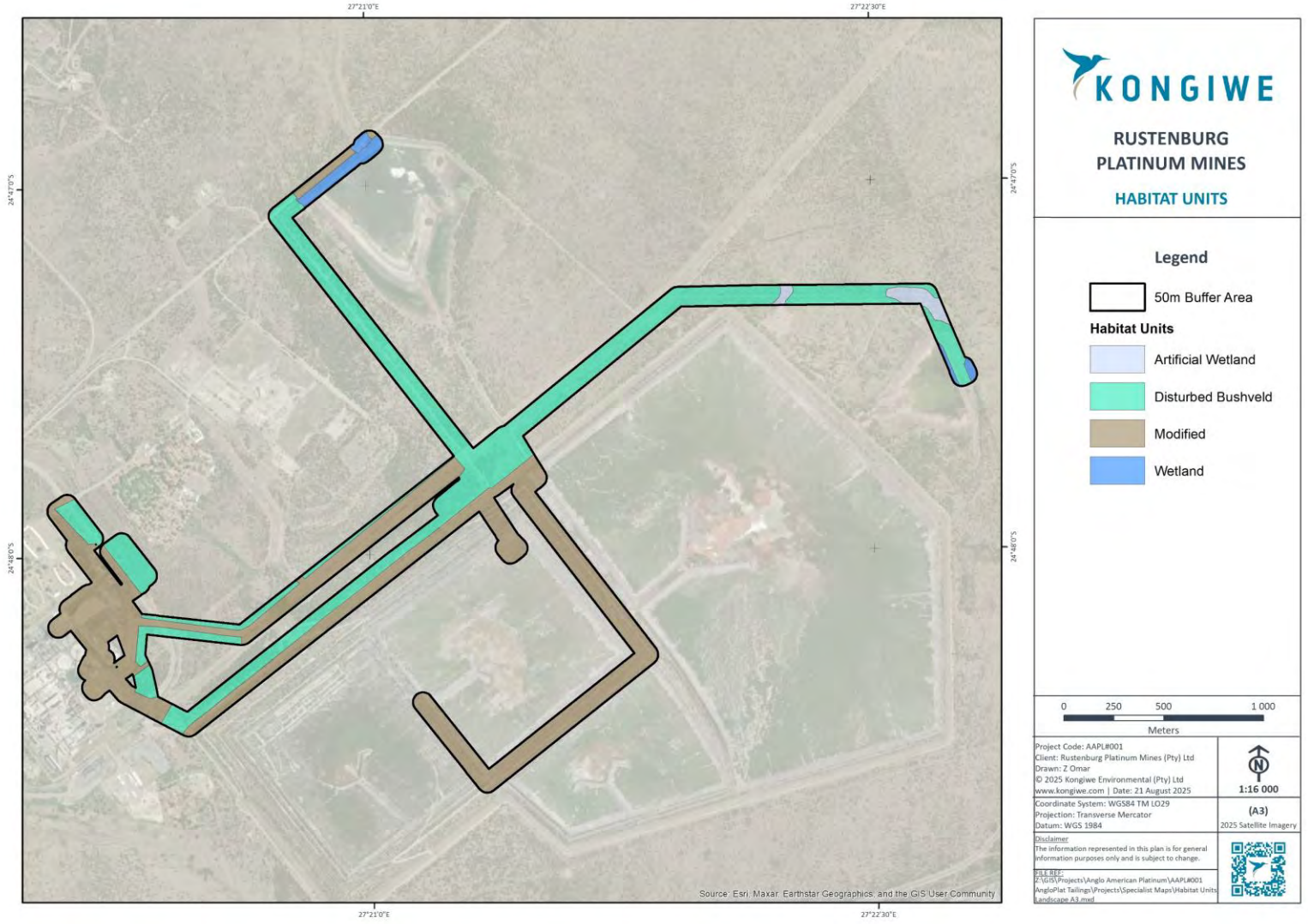
12. Specialist Findings-Biodiversity

- Three (3) main habitat types were identified across the area of the Project and include:
  - Disturbed Bushveld;
  - Water Resources (Wetlands and Artificial Wetlands); and
  - Modified.



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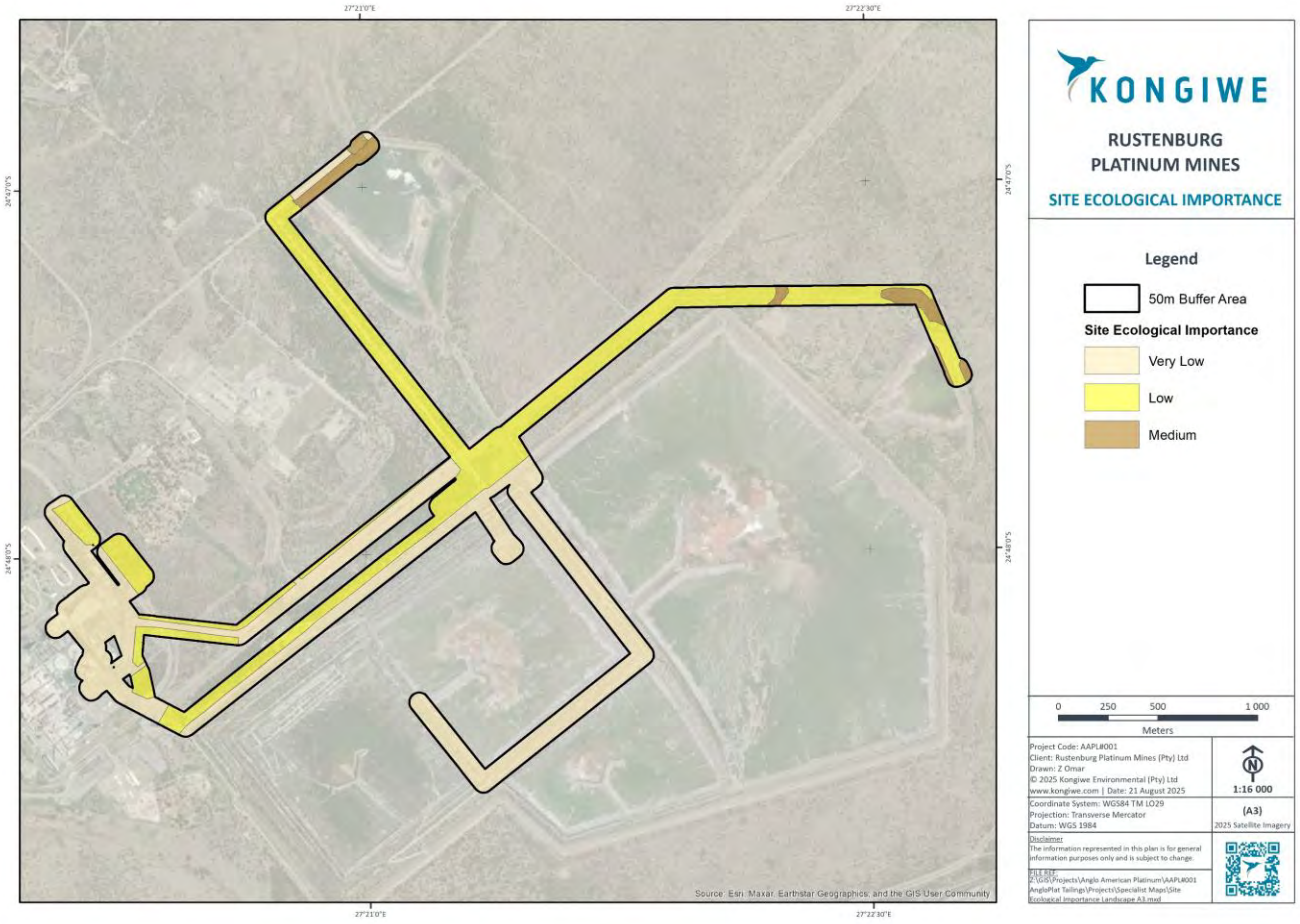
12. Specialist Findings - Biodiversity

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Very Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
		Water Resources	Medium	Disputed – Even though disturbed, the ecological integrity, importance and functioning of these areas play a crucial role as a water resource system locally and regionally, and an important habitat for various fauna and flora.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna Species of Conservation Concern (SCC) may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No Species of Conservation Concern (SCCs) observed or expected.



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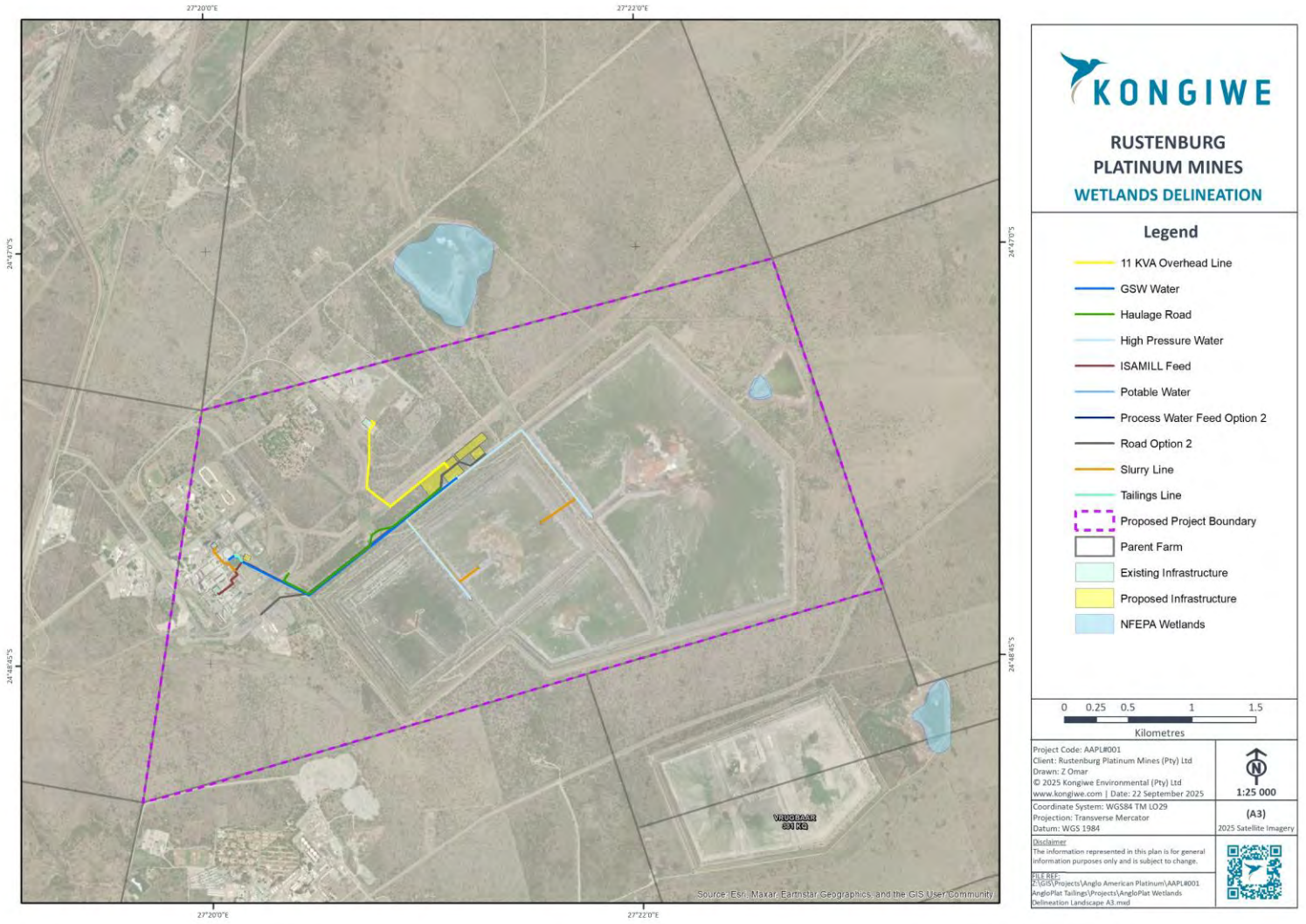
13. Specialist Findings - Wetland

- The Project area falls within the unchannelled valley-bottom wetlands and several artificial wet areas within the proposed area, including artificial depressions, dams and drainage features.
- The proposed TSF reclamation infrastructure directly intersects only the artificial depressions, while the unchannelled valley-bottom and dams are situated nearby the Project.
- Outside of the 500-meter Project Area of Influence (PAOI), two unchannelled valley-bottom wetlands were identified and grouped into a single Hydrogeomorphic (HGM) unit due to their similar function and state
- The ecological sensitivities are ranked as positive (medium moderate).



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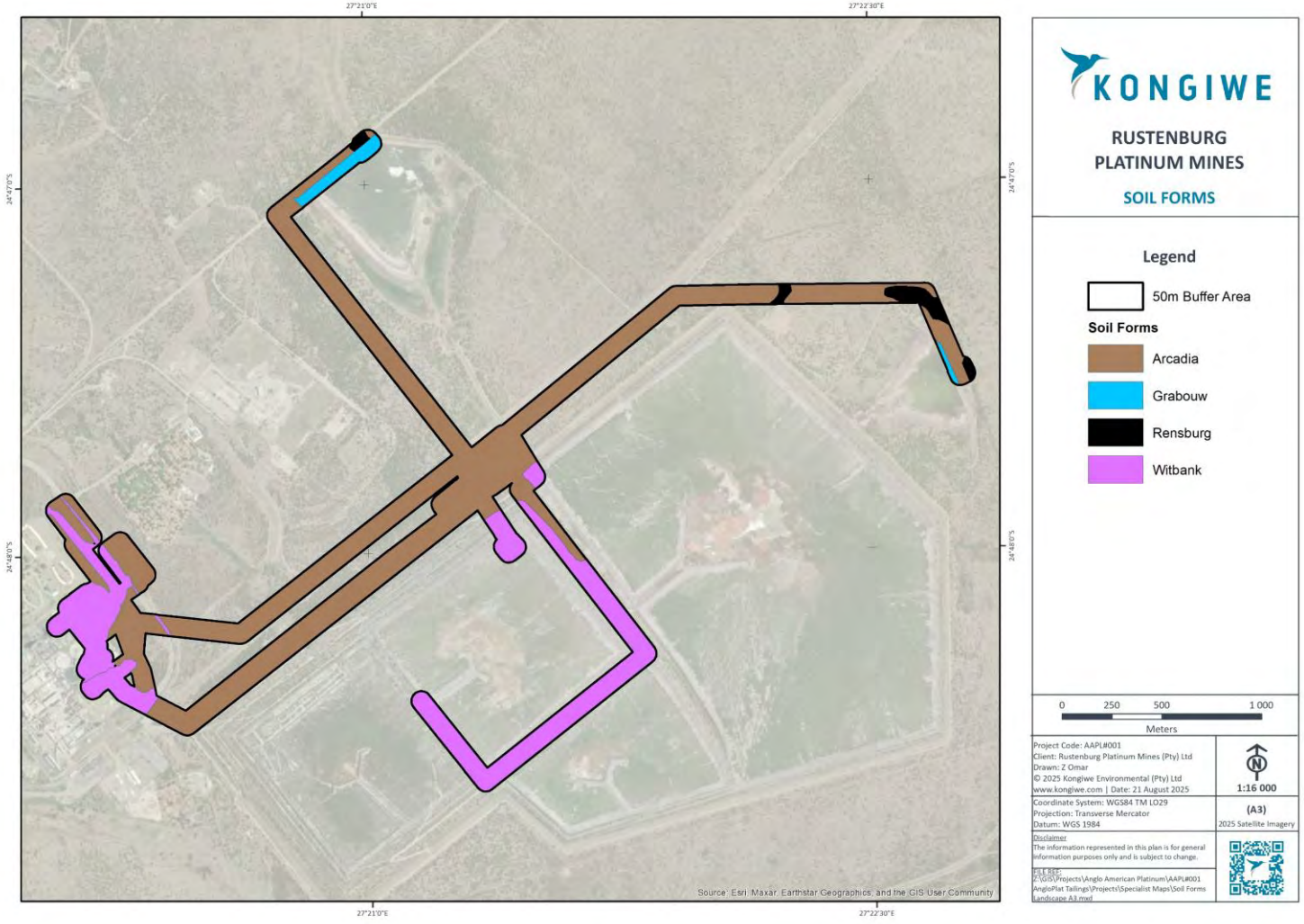
14. Specialist Findings-Soil and Agriculture

- The Project consists of soils with very low to low suitability for crop production.
- Four (4) representative soil forms were identified in the 50 m buffer of the Project area namely, Arcadia, Rensburg, Grabouw and Witbank soil forms.
- The Project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics.
- Furthermore, soils with signs of wetness, as a result of prolonged saturation conditions occur within the project area.
- DFFE Agriculture Theme Sensitivity indicates that the 50 m buffer of the Project area falls within the 'Low to High' agricultural sensitivity.
- The current project area and associated activities of the Project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.



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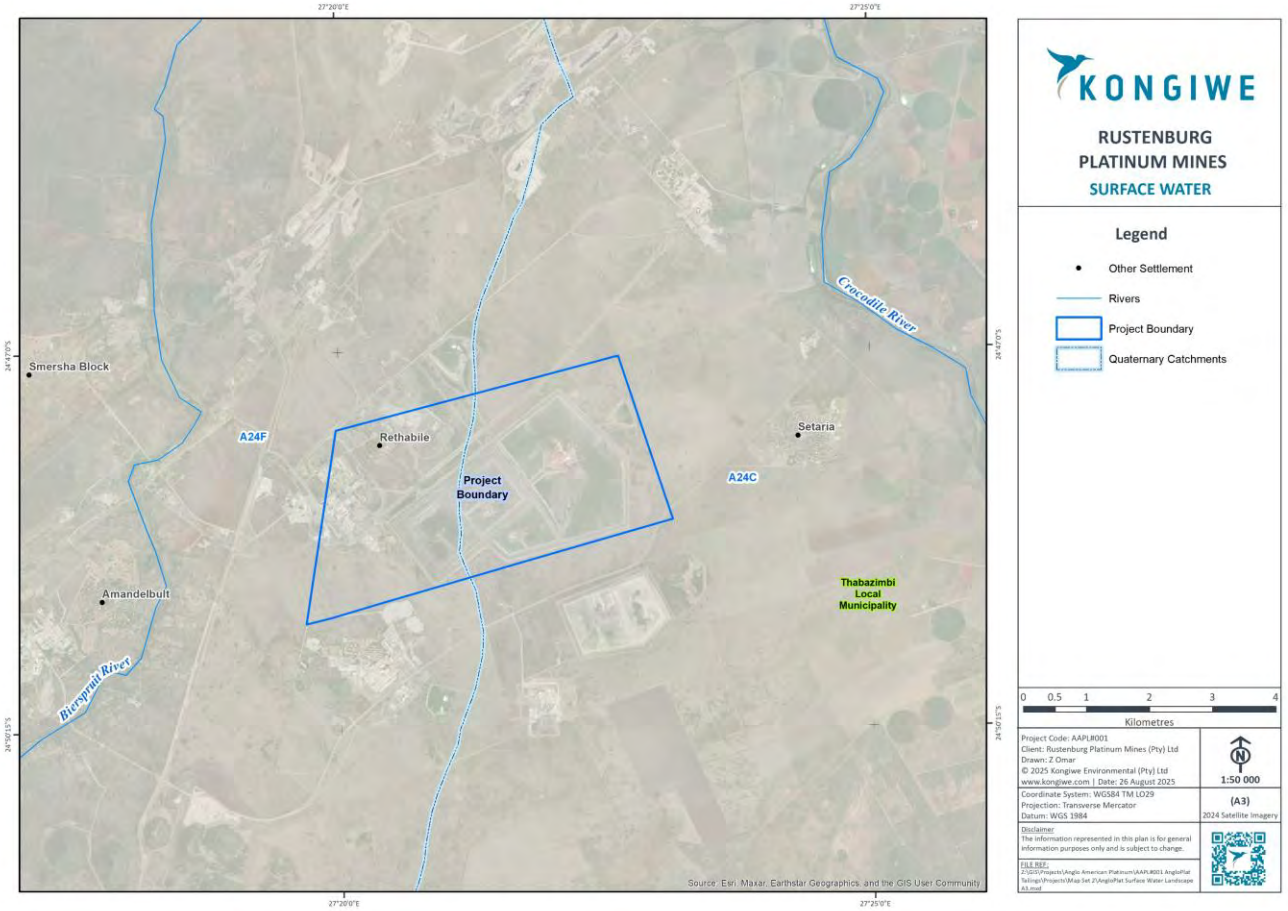
15.Specialist Findings – Surface Water

- The Project is located within the Limpopo Northwest Water Management Area over two quaternary catchment areas which are A24C (Crocodile) and A24F (Bierspruit).
- A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented.
- Surface water quality at the AMB Concentrator is monitored on a monthly basis. Process water contained (surface) in the recycling circuit water quality was analysed and is described below:
  - pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
  - Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
  - Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
  - Sodium and chloride exceeded the limits at all of the monitoring points during most months;
  - Elevated levels of nitrate were recorded at most of the monitoring points;
  - Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
  - E.coli was elevated at all monitoring points.



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16. Specialist Findings-Groundwater

- Groundwater quality monitoring is conducted at the Amandelbult Mine Complex quarterly.
- Groundwater quality mostly within SANS drinking water quality standards.
- The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.
- Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole
- The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography,
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- No risk of decant was identified for this project.

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17. Specialist Findings - Heritage

- During the fieldwork no heritage features or resources were identified.
- According to the DFFE heritage screening report, the project area has a Low Heritage Sensitivity.
- The fieldwork has shown that there are no archaeological or other tangible heritage resources present within the study area and therefore, the DFFE screening rating remains low.
- As no tangible heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as **MEDIUM NEGATIVE** before and **LOW NEGATIVE** after mitigation if a chance finds procedure is followed.
- The ongoing reclamation of the TSF is assessed as having a negligible impact on the cultural landscape, given that it is integrated into the current mining operations and does not entail the complete eradication of tangible remnants of the mine and its associated history.
- According to the SAHRIS Palaeontological the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website). No further studies will be needed.

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18. Specialist Findings – Socio-Economic

- The project will have positive impacts on local employment during the construction and operational phases.
- Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.
- Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years.
- These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

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19. Specialist Findings - Noise

- The Project site is in an area with a mixed-use development character. The major noise sources in the area include vehicular traffic on the national and provincial roads in the areas, noises from the local communities and mining related noises.
- Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.
- Considering only noise, people in the area not directly affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project.
- A noise model was developed to illustrate the potential existing noise level contours, with the locations of the various noise sources conceptualised. The projected existing noise levels are illustrated in Maps below and defined per Noise-sensitive Receptor (NSR) for the daytime period.

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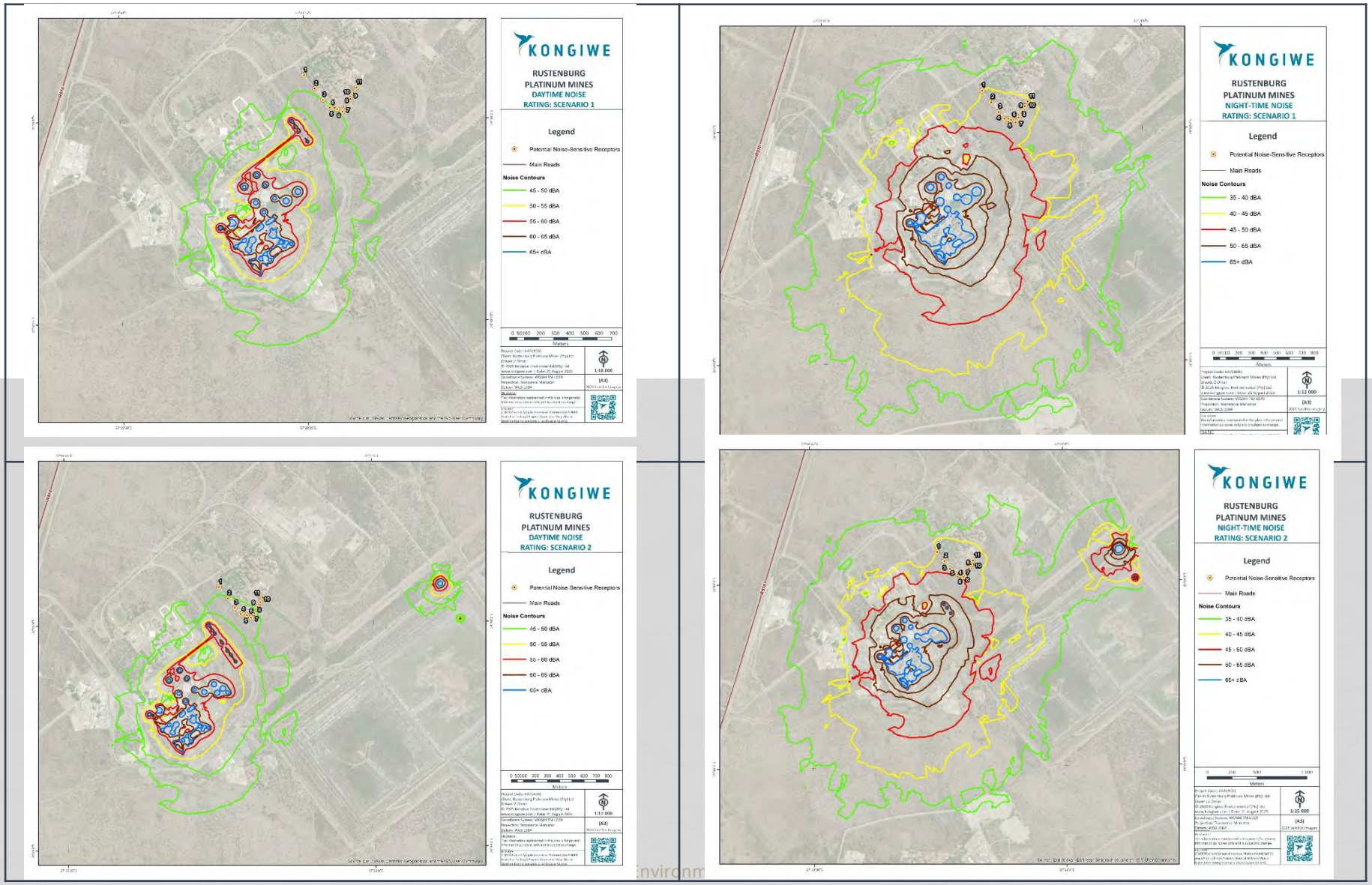
19. Specialist Findings – Noise



20. Mitigation Summary

Field	Main Impacts	Mitigation Measure
Terrestrial Biodiversity	• Environmental and Groundwater Pollution • Introduction of alien and invasive species, especially plants • Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	• Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. • No servicing of machines, vehicles and equipment outside of designated laydown areas. • Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.
Wetlands	• Habitat disturbance and fragmentation can disrupt and fragment wetland habitats; and • Oil and water pollution can lead to erosion and a change in water quality.	• Follow best practices for installation, dismantling and removing equipment to prevent spills. • Ensure that all disturbed areas are stabilised before the onset of rainy seasons. • Conduct regular monitoring and removal of invasive species.
Surface water	• Erosion and wash off of exposed soils leading to siltation in downgradient watercourses.	• Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around exposed working areas; and • The Stormwater Management Plan (SWMP) must be implemented as a first step during the construction phase.
Groundwater	• Quantity impacts are not expected during Construction. • Disturbance of the mine dump or exposure of the ground surface may enable water and air to infiltrate the tailings material, particularly following rainfall. • Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces. • Additional quality impacts are suspected to be low during Construction.	• Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time. • Continue with the groundwater monitoring program at AMB before reclamation starts. • Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. • Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.

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20. Mitigation Summary Cont…

Field	Main Impacts	Mitigation Measures
Air Quality	• Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	• Spray-on surface treatments on the haul roads to reduce dust generation. • Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. • Restriction of the stripped band to the minimum width practical. • Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. • Keeping the area of mechanical reclamation to a minimum.
Social	• Impact on employment and income; • Positive contribution to social funds; • Impact on community health and safety; • Potential influx of people to the project area; and	• Consider formal training of unskilled workers mobilised during the construction phase; • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels. • Strict adherence to the mitigation measures of the traffic and air quality impact reports. • A grievance management mechanism should be in place to receive incident related queries.
Heritage	• Destruction of cultural heritage resources • Undiscovered cultural heritage resources	• A heritage practitioner / archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. • Should an archaeological site or cultural material be discovered during construction (or operation), the area should be demarcated, and construction activities halted.
Noise	• Noise associated with the reclamation project mainly originates from construction activities of required infrastructure as well as noises from motors and pumps during the operational phase	• AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. • AMB could investigate the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas.
Soil and Agriculture	• Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility	• Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas. • Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilised to avoid impacts on adjacent areas

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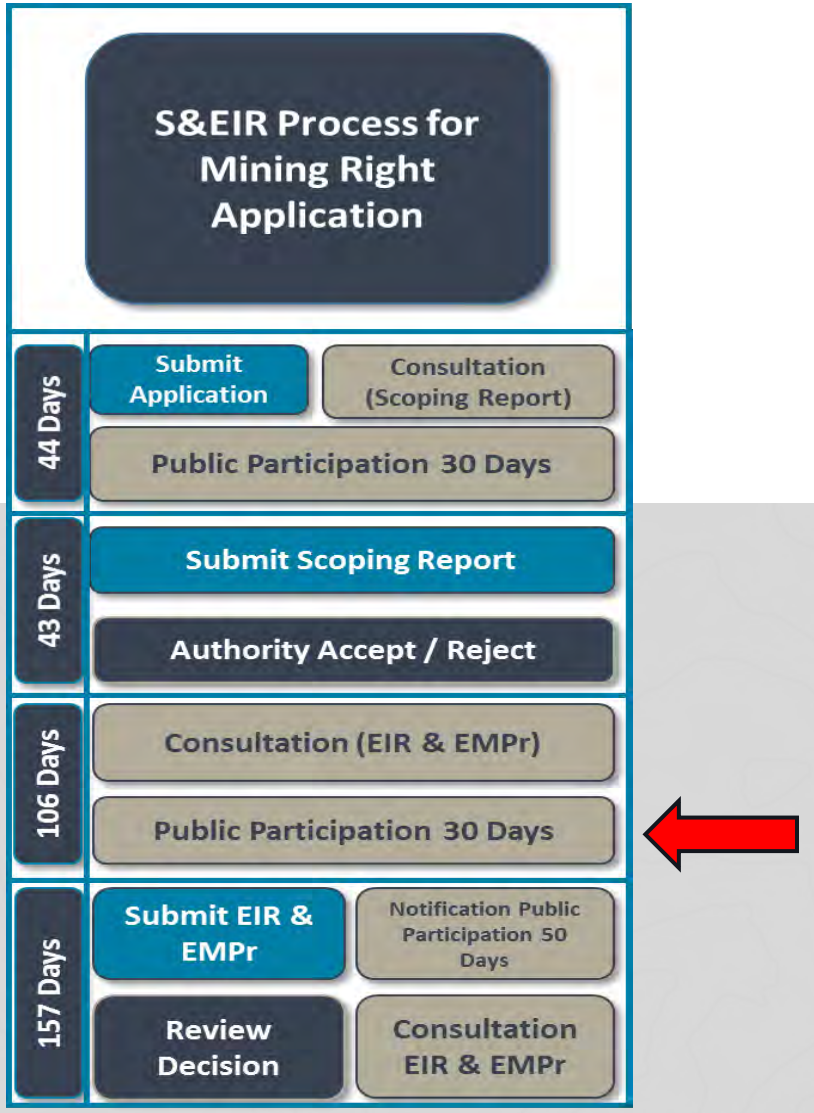
21. Legislative Framework

- An integrated Environmental Authorisation (EA) application has been submitted to the DMPR as the Competent Authority for the proposed project.
- The applicable applications to be assessed by the DMPR are as follows:
  - **Application for EA** for listed activities triggered in Listing Notices GN R983, GN R984 published pursuant to the EIA Regulations 2014 (as amended), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
  - **Section 102 Amendment** in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) was submitted to the DMPR in terms of amending the Mining Right for inclusion of the entire footprint of the TSF (approximately 660Ha into the existing Mining Right and Mine Works Programme;
  - **Application for a waste management licence (WML)** authorising waste management activities in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA) and the Activities listed in GN R921 of 29 November 2013 published in terms of NEM:WA.



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22. Document Availability

Location	Physical Adress	Contact Person
Draft EIA/EMPr		
Corporate Affairs and Sustainability (previously Social Performance) Office	Amandelbult Mine, Main Office, R510, Office Thabazimbi Road, Amandelbult, 0362	Ms Johanna Mashiatshiti, (Corporate Affairs and Sustainability) Contact No: (060) 954 6635Mon – Fri: 08h00-16h00
Thabazimbi Local Municipality	4th Avenue, Thabazimbi, 0387	Ms Kgaugelo Nkopane, (Assistant Librarian) Contact No: (060) 848 1391 Mon – Fri: 8:30 am–4:30 pm
Online availability		**Online availability**
Kongiwe Environmental website	https://kongiwe.com/projects/	Kongiwe Environmental website
An electronic copy of the Draft EIA/EMPr will be made available upon a request directed to the stakeholder engagement team. Stakeholders are encouraged to contact the stakeholder engagement team (Vanessa Viljoen/Thuli Phakathi), Tel: (010) 140 1725 / (010) 140 1726, email: stakeholders@kongiwe.com should they require assistance with accessing Draft EIA/EMPr or have queries regarding the Proposed Project.		

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23. Timeframe

- NEMA application submission: Tuesday, 17 June 2025
- NEMA application accepted: 19 July 2025
- Project Announcement: Thursday 19 June 2025
- Scoping Phase Public Participation Period: Wednesday, 18 June 2025 to Thursday, 17 July 2025.
  - Online Meetings: Friday, 27 June 2025
  - **Public Meeting / Open Day:** Monday 23 June 2025, Tuesday 24 June and Friday, 11 July 2025 at at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380
- Final Scoping Report Submission: Monday 28 July 2025
- Announce availability of DEIA/EMPr, Friday, 19 September 2025
- EIA Public Participation Period: Friday, 26 September 2025 until Monday, 27 October 2025.
  - **Public Meeting / Open Day:** Thursday 9 October 2025 and Friday 10 October 2025 at AMB Recreation Club 76, Rustenburg Rd, Thabazimbi, 0380

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Comments & Discussion

- Discussion
- Closing

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Contact

- **Grant Cornish-Bowden**
- **082 448 1921**
- **gcornish-bowden@kongiwe.com**

Kongiwe Environmental
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.

info@kongiwe.com
www.kongiwe.com

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Appendix C9: Written Comments

Appendix C10: Comment and Response Report

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Environmental Authorisations, Waste Management Licence, and Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility, Dam2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province

Comments and Response Report for the Final Environmental Impact Assessment Report (EIA)/ Final Environmental Management Programme (EMPr)

DMPR reference number: LP 30/5/1/2/2/48 MR

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All comments raised by stakeholders during the environmental impact assessment phase are included in this Comments and Responses Report (CRR). Responses to comments are provided in line with the overall project scope and available information. Please see comments and responses below:

1 Pre-Application Meeting with the Amandelbult Leadership Accountability Forum (LAF)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Bafedile Moselane, Head: Integrated Development Plan (Strategic Planning), Moses Kotane Local Municipality (MKLM)	In-Person Meeting	Thursday, 13 March 2025	Ms Moselane inquired whether Kongiwe was facilitating a public participation meeting. She expressed that proper notification should have been provided by the Amandelbult Social Performance (SP) team, enabling them to attend the meeting with Environmental Assessment Practitioners (EAPs) from Moses Kotane Local Municipality, as they were not specialists qualified to provide feedback.	Mr Ceronio clarified that the meeting was not a public participation session, but rather a pre-application meeting intended to inform the forum, particularly the traditional/community leaders, about the proposed project. He further emphasised that the application has not yet been submitted to the Department of Minerals and Petroleum Resources (DMPR) and once this has been done, the local authorities will be consulted. Additionally, a pre-application meeting will also be held with the DMPR.	Section 7 7.4.5.1
Ms Bafedile Moselane, Head: Integrated Development Plan (Strategic Planning) MKLM	In-Person Meeting	Thursday, 13 March 2025	Ms Moselane requested clarification on the project area, specifically whether it is an existing area that has been rezoned or if it remains designated as agricultural land. She highlighted that some communities within the Moses Kotane Local Municipality are in close proximity to the Thabazimbi Local Municipality. Ms Moselane also requested that the project documentation be made accessible at the Moses	Mr Ceronio explained to Ms Moselane that the proposed project area is located within the Amandelbult Mine Complex, which falls under the Thabazimbi Local Municipality. He further clarified that both directly and indirectly affected landowners are situated within the Thabazimbi Local Municipality. The proposed project area is not zoned as agricultural land as it is planned to be undertaken on the mine's current footprint.	Section 2: 2.1.1 Figure 2-1 Table 2-2

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Kotane Public Library and the Local Municipality offices.	The Kongiwe team acknowledged the comment regarding the distribution of documents to the Moses Kotane Local Municipality.	
Chairperson, Mantserre Traditional Authority	In-Person Meeting	Thursday, 13 March 2025	The Chairperson of Mantserre T.A. raised an inquiry regarding not being notified about the proposed project, highlighting that Mantserre had not been informed. He emphasized that, as Mantserre is leasing the land to Rustenburg Platinum Mine, notification should have been provided by the Amandelbult Social Performance team.	The AMB Social Performance team noted the comment. Ms Fiehn from Rustenburg Platinum Mines indicated that the project was on a farm adjacent to the leased land and that the Mantserre Community Development Trust had been identified as an Interested and affected party. She indicated that this was the first discussion/meeting on the project with all leadership being present.	Section 2: Table 2-2. Section 7: 7.4.5.4
Mr Karabo Sefora, Bakgatla-Ba-Kgalefele (BBK)	In-Person Meeting	Thursday, 13 March 2025	Mr Sefora inquired about the skills transfer and skills development initiatives, suggesting that Kongiwe and Rustenburg Platinum Mine should provide environmental studies and Engineering training to the communities. He noted that many community members might not comprehend the terminology used in the reports or fully understand the expectations placed on them. He further recommended that, in relation to skills development and transfer, the company should apply to the Department of Public Works and Infrastructure (DPWI), as they offer funding for intern stipends.	The Kongiwe team and the AMB Social Performance Team noted the comment.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Kaitumela Letebele, Stakeholder Engagement Manager, Amandelbult Mine Complex	In-Person Meeting	Thursday, 13 March 2025	Mr Letebele recommended that the presentation be simplified for better understanding for the community members.	Kongiwe team noted the comment.	Section 7: 7.4.5.6
Ms Hazel Fiehn, Environmental Authorisations Principal, Amandelbult Mine Complex	In-Person Meeting	Thursday, 13 March 2025	Ms Fiehn confirmed that engaging stakeholders directly affected by the project is essential, as they are often local residents or neighbouring communities in areas where the project will be implemented. These parties, being directly impacted, should be prioritized in the consultation process. It was suggested that structured and formal engagement methods be adopted to address concerns and ensure effective communication with these key stakeholders throughout the project lifecycle.	All attendees noted Ms Fiehn's comment.	Section 7: 7.4.4.2 7.4.5.7 & Table 7-2.

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2 Pre-Application Meeting with Kgosi Ramokoka (King of Baphalane Ba Ramokoka)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Tshepo Kgasago, Advisor to the King	In-Person Meeting	Friday, 06 June 2025	Enquired about whether the reclamation process would include Dam 1 and Dam 2.	Mr Foord Ceronio confirmed that only Dam 2 would be reclaimed. Ms Hazel Fiehn stated that while it is still early in the process, investigations have been conducted into the value of each tailings dam and the feasibility of their respective reclamations. Ms Hazel Fiehn stated that Dam 1 would not be feasible.	Section 2: 2.2.2 & 2.2.4 Section 6
Kgosi Ramokoka, King of the Ramokoka	In-Person Meeting	Friday, 06 June 2025	Enquired about the timelines associated with the EIA process	Mr Foord Ceronio explained the various timelines related to the EIA process and what each stage of the process would require concerning public engagement.	Section 1.2: 1.2.3
Mr Kaitumele Letebele, Valterra Platinum	In-Person Meeting	Friday, 06 June 2025	Highlighted some of the questions which he anticipates the community might raise, specifically relating to employment opportunities for community members. Furthermore, he added that community members may enquire as to why Kongiwe was appointed rather than a local Environmental Impact Assessment Practitioner.	Ms Hazel Fiehn explained that when selecting an independent consultant, the experience of the company was considered heavily due to the scale and complexity of the work which is required to be undertaken. The requirement to be a registered Environmental Assessment Practitioner (EAP) as per legislation is also a pre-requisite. This is why Kongiwe was appointed. The team noted the comments relating to employment opportunities.	Section 1.2: 1.1.1 1.1.2

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Kgosi Ramokoka, King of the Ramokoka	In-Person Meeting	Friday, 06 June 2025	Enquired about the scale of public participation which would be undertaken.	Ms Hazel Fiehn explained that from an environmental authorisation perspective, the focus would primarily be on the communities closest to the project area. Ms Hazel Fiehn explained that no other parties would be excluded from taking part in the process if they would like to be involved, which is why adverts would be placed to inform the broader community. Mr Foord Ceronio explained that the public participation process, would be undertaken by Kongiwe.	Section 7
Mr Tshepo Kgasago, Advisor to the King	In-Person Meeting	Friday, 06 June 2025	Enquired about how the negative potential environmental impacts would be managed and what the strategy would be behind that.	Mr Foord Ceronio explained that the specialist studies would provide recommendations as to ways to deal with the potential negative impacts and provide potential mitigation measures. Mr Foord Ceronio explained that as the Environmental Impact Assessment Practitioner, Kongiwe would also include mitigation measures to reduce the potential impacts associated with the proposed project. Mr Foord Ceronio explained that the report which includes the mitigation measures would also be available for public review and that would provide the opportunity for any additional inputs from the community to be made.	Section 9: 9.2 & 9.4 Section 10

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				Mr Foord Ceronio explained that the report would be made available to the public and this would also be communicated to the stakeholder database.	

3 Indirectly Affected Landowners

3.1 Baphalane Ba Mantserre Community Development Trust

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Paul Ramokoka, Royal Family member	In-Person Meeting	Friday, 06 June 2025	Stated that he has no issues or comments in relation to the EIA process. He stated that the concerns he has have been discussed in a previous meeting and fall outside the scope of the current meeting agenda as they relate to the ownership of the facilities.	Ms Hazel Fiehn stated that the project is currently in the pre-feasibility stage, and due to that, there are multiple alternatives as there is still a lack of clarity as to how the project is going to take shape. Ms Hazel Fiehn stated that due to the timeframes associated with the various applications, the decision was made in order to begin the process. Ms Hazel Fiehn explained that there is a process running parallel to the various environmental authorisations and licensing processes, which focuses on the feasibility of the potential options as well as how these would shape aspects such as skills development and employment opportunities.	Section 1.2: 1.2.1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Paul Ramokoka, Royal Family member	In-Person Meeting	Friday, 06 June 2025	Thanked Ms Hazel Fiehn for her comments and stated that he wanted to be involved in the public participation process; however, further engagement would be required to address matters unrelated to the EIA process. He stated that while they support the process, further action would need to take place.	Ms Hazel Fiehn and the Kongiwe team noted these comments.	Section 7: Figure 7-2
Mr Sello Ramokoka, Baphalane Ba Mantserre Independent Trust	Email Correspondence	Thursday, 09 October 2025	Greetings Colleagues If my memory serves me well, I did request clarity on concerns/clarity raised about this project/public participation. However, haven't received anything concrete except confusion created amongst our people about so-called public participation. I wanna put this on record, that will approach DMRE should we not taken into confidence about issues raised. That's the direction we do not wish to take.	Dear Mr Ramokoka, To ensure clarity going forward, we would like to confirm that Kongiwe's mandate as the Independent Environmental Assessment Practitioner (EAP) is limited to the Environmental Impact Assessment (EIA) process and associated environmental and social related impacts. Commercial related discussions fall outside of the EIA process and are being addressed separately by the relevant parties. As part of our responsibility to facilitate transparent stakeholder engagement, we will present the EIA findings, process, and timelines during the Public Participation Meeting scheduled for Wednesday, 12 November 2025. During this session, we will also capture and respond to any environmental or social concerns which will be included in the Issues &	Section 1.2 Section 7 Appendix C10

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				Responses Register submitted to the authorities as part of the application. We remain fully committed to an open and fair process in line with the EIA Regulations and appreciate your continued participation. Our preference is to resolve issues through open communication and by adhering to regulated EIA requirements and we certainly believe that this is achievable in the engagement process being followed. The process does however always allow for direct engagement with the relevant Competent Authority, in this case the DMPR, and we respect the community's right to raise these concerns.	

3.2 Middellaagte Holdings Pty Ltd

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Danie Koekemoer, Landowner	Email Correspondence	Thursday, 26 June 2025	Good day, my farm is Middellaagte extension 1. Currently Limberg is mining there. Why am I involved with this if it is not on my property, or did I miss it somewhere? Greetings.	Good day Mr Koekemoer, Thank you for your email. We have identified your property as an indirectly affected property adjacent to the proposed project.	Section 2: 2.1.1 Section 7

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				Due to this, as part of our stakeholder engagement process for the proposed project, we need to inform you, as a landowner. The aim is to provide you with information about the proposed project and to provide you with an opportunity to provide comment on the proposed project. We thank you for your engagement.	

3.3 Northam Platinum Ltd

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Kindly refer to the minutes of the Online Meeting with Broader Stakeholders during Scoping Phase for comments raised by Northam Platinum Mine.	-	-

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4 Competent Authority (CA)

4.1 Department of Mineral and Petroleum Resources (DMPR)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Comments raised during Pre-Application Meeting with DMPR - Limpopo					
Mr Foord Ceronio, Kongiwe	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired about the number of draft reports that needed to be submitted to the department.	Mr Mashau clarified that the DMRE no longer accepts draft documents and only deals with the final reports.	-
Mr Foord Ceronio, Kongiwe	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Mr Ceronio sought confirmation regarding the draft documents and inquired if the DMRE no longer provides feedback on them. He indicated that draft copies would be made available to the commenting authorities.	Mr Mashau stated that DMRE will give comments on the final.	-
Mr Telly Mashau, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Stated that when the final EIA/EMPr is submitted to the DMRE, they cannot provide a finalised decision without the Waste record of decision provided by the Department of Water and Sanitation (DWS). The required information will have to be provided to the DWS in accordance with the relevant process. Mr Mashau further enquired if the application was an integrated application.	Mr Ceronio confirmed that the application is an integrated application.	Section 1.2: 1.2.1
Mr Foord Ceronio, Kongiwe	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired if Mr Mashau would be the case officer for this project.	Mr Mashau stated that it would depend on the allocation of the project by the DMRE Management.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Hazel Fiehn, Environmental Authorisations Principal, Amandelbult Mine Complex	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Enquired about submission process based on feedback which was received on a prior project which required a Waste Management Licence and record of decision. Ms Fiehn stated that the DWS had requested the Waste License documentation to be submitted by the DMRE on behalf of the applicant rather than the applicant approaching the DWS independently with the letter and provided by the DMRE, and the associated waste license documentation. Ms Fiehn sought clarity on whether this remained the case, as previously, the DWS refused to accept the submission unless it came from the DMRE.	Mr Mashau stated he was unsure if the process has changed as typically DMRE provides a letter, which is attached to the submission for the ROD to DWS. Mr Mashau further stated that he will find out the specific details regarding the application Ms Fiehn referenced.	-
Mr Telly Mashau, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired about the timeframe for the submission of the application.	Mr Ceronio stated that documents are in the process of being finalised and that submission is targeted for next couple of weeks.	Section 7: 7.4.1
Mr Foord Ceronio, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired if the application is required as a hard copy or if it should be submitted over an email.	Mr Mashau stated that the application should be a hard copy with the proof of payment attached.	-
Mr Foord Ceronio, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired about how many copies would be required for the application.	Mr Mashau stated that one copy is sufficient for the application.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Foord Ceronio, Kongiwe	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Inquired about whether the department should be referred to as the DMRP or DMRE.	Mr Mashau stated that he is unsure when the DMRP title would come into effect and that it would be fine to continue referring to the department as the DMRE.	Section 1.2: 1.2.1 1.2.3 2.3 Section 7.4: 7.4.1 Section 10.4.2
Mr Telly Mashau, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Stated that once the application has been submitted, a site visit would be requested.	Mr Ceronio asked for clarification on when the site visit would be requested.	-
Mr Telly Mashau, DMRE	Online Meeting (Microsoft Teams)	Wednesday, 26 March 2025	Mr Mashau stated that a site visit can be requested at any point; however, it is typically not done at the beginning of the application process and would occur at a later stage.	Mr Ceronio thanked Mr Mashau for the clarity.	-
Comments received during the meeting with the case officer concerning the Waste Record of Decision (ROD), noting that the Water Use Licence Application is not applicable to this application.					
Mr Grant Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	The intention of the meeting is to provide a brief reintroduction to the project, followed by a discussion regarding the current position on the	Ms Mphaphuli confirmed that the statement was accurate.	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
(Mr Cornish-Bowden)			absence of a requirement for a specific water use license. Mr Cornish-Bowden asked for confirmation on this understanding. In the meantime, Mr Cornish-Bowden indicated that he would refer to an older presentation to begin reviewing the alternatives that were previously considered.		
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden questioned whether a full project introduction was necessary or if the discussion should focus specifically on the alternatives related to water use licensing. He proceeded to present a section of the Scoping Report, highlighting a key map that illustrated the original layout. He explained that the map effectively demonstrated how the consideration of alternatives and integration of environmental inputs had informed a design process aimed at mitigating significant risks. Mr Cornish-Bowden provided an overview of the initial concept, which centred on the reclamation of Dam 2. The original design included various layout options for booster pumps, pump stations, slurry stations, laydown areas,	Ms Mphaphuli responded that a full overview of the project was not required and noted that Mr Cornish-Bowden's presentation was clear and well-articulated.	Appendix C8 Section 4 Figure 4-5

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			vegetation zones, and an oversized material stockpile. He described alternatives involving water boosters from both the return water dam and the holding dam, with pipelines connecting to the slurry transfer station and potentially integrating with existing infrastructure at the Marinsky plant or requiring new infrastructure such as pollution control dams and processing plants. He then outlined the evolution of the project design, noting that environmental and social risks particularly environmental had driven significant changes. The preferred alternative now excludes the return water dam and holding dam as water sources, eliminating the need for associated booster stations and pipelines. Infrastructure previously planned in those areas has been removed, and the project now prioritizes the use of existing Chrome plants with minor modifications to the PGM plants. These changes have effectively removed the need for water use licensing, as no water uses are triggered. He noted that a potential WUL Section 21(g) activity related to vegetation and		

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			oversized material stockpiling had also been addressed. Composting activities have been relocated to Dam 1, a designated dirty area, and the footprint now only accommodates vehicle manoeuvring, eliminating storage and thereby removing any ambiguity regarding licensing requirements. Mr Cornish-Bowden emphasized that previously considered WUL Section 21 (c), (i), and (g) activities are no longer applicable. He attributed this outcome to a thorough screening process and collaboration with engineers to explore alternatives and reduce environmental risk. The redesign minimizes proximity to sensitive environments such as wetlands and results in a more environmentally sound project. He invited questions or comments regarding the preferred project alternative. He noted that the project footprint has been significantly reduced, and risks have been mitigated.		
Ms Umeshree Naicker (Ms Naicker)	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Ms Naicker requested clarification on how the preferred project alternatives align with the	Ms Mphaphuli noted the comments.	Appendix C8 Section 3.2.1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			requirements specified for the Waste Record of Decision (RoD). Mr Cornish-Bowden further requested if Ms Mphaphuli would want him to first address the process followed to determine the preferred alternative. He emphasized the importance of understanding the rationale behind the selected option, particularly in terms of reducing the project footprint and avoiding sensitive areas. He invited any fundamental input on the alternatives considered and their outcomes before transitioning the discussion to the specific requirements for the waste management license process, now that a water use license is no longer required.		
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden explained that requirement for such a license has been eliminated through design adjustments. He noted that, given the project's waste handling component, a waste management license is still required. He emphasised the need to discuss the specific documentation necessary to support the licence	Ms Mphaphuli thanked Mr Cornish-Bowden and confirmed that she had no questions or inputs at that stage. She noted that, based on her conversation with Ms Phakathi, the focus should be on water use in relation to the waste license. Ms Mphaphuli added that she was not entirely certain at that moment but would seek clarity to ensure that Kongiwe proceeds with the correct submission.	Section 3.2.1 Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			application, with particular attention to the engineering requirements. He said ordinarily, a water use license application requires detailed engineering designs, which often align with the documentation submitted for a waste management license. However, since a water use license is not applicable in this instance, we would like to clarity on what documentation would remain necessary as per the checklist, and how the submission process should be managed. Our understanding based on previous experience is that the application is submitted to the competent authority, who then forwards it to the Department of Water and Sanitation (DWS) for co-signing of the RoD. This step ensures that the waste license approval does not negatively impact any water resources. We want to confirm that this process still applies, especially given the absence of a water use license, which is typically part of a waste license submission.		

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden stated that the presentation portion had been completed, which aimed to outline the alternatives considered and explain why a water use license is no longer pursued. He suggested handing over to the case officer for guidance on the waste management license submission process, specifically regarding the required documentation	Ms Mphaphuli responded by explaining that the checklist was provided by the Department of Water and Sanitation (DWS) due to previous issues with applicants submitting incorrect documentation. The checklist serves as a guideline for the documents needed to request a RoD for waste. As noted, the applicant is responsible for compiling all required documents and to complete the checklist. Once complete, a cover letter is prepared, and the package is sent to DWS for comment. Ideally, the documents should be submitted to the case officer first, who would then attach the letter and forward everything to DWS. However, due to ongoing issues with the courier system, delays are common. Ms Mphaphuli further explained that to mitigate this, she would advise that it will be more efficient for her to sign the letter and allow the applicant to submit the documents directly to DWS's registry. While this approach is faster, she cautioned that DWS has expressed concerns about clients submitting documents on behalf of DMPR and prefers submissions to originate from the authority itself. Mr Cornish-Bowden responded that they would be happy to assist with the logistics, either by submitting	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				the documents directly once the letter is signed or by arranging a courier.	
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden emphasised the importance of avoiding delays and confirmed that the technical documentation is ready, including hydro-sensitivity assessments, geophysical data, geological and aquifer information, groundwater quality reports, groundwater modelling, pollution potential assessments, and downstream resource impact evaluations. A comprehensive groundwater impact assessment has been completed, covering all relevant aspects including drawdown scenarios. He clarified that acid mine drainage (AMD) is not a concern, as the site is not underlain by dolomites and does not involve underground operations. The project involves re-mining a tailings storage facility (TSF). Regarding engineering documentation, he noted that while the master layout plan includes infrastructure, 100-year flood lines, and buffer zones, it does not include signed final engineering drawings. Such drawings are typically only required for a water use license application.	Ms Mphaphuli acknowledged the comments.	Appendix D3 Appendix C8 Section 2 Section 4: Figure 4-5

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			He further explained that at the EIA stage, it is not standard practice to submit detailed, signed engineering designs for the entire infrastructure. In his view, the layout should be sufficient, particularly since the project does not impact any delineated watercourses or wetlands and remains outside the 100-year flood lines.		
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden sought clarification regarding the submission requirements, specifically whether a formally signed engineering drawing endorsed by a Professional Engineer is necessary, or if a layout depicting all infrastructure and footprints, consistent with standard EIA submission practices, would suffice.	Ms Mphaphuli responded to Mr Cornish-Bowden, stating that she was not entirely sure, as they had only been provided with the checklist outlining the required attachments. She added that, typically, if any documentation is outstanding, it would be communicated either directly to the applicant or through their office.	Appendix C8
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden raised a concern regarding the level of detail required for the upcoming submission. He inquired whether it would be possible to receive guidance prior to proceeding, noting that Kongiwe prioritizes submitting fully compliant and permittable projects to avoid delays caused by requests for additional information. He requested clarification on whether the master layout plan including infrastructure details along with Sections 3.1 and	Ms Mphaphuli acknowledged and confirmed that it was fine. She requested Mr Cornish-Bowden to send her an email, and she would forward it to the relevant parties to obtain clarity. Ms Mphaphuli concurred, adding that she simply wanted to ensure compliance.	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			potentially 3.4 (Method Statements), could be submitted at the EIA level. While relatively generic method statements can be provided at this stage, final engineering inputs may still be pending. He emphasized that the layout and associated plans would be available, and asked whether this would be deemed sufficient, or if the client is expected to commission engineers to produce final, signed engineering drawings. Mr Cornish-Bowden noted that such detailed engineering work is typically associated with the water use licence process, which is not being pursued in this instance. Confirmation was requested on whether the proposed approach would be acceptable.		
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden emphasised the importance of engaging the appropriate stakeholders from the outset and at the correct level to ensure alignment. He noted that the process is collaborative, with the case officer serving as the initial point of contact to help ensure the submission is both accurate and complete.	Ms Mphaphuli acknowledged the remark.	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Mr Cornish-Bowden concluded by stating that he would follow up with a concise email outlining key questions for clarification.		
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden noted that Ms Hazel Fiehn, the Client (Project Manager), was unable to attend the meeting due to a scheduling conflict and extended her apologies. He conveyed her request to inform the case officer that the Senior Manager for Mining Rights was currently engaged with the DMPR to discuss Section 102 and the Waste Management Plan. While there was no formal update to record, Ms Hazel Fiehn wanted the case officer to be aware of this ongoing engagement. Mr Cornish-Bowden further mentioned that Ms Hazel had inquired about the Waste RoD, which he believes has been clearly addressed. He confirmed that there is an agreement in place for the process to be initiated on behalf of the case officer and for the documentation to be couriered to the Department of Water and Sanitation (DWS), which was deemed appropriate.	Ms Mphaphuli acknowledged receipt of the draft submission and indicated that she would await the final version. She explained that a pre-approval site inspection is typically requested, which is why she preferred to keep today's representation brief. She noted that during the site inspection, the presentation is usually reviewed, and this will be arranged following the submission of the final document.	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Tuesday, 07 October 2025	Mr Cornish-Bowden acknowledged the update and expressed appreciation that the final Environmental Impact Assessment (EIA) will reflect the finalised layout and preferred option. He noted that specialists are currently updating their assessments accordingly and that the team looks forward to the completed submission	Ms Mphaphuli further emphasised the importance of timely submission of the RoD, noting that the Department of Water and Sanitation (DWS) has limited capacity and often experiences delays in response. She advised that the RoD should be submitted as soon as possible to avoid unnecessary delays. Mr Cornish-Bowden acknowledged the concern raised by Ms Mphaphuli and expressed appreciation for the clarity provided. He confirmed that Kongiwe will proceed with the necessary steps to move the process forward.	Section 4 Figure 4-5 Appendix C8

5 Organs of State

5.1 South African National Roads Agency Limited (SANRAL)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Ria Barkhuizen, SANRAL	Email Correspondence	Wednesday, 25 June 2025	Good day	Hi Ria, Thanks for your response.	Section 3.5.4

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Before your application can be evaluated, SANRAL needs exact GPS co-ordinates on R510 where access will be gained from. Also supply proof of permission to the mentioned access. Information can be emailed to nrstat@nra.co.za	Please take note that the proposed project will take place on the already operational Amandelbult Mine complex. The access road from the R510 to the site is already existing and operational. No changes or alterations will be made to this road. The co-ordinates are indicated here: 24°48'32.43"S 27°19'1.55"E.	
Ms Ria Barkhuizen, SANRAL	Email Correspondence	Friday, 01 August 2025	Good day Please supply SANRAL with an A4 locality map as well as GPS co-ordinates pertaining to your application. Maps and GPS co-ordinates together with motivational memorandum can be emailed to nrstat@nra.co.za. Please submit whole application as this email will be deleted due to insufficient information.	Hi Ria, Thanks for your response. Please take note that the proposed project will take place on the already operational Amandelbult Mine complex. The access road from the R510 to the site is already existing and operational. No changes or alterations will be made to this road. The co-ordinates are indicated here: 24°48'32.43"S 27°19'1.55"E.	Section 3.5.4
Ms Ria Barkhuizen, SANRAL	Email Correspondence	Thursday, 28 August 2025	Dear Sir/Madam Your application dated 18 August 2025 has reference. The South African National Roads Agency SOC Limited (SANRAL) has no objection to the	Thank you for your correspondence regarding our application dated 18 August 2025. Kongiwe Environmental acknowledge SANRAL's confirmation that no roads or interchanges under its jurisdiction are affected by the proposed	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			mentioned application as no roads or interchanges under the jurisdiction of SANRAL are affected. Take note that SANRAL will not allow any new access roads to and from the R510.	development, and we appreciate your review and feedback. Kongiwe also take note of the restriction regarding new access roads to and from the R510 and will ensure that our plans remain fully compliant with this directive. Should any further clarification or engagement be required, please do not hesitate to contact us.	

5.2 Department of Forestry, Fisheries and the Environment (DFFE)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Nompumelelo Lekalakala, DFFE	Email Correspondence	Thursday, 19 June 2025	Dear Sir/Madam DFFE Directorate: Biodiversity Conservation hereby acknowledge receipt of the invitation on the 19th of June 2025 to review and comment on the project mentioned on the subject line. Kindly note that the project has been allocated to Mrs M Rabothata and Ms Khuliso Khomari (Copied on this email). In addition, kindly share the shapefiles of the	Good day, Mrs M Rabothata and Ms Khuliso Khomari Thank you for your interest in the project. Please see the proposed Project area attached to this mail.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			development footprints/application site with the Case Officers. Please note: All Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@dffe.gov.za for attention of Mr Seoka Lekota.	Please feel free to touch base should you have any queries.	
Comments received on the Draft Scoping Report, Monday 28 July 2025					
Ms M. Rabothata/K. Khomari, DFFE	Email Correspondence	Monday, 28 July 2025	**Comments on the Draft Scoping Report for the proposed Rustenburg Platinum Mines Amandelbult TSF Dam 2 Tailings Reclamation and Processing Project near Northam in the Thabazimbi Municipality, Limpopo Province.** The Directorate: Biodiversity Conversation has reviewed and evaluated the report and does not have any objections to the draft Scoping Report and the Plan of Study. However, the EIA report must comply with the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of	Dear Ms Khuliso Khomari, We thank the department for their continued engagement. We take note that the Directorate Biodiversity Conservation does not have any objections to the Draft Scoping Report and Plan of Study. We take note of the recommendations suggested in the letter and we will adhere to them accordingly. We have also noted that all correspondence be emailed to BCAdmin@dAe.gov.za.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			sections 24(5) (A) and (H) and 44 of the National Environmental Management Act, 1998. All Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@dffe.gov.za for attention of Mr Seoka Lekota.		
Ms N.A Mudau, Deputy Director Forestry Resource Protection, DFFE	Email Correspondence	Monday, 11 August 2025	**Comments for the Background Information Document for Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in Thabazimbi Local Municipality, Limpopo Province.** The Department of Forestry, Fisheries and the Environment acknowledge the receipt of the Background Information Document for Environmental Authorisations. The Department is the custodian of the National Forests Act (act no 84 of 1998) as amended, which among others provide special measures for the	Kongiwe takes a note to the custodian of the National Forest Act (Act No 84 of 1998). To clarify, the Amandelbult TSF Dam 2 Reclamation and Processing Project aim to reclaim and reprocess Dam 2 within the Amandelbult Tailings Storage Facility (TSF) complex. The primary objective is to recover Chrome and Platinum Group Metals (PGMs) through a combination of hydraulic and mechanical reclamation methods. During the reclamation of Dam 2, AMB will ensure the structural integrity and continued operational stability of the surrounding dams within the TSF complex. The project will be executed within the boundaries of the existing mining operations and	Section 3.5.2

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			protection of forests and trees. The list of trees is gazetted annually. In terms of section 7 (10) No person may cut, disturb, damage, destroy or remove any indigenous tree in; or remove or receive any such tree from a Natural Forest except when a license to do such has been issued. In terms of section 15 (1), No person may; a) Cut, disturb, damage, destroy or remove any protected tree; or b) Collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. According to the National Forests Act (act No. 84 of 1998) as amended, a tree includes any tree seeding, sapling, transplant or coppice shoot of any age and any root, branch, or other part of it.	will involve the reclamation of the designated mining dump. No excavation, disturbance, damage, destruction, or removal of indigenous trees will occur as part of this initiative. Furthermore, a Biodiversity Impact Assessment Study has been conducted to evaluate the potential environmental implications of the proposed project and to ensure compliance with applicable conservation and sustainability standards.	

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Thus, if any activity of the project might affect the Natural Forest and Protected Trees, application form for a License must be completed and forwarded to the department for processing. Upon granting the License, the project can proceed with the activities, which will affect the Natural Forest or protected Trees. The footprint of disturbance must be kept as small as possible and must be rehabilitated as soon as possible. A specific application form listing all the protected trees that are going to be directly affected by the project should be indicated. Mitigation efforts need to be taken if the application for a license will affect large number of protected trees.		
Comments received on the Draft EIA Report, 03 November 2025					
Mr Seoka Lekota, Control Biodiversity Officer: Biodiversity Conservation, DFFE	Email Correspondence	Monday, 03 November 2025	**Comments On the Draft Environmental Impact Assessment Report for the Proposed Rustenburg Platinum Mine's Amandelbult TSF Dam 2 Tailings Reclamation and Processing Project near Northam in the Thabazimbi Municipality Limpopo Province.** The Directorate: Biodiversity Conservation reviewed and evaluated the aforementioned	Refer to Final EIA Report under Section 8.5.4 and 8.5.5, the specialist notes that there is no presence of Protected Trees and Plant species. Refer to Appendix D1 for the Terrestrial Biodiversity Compliance Statement. In summary, according to the Terrestrial Biodiversity Compliance Statement (Burger, 2025)	Section 8.5: Section 8.5.4 and 8.5.5 Appendix D1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			report. Based on the information provided in the report, the following direct and indirect ecological impacts will result from the proposed project: According to the Limpopo Provincial Conservation Plan of 2018, proposed development area is classified as Other Natural Areas (ONA) and No Natural Remaining (NNR), which is further corroborated by an Ecosystem Threat Status classification of Least Concern (LC) according to the SANBI Red List Ecosystem dataset of 2021. However, the Department has taken note of the Biodiversity Impact Assessment Study specialist findings during a site sensitivity verification, which noted the presence of Protected tree and plant species within the proposed development site necessitating the species conservation for primary consideration.	conducted by The Biodiversity Company the proposed site falls within the disturbed bushveld and modified area whereby the disturbed bushveld areas have been impacted upon by placement of existing infrastructure such as access roads and pipelines. No fauna or flora Species Conservation Concern (SCC) observed, and none expected for the habitat unit. The modified areas have little to no remaining natural vegetation due to land transformation by current mining activities, existing pipelines, active mining operations and roads. The completion of the Terrestrial Biodiversity Compliance Statement (Burger, 2025) conducted by The Biodiversity Company led to a validation of the 'Low' Terrestrial Biodiversity Theme Sensitivity as set out in the National Environmental Screening Tool. The site context within the existing mine area is not anticipated to impact on the Buffelsfontein Private Nature Reserve.	
			The National Web-based Environmental Screening Tool predicted the occurrence of one (1) mammal Species of Conservation Concern (SCC) and five (5) avifauna SCC. However, specialist site sensitivity	Acknowledged, in line with the specialist findings. Refer to Final EIA Report under Section 8.5.7 and Appendix D1 for the Terrestrial Biodiversity Compliance Statement, the specialist notes there is	Section 8.5.7 Appendix D1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			verification revealed the absence of the SCC, with anthropogenic disturbances cited as the cause of habitat loss and species fragmentation.	no fauna or flora Species Conservation Concern (SCC) observed, and none expected for the habitat unit.	
			The Limpopo Provincial Conservation Plan further indicated that the proposed development area overlaps with the Crocodile River Valley Groundwater Strategic Water Source Areas (SWSA) and National Freshwater Priority Area (NFEPA) wetlands. The NFEPA wetlands are two Unchannelled Valley-bottom (UVB) wetlands that were identified and grouped into a single Hydrogeomorphic (HGM) unit (HGM 1) due to their similar function and state as they are wetlands of high biodiversity value providing an ecological corridor and a refugial area in the disturbed surrounding landscape. Thus, necessitating the preservation of HGM1 by maintaining and seeking to improve the Present Ecological State (PES) score (E) and by further ensuring proposed developments do not threaten the Recommended Ecological Category (current PES) or disturb the Recommended Management Objectives of HGM 1 – which are to continue providing ecosystem services function to surrounding habitats.	The proposed project layout has been amended, (refer to Final EIA Report under Section 4.3 and (Figure:4-5). The updated layout significantly reduces the extent of proposed infrastructure development and prioritises the use of existing infrastructure in the Final EIA Report. Refer to Final EIA under section 8.6 and Appendix D1 for the Wetlands Impact Assessment Study, the specialist notes that ss part of this revision, the two unchanneled valley-bottom wetlands previously grouped into a single Hydrogeomorphic (HGM) unit (HGM 1) are excluded from the scope of activities. HGM 1 lies outside the operational footprint of the tailings storage facilities, reclamation, and processing areas. No activities are planned within this unit. This reduction in new infrastructure is a deliberate measure to minimise environmental impact and aligns with principles of sustainable development and environmentally responsible practices, as recommended in the Environmental Management Programme (EMPr) and by the	Section 4.3 Figure: 4-5

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				Wetlands Specialist. All relevant buffers are noted and development within these has been avoided.	
			The Directorate Biodiversity Conservation recommend the following to reduce any further loss of biodiversity in the event of a positive environmental authorisation: • Ecological buffers must be established and observed (particularly within regions in close proximity to NFEPA wetlands systems -HGM1).	Refer to Final EIA under Section 8.6 and Appendix D1 for the Wetlands Impact Assessment Study, the specialist, notes that the unchanneled valley-bottom wetlands previously grouped into a single Hydrogeomorphic (HGM) unit (HGM 1) are excluded from the scope of activities. HGM 1 lies outside the operational footprint of the tailings storage facilities, reclamation, and processing areas. No activities are planned within this unit. This reduction in new infrastructure is a deliberate measure to minimise environmental impact and aligns with principles of sustainable development and environmentally responsible practices, as recommended in the Environmental Management Programme (EMPr) and by the Wetlands Specialist. All relevant buffers are noted and development within these has been avoided.	Section 8.6 Appendix D1
			• A Stormwater Management Plan must be developed to prevent erosion into watercourses; the plan must include watercourse monitoring and biomonitoring bi-annually to preserve	Refer to Final EIA under Section 8.7.7, Figure 8-18 to Figure 8-19 and Section 9.4 of Final EMPr as well as Appendix D2 for the Hydrological Impact Assessment Study, In summary according to the Hydrology (Surface Water) Impact Assessment conducted by Hydrospatial (Pty) Ltd (Andy, 2025), a	Section 8.7.7 Figure 8-18 Figure 8-19

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			natural drainage paths and wetlands and must be included in the FEIR phase.	conceptual Stormwater Management Plan (SWMP) has been integrated into the project. The aim of including this plan is to ensure that clean and dirty water are adequately separated, by diverting clean water away from dirty areas, and ensuring that dirty water from the operation is captured, contained and managed appropriately in accordance with GN R704 regulations and DWS best practice guidelines. According to the Hydrology specialist the stormwater infrastructure for the proposed project will be monitored on a monthly basis during the dry season, and on a weekly basis during the wet season. Monitoring should be undertaken by the onsite Environmental Officer (EO) or maintenance manager. Inspections should be recorded and following monitoring location.	EMPr Section 9.4 Appendix D2
			• Given the National Web-based Environmental Screening Tool prediction of the presence of SCC, a pre-construction faunal and flora Search-and-Rescue must be conducted to safeguard SCC within the proposed survey footprint. When found,	Refer to Final EIA under Section 8.5, and Appendix D1 for the Terrestrial Biodiversity Compliance Statement. In summary as part of the revised layout plan for the proposed project, all habitats within the development footprint were assessed and assigned a Site Ecological Importance category. Two primary	Section 8.5 Appendix D1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			the necessary permits for relocation need to be acquired.	habitat types were identified: Disturbed Bushveld and Modified Habitat. According to the specialist study, which aligns with the predictions of the National Web-based Environmental Screening Tool, the sensitivity ratings for relevant environmental themes particularly the Terrestrial Biodiversity Theme reflect the degraded condition of these habitats. Both habitat types have been significantly altered due to historic and ongoing anthropogenic activities, resulting in minimal remaining natural vegetation and a loss of ecosystem functionality. Despite this, the area continues to serve as a dispersal corridor for flora and fauna. The Animal and Plant Theme has been classified as Low Sensitivity, and field verification by the specialist confirmed that no Species of Conservation Concern (SCC) were observed within the project area. While it is possible that some faunal SCC may pass through the area sporadically, it is unlikely that they would establish residency.	

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				Therefore, no SCCs are expected to be impacted by the proposed development. The quantitative impact of the project in isolation on terrestrial biodiversity is anticipated to be low, given the commitment to implementing appropriate mitigation measures. Similarly, the cumulative impact on habitats, flora, and fauna is expected to be low, consistent with the level of disturbance already present in the surrounding landscape. Following the implementation of the mitigation measures outlined in the Environmental Management Programme (EMPr), the integrity and functionality of the remaining natural habitat are not expected to deteriorate further. No irreplaceable loss of terrestrial biodiversity is anticipated, and as such, no permits for relocation of SCC are required.	
			• Due to the specialist identifying Protected tree and plant species, the necessary permits must be acquired prior to the removal, trimming or translocation of species.	The Terrestrial Biodiversity Compliance Statement (Burger, 2025) conducted by (The Biodiversity Company), noted that there are no protected trees and plant species.	Appendix D1

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			• An Alien Invasive Management Plan must be developed and is to include a during and post construction monitoring and management of alien invasive plant (AIP) species.	Rustenburg Platinum Mines Limited (Amandelbult Mine) has an existing Alien Invasive Management Plan. The mitigation measures as noted in the EMPr (Refer to Section 9 of EMPr) will be included into the Rustenburg Platinum Mines Limited (Amandelbult Mine) existing plan. An Alien Invasive Management Plan will be implemented during the post-construction phase and will remain in effect until the closure phase of the project. This plan will be executed by Rustenburg Platinum Mines Limited (Amandelbult Mine) as part of their standard operational procedures, which include ongoing vegetation monitoring and management on site. The plan will ensure that alien invasive plant species are effectively controlled in alignment with environmental best practices and regulatory requirements.	EMPr Section 9
			• A Vegetation Rehabilitation Plan must be developed, indicating the re-establishment of ground cover with	Refer to Section 9 of the Final EMPr and Appendix D7 of the Closure and Rehabilitation Plan Study. In summary a Vegetation Rehabilitation Plan will be implemented during the post-construction phase	EMPr Section 9 Appendix D7

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			indigenous vegetation to avoid erosion and sedimentation along sensitive areas.	and will remain in effect until the closure phase of the project. This plan will be executed by Rustenburg Platinum Mines Limited (Amandelbult Mine) as part of their standard operational procedures. According to the Terrestrial Biodiversity Compliance Statement, input and recommended to the mine in developing the Vegetation Rehabilitation Plan. A Summary of Vegetation Rehabilitation Plan and principles have been addressed throughout the Environmental Management Programme (EMPr), Mitigation, management, and monitoring measures are outlined, in aligned with the closure plan for the Amandelbult Mine. The proposed project will be implemented within an existing mining operation that has already been disturbed by previous activities. Following the removal of material from Dam 2, the footprint will be repurposed for tailings deposition as part of the	

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				currently active Tailings Storage Facility (TSF) on site. As part of the TSF reclamation and processing initiative, compost will be applied to the side slopes of the remaining TSF dams and other areas around the mine that require rehabilitation. This approach will support vegetation re-establishment and contribute to long-term environmental sustainability.	
			• The Directorate: Protected Areas Management must be added to the list of stakeholders for the attention of Ms M Mudau by email MAMudau@dffe.gov.za	The Directorate: Protected Areas Management has been added to the stakeholder list (Refer to Appendix C1 of Public Participation Report). Future correspondence will be directed to Ms M Mudau at MAMudau@dffe.gov.za.	Appendix C1
			All the Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; BCAdmin@dffe.gov.za for the attention of Mr. Seoka Lekota.	All relevant Public Participation Process documents pertaining to the Biodiversity EIA will be submitted to the Directorate: Biodiversity Conservation via the provided email address (BCAdmin@dffe.gov.za), for the attention of Mr. Seoka Lekota, as requested.	Appendix C1
Comments received on the Draft EIA Report, 07 November 2025					

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Mafoko and Ms Mudau, DFFE	Email Correspondence	Friday, 07 November 2025	**Comments For the Environmental Authorisations, Waste Management Licence Application, And Section 102 Amendment for the Amandelbult Mine Tailings Storage Facility Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province** The Department is the custodian of the National Forests Act (act no 84 of 1998) as amended, which among others provide special measures for the protection of forests and trees. The list of trees is gazetted annually. In terms of section 7 (1) No person may cut, disturb, damage, destroy or remove any indigenous tree in; or remove or receive any such tree from a Natural Forest except when a license to do such has been issued. In terms of section 15 (1), No person may-: a) Cut, disturb, damage, destroy or remove any protected tree; or b) Collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or	A Terrestrial Biodiversity Compliance Statement (Burger, 2025) conducted by The Biodiversity Company, has been conducted to evaluate the potential environmental implications of the proposed project and to ensure compliance with applicable conservation and sustainability standards. No excavation, trimming, disturbance, damage, destruction, or removal of indigenous trees or protected trees from the Natural area is expected and if such occurs the relevant permits will be applied for as directed. The proposed project will be implemented within an existing mining operation that has already been disturbed by previous activities. Following the removal of material from Dam 2, the footprint will be repurposed for tailings deposition as part of the currently active Tailings Storage Facility (TSF) on site. As part of the TSF reclamation and processing initiative, compost will be applied to the side slopes of the remaining TSF dams and other areas around the mine that require rehabilitation. This approach will support vegetation re-establishment and contribute to long-term environmental sustainability. As such, the project will incorporate	Section 2.1 Section 3.5.1 Appendix D1 EMPr Section 8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			dispose of any protected tree, except under a license granted by the Minister. According to the National Forests Act (act No. 84 of 1998) as amended, a tree includes any tree seedling, sapling, transplant or coppice shoot of any age and any root, branch, or other part of it. Thus, if any activity of the project might affect the Natural Forest and Protected Trees, application form for a License must be completed and forwarded to the department for processing. Upon granting the License, the project can proceed with the activities, which will affect the Natural Forest or Protected Trees. The footprint of disturbance must be kept as small as possible and must be rehabilitated as soon as possible. A specific application form listing all the protected trees that are going to be directly affected by the project should be indicated. Mitigation efforts need to be taken if the application for a license will affect large number of protected trees.	appropriate conservation measures to ensure compliance with relevant environmental legislation. These measures will be guided by the Terrestrial Biodiversity Compliance Statement. All mitigation measures are captured in the Environmental Management Programme (EMPr) in accordance with the specialist study.	

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5.3 Eskom (National Transmission Company South Africa SOC Ltd (NTCSA)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr John Geeringh (Pr Sci Nat) Reg. EAP (EAPASA), NTCSA	Email Correspondence	Tuesday, 24 June 2025	Please send me a KMZ file of the proposed development. Please find attached Eskom requirements.	Hi John, Please see the KMZ for the proposed development attached to this mail. Please do not hesitate to contact should you have any additional queries.	-

5.4 South African Heritage Resources Agency (SAHRA)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Nokusho Ngobeni, SAHRA	Email Correspondence	Thursday, 12 June 2025	Good day, Please note that all development applications are processed via our online portal, the South African Heritage Resources Information System (SAHRIS) found at the following link: http://sahra.org.za/sahris/. We do not accept emailed, posted, hardcopy, faxed, website links or DropBox links as official submissions.	Good day, Thank you for your response. These requirements are noted. The required application will be made as required. Please do not hesitate to contact us if you have any further queries.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Please create an application on SAHRIS for each EA application and upload all documents pertaining to the Environmental Authorisation Application Process. As per section 24(4)b(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA), an assessment of heritage resources must form part of the process, and the assessment must comply with section 38(3) of the NHRA. If a case already exists on SAHRIS regarding the development, please upload the documents to that case using the "Make an additional submission to an existing case" in the application selector wizard https://sahris.org.za/form/application-selector. Please ensure that all documents produced as part of the EA process are submitted as part of the application.		
Kongiwe Stakeholder Engagement			Dear Mr Phakwe, I hope that you are well. I am writing to enquire whether SAHRA (Limpopo Province) has any comments on the Final Scoping Report for the proposed Rustenburg Platinum Mines Limited Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project in the Limpopo Province. As per the request from the Department of Mineral and Petroleum Resources (DMPR), Kongiwe Environmental as the	Good afternoon, Please provide the SAHRIS Case ID for the project. Thank you. Kind regards, Nokusho Ngobeni Heritage Officer: Development Applications Unit	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			appointed EAP has to ensuring that all relevant stakeholders, including SAHRA, submit their comments for inclusion in the final submission of the Environmental Impact Assessment Report (EIAR). We would greatly appreciate receiving your comments on the proposed project. For your convenience, the relevant report is available at the following link: https://kongiwe.com/wp-content/uploads/2025/07/AAPL001_FSR_Public_Combined.pdf Please do not hesitate to contact me should you require any additional information.		
Ms Nokusho Ngobeni, SAHRA	Email Correspondence	Tuesday, 25 November 2025	PGS Heritage (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd to undertake a Heritage Impact Assessment (HIA) that forms part of the Scoping and Environmental Impact Assessment (EIA) for the proposed reclamation and processing of the tailings material from the Amandelbult Tailings Storage Facility (TSF): Dam No.2. The proposed project is situated on the Remaining Extent and Portion 1 of the farm Amandelbult 383KQ and the Remaining Extent of the farm Middellaagte 382KQ, Thabazimbi Local	The requested information was submitted (26 to 27 November 2025) to SAHRA for their final comment.	Appendix D8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Municipality, Waterberg District Municipality, Limpopo Province. Fletcher, N. 2025. Heritage Impact Assessment: RECLAMATION AND PROCESSING OF THE TAILINGS MATERIAL FROM THE AMANDELBULT TSF: DAM NO.2 During the fieldwork no heritage features or resources were identified. A chance finds procedure has been added. **Interim Comment** The SAHRA Development Applications Unit (DAU) is making the following comments in terms of section 38(8) of the National Heritage Resources Act as contemplated by the EIA process in terms of section 24(4)b(iii) of NEMA: • The KML file or the map in the HIA must be revised to map the correct boundaries of the proposed development. • The SAHRA requests that the DEIR be uploaded to the application.		

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			Further comments will be issued upon receipt of the above requested report. Should you have any further queries, please contact the designated official using the case number quoted above in the case header.		

5.5 Limpopo Department of Transport and Community Safety (LDTCS)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr James Mlawua, Transport Dep.	Email Correspondence	Tuesday, 24 June 2025	Good day Kindly forward this email to the department of Environmental Affairs and the department of water affairs.	To whom it may concern, Please note that the email was sent to the relevant departments as per your email.	Section 7 Appendix C6

5.6 Department of Health (Waterberg)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			To date, no comments have been received.		

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5.7 Department of Land Reform and Rural Development (DLRRD)

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Nhlamulo Machume, DALRRD	Email Correspondence	30 July 2025	Good day Please include proof of payment R1000 on your submission, banking details are on the attached. Hard copies to be delivered at address on my signature.	Kongiwe acknowledged receiving the email containing the comments and attached SALA Tariffs. Please note that Kongiwe is not undertaking an application related to the subdivision of agricultural land. Instead, we are conducting an Environmental Authorisation (EA) application in terms of Section 102 of the Mineral and Petroleum Resources Development Act (MPRDA), specifically for the reclamation and processing of a Tailings Storage Facility (TSF) located within the existing mining area. SALA tariffs are generally not applicable in this context, as the EA process does not involve agricultural land use or any subdivision thereof. The TSF reclamation project: ❖ Does not pertain to agricultural land ❖ Does not propose subdivision for agricultural purposes ❖ Is situated on land zoned for mining activities, not agricultural use	Section 3.2

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				Therefore, the provisions of the Subdivision of Agricultural Land Act (SALA) and its associated tariffs do not apply to this project.	

5.8 Department of Water and Sanitation

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Comments received during a meeting with DWS regarding a Waste Record of Decision (RoD)					
Ms Mphaphuli	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Ms Mphaphuli informed the attendees that she wished to first share with her colleague, Mr Malise, the questions that Kongiwe intended to raise with the DWS. She explained that this was to ensure that all parties were fully informed, aligned, and able to continue the discussion in a coordinated and clear manner. She proposed that Mr Cornish-Bowden first share the presentation and thereafter discuss any questions.	Mr Cornish-Bowden acknowledged the request and proceeded to present the proposed Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project (Proposed Project).	Appendix C8
Ms Mphaphuli	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Ms Mphaphuli noted that the presentation was informative. She mentioned that this was her second time receiving the presentation, as an earlier session had been held, which ultimately led to the convening of the current meeting. She further indicated that some clarifications had	Mr Cornish-Bowden thanked Ms Mphaphuli for her remarks.	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			already been sought from the DWS regarding the checklist. She then handed the discussion over to DWS.		
Mr Noe Malise (Mr Malise)	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise thanked Ms Mphaphuli. Mr Malise wanted to know from Kongiwe, which waste storage facility the applicant intends to apply for, requesting clarity in simple terms.	Mr Cornish-Bowden responded by referring to the map of the Amandelbult Mine Complex TSFs. He explained that the complex consists of several tailings storage facilities (TSFs), all of which are described in detail in the Environmental Impact Assessment (EIA). He clarified the following: • The original TSF (Dam 1) is an existing but dormant facility and is not the target for reclamation. • Adjacent to it is TSF Dam 2, followed by two smaller facilities, Dam 3A and the larger active facility, Dam 3B, which is currently receiving deposition. • TSF Dam 2 is the only facility targeted in the current application. It is an existing but inactive (dormant) TSF with no ongoing deposition. The project involves reclaiming and reprocessing material from TSF Dam 2 through the existing plant. Once valuable fractions (chrome and PGM content) are extracted, the remaining material will be deposited back onto the active TSF Dam 3B.	Appendix C8 Section 3.5

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise sought further clarity and asked whether the TSFs, including the specific TSF under discussion, currently hold an approved Water Use Licence (WUL).	Mr Cornish-Bowden confirmed that all the TSFs within the Amandelbult Complex are fully licensed. He stated that the facilities are monitored in accordance with Global Industry Standard on Tailings Management (GISTM) requirements and all operations fall within the existing authorised mining area. He emphasised that the project does not involve applying for a new TSF or initiating any new waste-related infrastructure. The activity is limited to reclaiming material from TSF Dam 2, processing it, and depositing the residue back into the already licensed operational TSF.	Appendix C8 Section 3.5
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise noted that the primary objective is to recover and remove waste materials from TSF 2 for PGM and Chrome mineral recovery purposes. He further stated that all resultant unwanted waste material will be transferred from the site to TSF 3B for deposition.	Mr Cornish-Bowden confirmed this understanding and acknowledged the comment.	Appendix C8 Section 3.5 Section 3.5.9
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise requested clarity on the construction of the slurry transfer station, specifically asking how it will be built and what components it will contain.	Mr Cornish-Bowden explained that the slurry transfer station is essentially a pump station equipped with screening facilities. He clarified that the core function is pumping rather than any storage. He added that a schematic layout could be provided upon request. He noted that slurry arriving from the TSF is liquefied and may contain vegetation or organic materials. The	Section 3.5.9 Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				screening unit removes this material before the slurry is pumped through the pipeline system. The transfer station effectively serves as the link between the high-pressure water hose / barge system and the processing facilities. He further explained that the barge receives "rough slurry," which may include roots or organic matter from vegetation on the TSF. While larger vegetation is cleared beforehand, some roots or organic material may still be present within the tailings. The slurry transfer station screens this rough slurry and pumps it forward as a more refined liquid.	
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise sought confirmation on whether the existing infrastructure related to the project is already authorised and licensed.	Mr Cornish-Bowden confirmed that all existing infrastructure is fully authorised and licensed. He noted that although new PCDs were initially planned for this area, the current PCDs will be utilized instead due to their proximity to the slurry transfer station. He pointed out the locations of the existing PCDs on the map and reiterated that these are licensed and fully compliant facilities.	Section 4
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise asked whether TSF 2 would be used again in the future once all material has been removed.	Mr Cornish-Bowden explained that the current land-use plan does allow for the potential future use of TSF 2. The area forms part of the existing, approved TSF complex, which means that if future deposition is	Section 3.5.1 Section 3.5.7

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				required, it can be accommodated without opening new greenfield sites or creating additional environmental impact. He added that any future use would depend on a needs assessment at that time. If no further use is required, TSF 2 would be rehabilitated to its pre-TSF condition. This would involve clearing the area to natural earth, applying topsoil, and undertaking full rehabilitation.	
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise expressed concern that if the area were to be used in the future for the development of a new facility, such as a potential TSF 4 or TSF 5, this would constitute a new activity and therefore require the appropriate authorisations and permits.	Mr Cornish-Bowden confirmed that any future development of that nature would indeed require the necessary permitting processes. He explained that such a decision would follow a needs assessment, a legal review, and a gap analysis to determine all applicable requirements at that time. While the area is intended for potential future use, any activity would still be subject to the legal and regulatory framework in place at the time of application.	-
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise sought confirmation that all final material produced after processing will be deposited at the Dam 3B.	Mr Cornish-Bowden confirmed that this understanding is correct and that all final processed material will indeed be deposited at the Dam 3B.	Section 3.5.9
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise requested clarification on whether TSF Dam 3B has sufficient capacity to accommodate the material that will be deposited on it. He also asked whether stability assessments have been	Mr Cornish-Bowden confirmed that TSF Dam 3B has adequate capacity for the planned material deposition. He stated that the facility is active, continuously	-

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			conducted to confirm that the facility can withstand the additional load.	monitored, and that the relevant assessments indicate it can safely accommodate the expected load.	
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise asked whether, during the scoping report phase, comments were obtained from the Department of Water and Sanitation (DWS) regional office regarding this activity.	Mr Cornish-Bowden confirmed that comments were indeed sourced from the DWS regional office during the scoping phase.	Section 7
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise noted that, based on the presentation and the current authorisations in place for the existing infrastructure, it appears that the activity may not require a new water use licence authorisation. He stated that the infrastructure involved is already authorised and that the activity largely involves removing constructed infrastructure that has existing approvals. He advised that, for procedural certainty, the applicant should still submit the planned documentation in December. Once received, the Department will review the activity in full. Should the Department conclude that no authorisation is required, a letter will be issued to the DMPR indicating that the activity has been reviewed and does not necessitate a Waste RoD, allowing the activity to proceed within the current EIA process.	Mr Cornish-Bowden explained that the assessment and legal interpretation indicate that the project involves the reprocessing of existing mine residue to extract remaining minerals and managing the resultant waste material. He clarified that no new facility is being established that would trigger a Water Use Licence requirement. He emphasised that the Environmental Authorisation (EA) Application remains linked to the Waste Licence process and the Section 102 Amendment, which necessitates a Waste RoD. He further explained that, for clarity to the DWS, the Applicant (Valterra) has indicated that no Section 21(c), (i) or (g) water use activities are applicable. He also added that the RoD checklist will compile all supporting documentation relevant to the EIA process, including layout plan representing both the Waste Licence and EIA application requirements.	Section 3.5 Section 3.2

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				He highlighted one key point for clarification: the engineering requirements normally associated with a Section 21(c) or (i) WUL application are not relevant as there is no such application being made. He noted that Section 21(c) or (i) applications require detailed, engineer-signed drawings, but in this case, there is no such application being made and as such no activity that would require such drawings. As such, Mr Cornish-Bowden stated that the applicant will submit EIA-level design information, including the proposed layout, which is appropriate for the nature of the activity. In the detailed checklist within the application, the team will reference the relevant layout plans and provide justification where formal engineered drawings are not applicable. He sought confirmation that this approach is acceptable and aligned with departmental expectations.	
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise noted the proposed way forward and indicated that he was not in disagreement but did recommend that Kongiwe submit all available information, including any studies you have, and then we can proceed from there. Regarding water usage, you previously mentioned using return water dam but then moved away from that option. Mr Malise wanted clarification regarding the source of water for the process.	Mr Cornish-Bowden noted that water for the process will be sourced from the existing licensed process water system. There is currently an approved water abstraction in place, and no new water sources will be required. The same process water will be reused and recycled within the site operations.	Section 3.5.6 Section 4.4.1

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Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise confirmed that, based on the current understanding, no new infrastructure or activities that require WUL are planned. The process will involve the recirculation of existing resources and the deposition of materials classified as waste onto areas that have already been authorised.	Mr Cornish-Bowden confirmed that the approach, as no additional infrastructure is required for these activities.	Section 4.3
Mr Malise	Online Meeting (Microsoft Teams)	Thursday, 13 November 2025	Mr Malise advised that all available documentation should be submitted for review, including any relevant studies. Based on the current plans and the fact that some infrastructure has been removed, Mr Malise wanted confirmation if there was an intention to apply for new Section 21(c) or amendments to the existing license related to Section 21(c) and (i).	Mr Cornish-Bowden confirmed that no new applications or amendments under Section 21(c) or (i) will be required, as the activities will utilise existing authorised infrastructure.	Section 3.2.1

6 Interested and Affected Parties

Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Comments during the Scoping Report (SR) Phase					
Comments raised during an Online Meeting with the Broader Stakeholders, 27 June 2025.					

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Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink enquired whether Valterra Platinum Limited is the applicant for the proposed project.	Ms Fiehn acknowledged that the applicant is Valterra Platinum and explained that they are part of a holding company, Rustenburg Platinum Mines. She further clarified that the company was previously known as Anglo American Platinum and now is operating as Valterra Platinum.	Section 1.2.1
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink complimented the presentation, stating that it was concise, and proceeded to ask, since the project is currently in the draft scoping phase, would ground quality assessment and air quality assessment be conducted.	Mr Ceronio confirmed that groundwater and air quality assessments would be conducted for the proposed project and proceeded to highlight all the specialist studies that would form part of this project.	Section 8 Section 10
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink acknowledged the proposed specialist studies and informed attendees that she is part of a dialogue on Public Participation with Good Governance Africa. She noted that Public Participation was a key issue discussed and believes there is a universal agreement that the process remains flawed. She clarified that the comment was not directed at Kongiwe nor the current project. She further explained the process is often viewed as a tick-box exercise, lacking	Mr Ceronio acknowledged Ms Liefferink's comments and assured her that the project team had taken note of them. Mr Ceronio informed Ms Liefferink that the Background Information Document (BID) had been distributed to the local communities surrounding the project area and that multiple community engagements had taken place in alignment with project information. Mr Ceronio further explained that two public meetings had already been held with local communities, during	Section 7 Appendix C6

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			engagement with marginalised and vulnerable communities. Ms Liefferink added that many communities remain disempowered and emphasize the need to educate them on both potential benefits and risks of the project. Specifically, she cautioned against creating unrealistic expectations around job creation, pointing out that, as this is a reprocessing activity, significant job opportunities are unlikely. Ms Liefferink suggested that these concerns be taken into consideration and acknowledged Kongiwe's efforts to prepare non-technical reports, which she supports, especially for the benefit of disempowered communities.	which the presentation was translated into Setswana and Xhosa, as required. Additionally, the team had engaged directly with those communities and had placed site notices and distributed BIDs where possible.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink acknowledged that Mr Ceronio had addressed the points on his presentation and clarified that she was not criticising Kongiwe's Public Participation Process (PPP). Instead, she was highlighting common gaps that often occur during consultation, particularly when engagement is limited to gatekeepers or politicians, while the broader community's voice is often not adequately heard or considered.	Mr Ceronio confirmed that the life of mine is indeed 20 years. Mr Ceronio requested to give Ms Fiehn the opportunity to respond to concern about mine closure. Ms Fiehn explained the history of Rustenburg Platinum Mines, dating back to its registration in 1931. She noted that following the demerger from Anglo	Section 2.2.8 Section 2.2.10

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			Ms Liefferink added that she wanted to raise a point discussed during the meeting she previously had that communities should be empowered to consider not only short-term benefits, but also at medium and long-term opportunities. These include sustainable land use after the life of mine, and intergenerational equity issues, and livelihood opportunities beyond the life of mine. She added that she noted from the presentation that the life of mine is 20 years. Ms Liefferink reiterated that her comments were not intended as criticism of PPP. She raised concern regarding the acquisition of Rustenburg Platinum, the holding company, of Valterra Platinum, from Anglo-American. She explained in the past, there have been concerns about a practice referred to as ''pass the parcel', where large mining companies, near closure, sell operations to smaller entities to avoid fulfilling their closure obligations. She expressed hope that Valterra Platinum, under Rustenburg Platinum, would possess the	American, Rustenburg Platinum Mines and Anglo-American Platinum transitioned into what is now known as Valterra Platinum. Ms Fiehn clarified that Valterra is not a new company, nor sold by Anglo American platinum. Rather, it resulted from a demerger from the larger Anglo-American group, where Anglo American Platinum changed its name to Valterra Platinum. Ms Fiehn emphasised that they still operate as Anglo American Platinum did, and closure objectives and requirements remain unchanged. She further stated that the values and standards associated with Anglo American Platinum are still upheld by Valterra Platinum, and there has been no change in their mine closure objectives.	

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			necessary skills and financial resources, such as those of major mining companies like Anglo, to close operation responsibly at the end of life of mine. She also referenced the broader complex what is often referred to as the ''complex corporate case''.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink acknowledged Ms Fiehn's response and mentioned that it was both helpful and encouraging. Ms Liefferink asked who would ultimately be responsible for mine closure and rehabilitation objectives, noting that such responsibilities are often unclear within complex corporate structure. Specifically, she asked whether it would be Valterra or the holding company that holds accountability	Ms Fiehn clarified that Rustenburg Platinum Mines is the official applicant and that Valterra Platinum is the subsidiary. All operations are registered under Rustenburg Platinum Mines. She further confirmed that Rustenburg Platinum Mines, operating as Valterra Platinum, will be fully responsible for all closure and rehabilitation obligations.	Section 2.2.8
Mr Foord Ceronio, Kongiwe	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Mr Ceronio suggested that Ms Liefferink is welcome to submit her concerns in writing, assuring her that will be thoroughly addressed and that more detailed responses can be provided.	Ms Liefferink responded that the answers provided were sufficient. She explained that, as an NGO, they receive a high volume of applications and often lack capacity to submit written comments or address each matter comprehensively. She expressed appreciation for the opportunity to participate in virtual meetings and noted that her questions are not intended to be	-

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				difficult, and she is confident that the team will be able to respond to them.	
Ms Dineo Peta, Independent Trustee, Mantserre Community Development Trust	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Peta raised a point regarding consultations with specifically affected communities, noting that the meeting scheduled with the Baphalane Ba Mantserre community on Monday, the 23rd, did not proceed. She pointed out that during this presentation; there was no mention of when this meeting had been rescheduled. Her understanding is that it has been moved to 12 July, and she requested confirmation of this date.	Mr Ceronio confirmed that the meeting was to be rescheduled to the 12th of July 2025.	Section 7: 7.4.5.7 Table 7-2
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink stated that, with regards to the reclamation operations, she assumes that there is no mining right required, only a waste license and water use license. She further assumed that the materials to be reclaimed would include residual chrome and platinum group metals, including platinum.	Mr Ceronio responded by explaining that a mining right amendment is currently being undertaken to incorporate the reclamation activities into the mining works program. He further confirmed that Ms Liefferick assumptions were correct, that the material reclaimed include PGM metals and chrome.	Section 1.2.1 Section 2.2 Section 2.2.4
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink stated that a mining right is not necessary for reclamation activities. She explained that, under the National Policy for the Reuse of Deposited Residue and Associated Activities (NPRDA), reclamation is not considered mining.	The project team noted this. Ms Fiehn, explained that a Social and Labour plan is in place and would be implemented for this project.	-

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			she referenced a Constitutional Court case that supported this interpretation and noted that, at present, such activities still fall under the Waste Act. She further mentioned that while the Industrial Council has proposed that these materials be classified as resources rather than waste, that the debate is still ongoing. She proceeded to explain that the issue is important because, if no mining right is required, there would be no requirement to develop a social and labour plan (SLP). For this reason, she encouraged the applicant to consider pursuing initiatives under Corporate Social Investment (CSI) to support and benefit the surrounding communities.		
Mr Mpho Mutobvu, Environmental Specialist, Northam Platinum Mine	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Mr Mutobvu inquired whether the tailings dams are located left of their Northam Platinum shaft. Mr Mutobvu noted their interest in reviewing the potential impacts of the proposed activity, particularly concerning their operation and the stability of the area. He mentioned that they are aware that Valterra had conducted a dam break	Mr Ceronio demonstrated on the map the location of the proposed project in relation to Northam Platinum shaft. Ms Fiehn responded that, as part of their pre-feasibility studies, they are actively considering stability aspect to ensure compliance with GISTM (Global Industry Standard on Tailings Management) requirements. She also noted that as the remaining	Section 2: Figure 2-4 Figure 2-5 Section 2.2.3

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			failure mode assessment, and the report was shared with them. Additionally, he enquired whether any new infrastructure would be constructed that might affect their property. He further requested that any relevant details be shared with them.	activity progresses, ongoing assessments will be conducted to monitor and manage stability throughout the project. Mr Ceronio stated that all infrastructure would be situated within the existing mining area of Amandelbult. He further stated that he does not believe the proposed infrastructure will have any impact on Northam Platinum operations. He also informed Mr Mutobvu that the draft scoping report, which contains more detailed information, is available for review on Kongiwe's website.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink raised a general concern regarding the format of public participation meetings in general, stating that they are often conducted in a formalistic manner. She noted that stakeholders are typically given only 10 minutes for questions and answers, which they object. She emphasised that serendipitous input, unplanned but valuable contributions, should be encouraged, as previously mentioned. She added that this view is supported by the recommendations of Dr Lippert, a social scientist.	Mr Ceronio assured Ms Liefferink that she should feel free to take as much time as she needs for her questions and that he is more than happy to respond to all of them as thoroughly as possible.	-

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Mr Thabo Moyo, Stakeholder Engagement Manager, Valterra	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Mr Moyo added to Mr Ceronio's response, stating that he completely disagrees with the claim about a 10-minute limit for questions. He explained that, from the start of the session, the audience were informed that they were welcome to raise their hands and ask questions at any time, and the presentation would pause to address them. According to him, attendees are given ample opportunity to engage, and the process is designed to encourage active participation. He emphasised that, while these are termed public participation meetings, they are intended to be two-way dialogues, not one-sided presentations. He concluded by stating that he is unsure where the idea of a 10-minute limit originated.	Mr Ceronio apologised and clarified that it was not his intention to interrupt the meeting or limit participation in any way. Ms Liefferink responded by assuring Mr Moyo that there was no issue at all. She acknowledged that she has always been given the opportunity to raise her organisation's questions and concerns.	-
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink noted that, since Valterra and Rustenburg Platinum mine are aligned with or subscribing to GISTM principles, meaningful consultation is expected, and she believe such dialogue is indeed taking place. However, she emphasized that GISTM also highlights the importance of incorporating suggestions from project-affected communities	Mr Ceronio agreed with Ms Liefferink's comments and confirmed that an air quality impact assessment is currently being undertaken. He stated that the assessment will specifically evaluate PM2.5 and PM10 dust fallout resulting from both hydraulic and mechanical reclamation methods.	Section 2.2.4 Section 8.9 Section 9.2 Section 10.3: Table 10-1

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			into the actual decision-making process. She expressed hope that some of the community's input will meaningfully influence decisions going forward. Regarding mining methods, she noted that while hydraulic mining may help reduce dust fallout, mechanical mining could potentially worsen it. She mentioned that she is a member of the Bojanala Waterberg Air Priority Stakeholder Group and is aware of existing non-compliances, adding that the air quality in the region remains a concern. Ms Liefferink added that she would like to ask whether the applicant has an abatement plan in place. She also enquired if it would be possible to receive information on the air quality monitoring results, or whether that information will be shared at the next Bojanala Air Quality Priority Area stakeholder group meeting. In addition, she expressed interest in the project's air emissions licence and requested clarity on the monitoring parameter; specifically,	Post meeting comment: RPR AMB does not have an Air Emissions Licence as this Licence is not required for this operation.	

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			whether they include PM2.5, PM10, ozone, NOx, and sulphur dioxide. She further asked whether the proposed mechanical mining process might exacerbate dust fallout, although she acknowledged that this issue may be addressed during the Environmental Impact Assessment (EIA) phase.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink noted that since the project involves reprocessing or reclamation and the footprint may be reused for re-dumping, the activity cannot be classified as a rehabilitation project. It should be regarded strictly as a reclamation process. She further referenced Mr Foord's earlier statement indicating that the re-dumping aspect will still be assessed, suggesting that there is currently some uncertainty surrounding it. She then asked whether this uncertainty will be reflected in the EIA as a gap or issue requiring further clarification.	Mr Ceronio stated that by the time of the EIA, there will hopefully be a clearer direction regarding the proposed post-activity land use. He confirmed that, at present, re-deposition onto the same footprint is being considered. He also agreed with Ms Liefferink 's point, clarifying that this is not viewed as a rehabilitation activity, but rather as a reclamation activity.	Section 2.2.2 & 2.2.8
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink acknowledged Mr Ceronio response and further explained that she observed gold mines involved in the reprocessing activities often incorrectly classified reprocessing as	Ms Fiehn stated that, the applicant does not sell material to chrome washing plants. She assured that the matter will be further investigated to confirm this with 100% certainty. She emphasized that, as it currently stands, all material is directed to credible and authorised facilities. She added that detailed	-

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			rehabilitation. She emphasized that this classification raises significant concerns. She noted that Sibanye has recently developed a blueprint for nature-positive projects within the Magaliesberg Biosphere, an effort that highlights the importance of responsible post-mining land use. She also pointed out that the area is facing challenges, including the presence of numerous illegal chrome washing plants, which further complicates environmental management and regulatory compliance. Ms Liefferink clarified that while the project is not located within the Magaliesberg Biosphere but rather in the Waterberg area, she would still like to raise a related concern. She asked whether the applicant sells any of its material to chrome washing plants. If so, and if those plants are operating illegally, she emphasized that the applicant has a responsibility under the cradle-to-grave principle to ensure that its materials are not sold to unlicensed or non-compliant chrome washing operations. Alternatively, she asked for	information regarding this will be included in the Comments and Response Report. Post Meeting comment: the chrome product is exported and sold to various credible chrome buyers within the global chrome market. It is not sold to chrome washing plants. Our Marketing department deals with this	

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			clarification on whether the applicant does not sell to chrome washing plants at all.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink noted that, although the National Mine Closure Strategy is still in draft form, its objective is to promote a regional approach to managing cumulative impacts, while also encouraging the development of economic diversification and succession during the life of mine. She asked whether the applicant is taking this into consideration and whether they are proposing any economic succession or diversification initiatives as part of their project planning. Ms Liefferink continued by referencing the NPRDA regulations, emphasizing that closure planning should begin at the start of operations and continue throughout the life of the mine. She stressed that, during the operational phase, there should be a focus on developing alternative economic activities so that, when the mine eventually closes, there are already viable livelihoods in place. These could include subsistence farming, artisanal, or small-scale mining, among others. She underlined that this	Ms Fiehn responded that they are busy with extensive closure planning focused on concurrent obligations and long-term closure. She mentioned that they previously worked with Anglo American on a project looking at alternative land uses to support local communities. While they are not yet doing regional engagements, it is a focus area that they are driving internally, and they regularly update their plans. Ms Marvey added that they have adopted the Anglo American Mine Closure Toolbox, which addresses the social, environmental, economic, and regulatory aspects raised by Ms Liefferink.	-

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			approach should be progressive and concurrent with the mine's lifespan, not left until the end. Ms Liefferink concluded by emphasizing that it is therefore essential to address economic diversification activities during the life of the mine, not just at closure. She highlighted that the Draft National Mine Closure Strategy encourages mining companies to collaborate regionally, particularly with other operators in the area—such as Sibanye and Impala—to align: ❖ Financial provisions ❖ Social and Labour Plans (SLPs) ❖ Environmental Management Programme Reports (EMPRs) ❖ Closure plans		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink asked where the reclaimed material will be deposited and queried whether it will be deposited on Dam 2.	Mr Ceronio confirmed that the material will be removed from tailings storage facilities (TSF) dam 2 and deposited onto Dam 3B currently in operation.	Section 2.2: 2.2.1 2.2.2

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Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink asked what the risk categorisation of Dam 3B will be with the additional deposition. She referred to the GISTM standards, noting that dams are classified by risk level—such as high or extreme. She specifically asked how the risk categorisation for catastrophic failure might change as a result of the added material.	Ms Fiehn informed Ms Liefferink that they will need to follow up on the specific risk categorisation. She explained that as part of the process, they are assessing additional rates of rise and any implications. She noted that they are not mining as intensively as when Dam 3B was initially developed, so the rates of rise may not exceed current limits. She said they will get feedback from MRM but confirmed that all impacts related to the remining process are being considered in line with GISTM requirements. Post Meeting Comment: The rate of rise for TSF No. 3B was assessed by SRK as part of the stability evaluation. This assessment informed the remining rate, which has been set at 325 ktpm to ensure that the rate of rise remains within an acceptable limit of 2.5 metres per year.	-
Ms Dineo Peta, Independent Trustee, Mantserre Community Development Trust	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Peta noted that page 12 of the BID refers to Section 102 amendments to the mining rights and mine works programme, while page 14 addresses infrastructure. She asked if the infrastructure development would require additional labour, either employees or contractors, and whether this would necessitate an amendment to the Social Labour Plan (SLP) to	Ms Fiehn responded that the infrastructure to be developed is already within their mining right footprint and that they will fulfil all SLP obligations, aligning construction work to be sourced from local entrepreneurs. She further explained that the mine works programme will be amended to include tailings reclamation as a resource source, confirming this as the basis for the programme change.	Section 2.2.3

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			account for these additional human resources and supply development. She also inquired about the extent of the amendments to the mine works programme, as she understood it would include expanding the mining footprint, even if outside the current mining area.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Ms Liefferink thanked Ms Fiehn and her team for the applicant's direct involvement in the process, noting that applicants often do not attend meetings and only send their consultants.	Mr Ceronio thanked Ms Liefferink and asked if there were any further comments or discussions needed.	-
Mr Mpho Mutobvu, Environmental Specialist, Northam Platinum Mine	Online Meeting (Microsoft Teams)	Friday, 27 June 2025	Mr Mutobvu asked if the presentation could be shared. He advised the project team that, historically, it was easier to first present to leadership structures such as business chambers, traditional leaders, and other groups before sharing information with the broader community. This approach helped them manage the community effectively, as informed leaders can help control distractions during meetings.	Mr Ceronio informed the attendees that the presentation will be shared and acknowledged Mr Mutobvu's advice. Ms Fiehn added that they had met with the leadership forum and presented the project to them two months ago, so the leadership is already informed about the project.	Section 7: 7.4.5.2 & 7.4.5.3
Comments raised during the Public Participation Meetings from the 23rd and 24th of June 2025 (Thabazimbi and Baphalane Ba Ramokoka communities).					
Mr Steven Lerumo,	In-Person Meeting	Monday, 23 June 2025	Mr Lerumo expressed concern that the community is being used merely as a rubber	Mr Moyo explained that the community would be given opportunities in accordance with the Social and	Section 8.9

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Community Member			stamp by the mine in its efforts to obtain Environmental Authorisations (EAs) for its operations. He emphasised the need for genuine community involvement in decision-making processes, rather than token consultation. He specifically requested that the air quality specialist conduct a thorough assessment of the potential impact of dust emissions from nearby platinum mines on the health and well-being of the community. Mr Lerumo highlighted the importance of community upliftment, noting that no novices from the local community are currently employed at the mine. He stressed the need for local employment opportunities, particularly for young and unskilled community members. Furthermore, he urged that local Small, Medium and Micro Enterprises (SMMEs) be given meaningful opportunities to participate in and benefit from the Proposed Project.	Labour Plan (SLP). He further highlighted the Corporate Social Responsibility (CSR) initiatives, including the water project that Rustenburg Platinum Mine (Pty) Ltd (AMB) built for the community of Smash Block. Kongiwe noted the request to conduct an air quality assessment. Post Meeting Note: An air quality impact assessment in accordance with the proposed project is being undertaken by a qualified specialist. The findings of this report will be used in the drafting of the EIA and the Environmental Management Programme (EMPr).	Section 10

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			Lastly, Mr Lerumo expressed gratitude for the Environmental Impact Assessment (EIA) study, noting that there are areas of heritage and biodiversity value within their community that need to be protected and considered in the planning and execution of the project.		
Mr Bosney Mashau, PR Cllr	In-Person Meeting	Monday, 23 June 2025	Mr Mashau also enquired how the community of Smash Block would benefit from the Proposed Project, expressing frustration that the community has consistently supported the mine in acquiring its licenses, yet has not seen any tangible benefits in return. He further highlighted the high unemployment rate in the area and emphasised that community members should be given meaningful opportunities as part of the project.	The project team noted this and Mr Moyo reiterated the comment he previously mentioned.	-
Mr Xolani Thethwa, Community Member	In-Person Meeting	Monday, 23 June 2025	Mr Mthethwa expressed dissatisfaction with Rustenburg Platinum Mine (Pty) Ltd (AMB) for repeatedly bringing in different consultants who, when approached for feedback, state that they have completed their work and no longer represent the mine. Regarding water, Mr Mthethwa stated that the water boreholes provided by Rustenburg	Mr Moyo stated that the Integrated Development Plan (IDP) is the primary source through which the mines are informed of the community's needs, and that the mine aligns its initiatives with the municipality's wish list for the community. He advised the community to ensure that their list of needs and priorities is aligned with those of their municipality.	-

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			Platinum Mine (Pty) Ltd (AMB) are not of acceptable consumption standards, and many people in the community have fallen ill as a result. He added that the community feels the public participation process (PPP) is merely a means for the mine to obtain a licence, rather than a genuine effort to address the concerns of the people, particularly in relation to job creation. Lastly, he requested that Rustenburg Platinum Mine (Pty) Ltd (AMB) build roads and a high school for the community.	Mr Molefe further explained that the process of constructing a road as a private entity is challenging due to lengthy application procedures. He cited the example of the M11/N11 road, noting that applications and discussions began long ago, yet approval has still not been granted, as the road falls under the jurisdiction of the public sector. Mr Molefe additionally indicated that the consultants are independent, and their mandate is specific to the proposed project. Once the process has been completed and the consultant's scope of work is completed, they are no longer involved. Various consultants are brought in to assist on projects to ensure the independence of the consultants from the AMB operations.	
Community Member	In-Person Meeting	Monday, 23 June 2025	A community member expressed concern that local residents are not being offered employment opportunities, while such opportunities are being given to foreign nationals. The member also noted that, despite participating in the PPP for the project, the community has not seen any tangible benefits.	Mr Moyo stated that he was not aware of the issues raised and assured the community that the matter would be discussed further with the relevant community members.	-
Youth chairperson	In-Person Meeting	Monday, 23 June 2025	The Youth Chairperson expressed disappointment, stating that the mine has failed	Mr Moyo requested that the Youth Chairperson select five representatives from the youth organisation to	Section 1.2

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			both the community and the youth. He requested that the mine provide local SMMEs with opportunities to enter into joint ventures with other contractors, noting that the community has many capable entrepreneurs. He also inquired whether Kongiwe has employed any members of the community. Furthermore, he warned that if the community's requests are not adequately addressed, the Proposed Project may face delays or may not commence at all.	meet at the mine for further discussions on the issues raised. He clarified that Kongiwe is hired by Rustenburg Platinum Mine (Pty) Ltd (AMB) solely to undertake the EIA process for the Proposed Project on behalf of Rustenburg Platinum Mine (Pty) Ltd (AMB). Mr Molefe indicated that Kongiwe is independent and not part of Rustenburg Platinum Mine (Pty) Ltd (AMB), and that Kongiwe is not undertaking any mining activities. He indicated that the employment opportunities will be managed by Rustenburg Platinum Mine (Pty) Ltd (AMB).	
Ms Magret Low, Community Member	In-Person Meeting	Monday, 23 June 2025	Ms Low enquired about the process for local SMMEs to be included on the mine's vendor database.	Mr Moyo explained that Ms Low should liaise with the Social Performance office, assured her that the process is straightforward and should not take long.	-
Mr Ratau, Bojating Traditional Council	In-Person Meeting	Tuesday, 24 June 2025	Mr Ratau enquired about the public locations where the Draft Scoping Report and the Background Information Documents (BIDs) were made available. He noted that Ramokokastad was excluded from the list of communities that received these documents, and he requested that the documents be shared with the communities around Ramokokastad.	Mr Ceronio informed Mr Ratau that the Draft Environmental Impact Report (DEIR) and Environmental Management Program (EMPr) can be made available at Ramokokastad for public review, in the EIA phase.	Section 7: Section 7.5

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			He requested Ramokoka Clinic, Aphathi Shop and Taxi rank to be included.		
Mr Moses Matshaba, Community Member	In-Person Meeting	Tuesday, 24 June 2025	Mr Mashaba requested that the BID and the presentation be shared with the community members and the traditional council to allow for a better understanding of the Proposed Project.	Mr Cerenio explained that the Background Information Documents (BIDs) were available at the registration table and confirmed that the presentation would be shared electronically.	Section 7 Appendix C3
Community Member	In-Person Meeting	Tuesday, 24 June 2025	A community member asked where Valterra is sourcing their water from, highlighting that the community is currently facing water shortages.	Ms Marvey explained that Valterra water supply comes from Magalies Water; however, the mine is also experiencing water challenges. She noted that the Magalies Water treatment plant is currently broken, which is contributing to the water issues. Consequently, the operation relies on recycled water to sustain its activities. Post Meeting Note: The proposed project will receive process water from existing mine water sources on site. This will be the existing and operational concentrator plant, the existing and operational return water dam and the holding dam. Process water will be recycled and re-used on site.	Section 2.2.7
Mr Fish Maponyane, Community Member	In-Person Meeting	Tuesday, 24 June 2025	Mr Maponyane requested that the agenda of the meeting be shared with him and inquired who the applicant of the Proposed Project.	Mr Moyo responded that the applicant for the proposed project was Rustenburg Platinum Mines Limited (Valterra).	Section 1.2 Section 2.2.1

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Community Member	In-Person Meeting	Tuesday, 24 June 2025	The community member inquired about the benefits of the Proposed Project to the community.	Mr Moyo explained that Valterra assists the community through the Social Labour Plan (SLP) process and further elaborated on the process in detail. Mr Letebele elaborated on how employment and Small, Medium and Micro Enterprise (SMMEs) business opportunities will be conducted and encouraged the community to review the DSR of the project. He further advised them to align their skills and businesses with the proposed project to increase their chances of benefiting. The municipal representative, Mr Abe Mogashoa further encouraged the youth to upskill themselves and to always align their skills and business ventures with available opportunities. He emphasised the importance of ensuring that their businesses are up to date so that they can be among the first to be considered when opportunities arise. Mr Molefe indicated that Kongiwe is independent and not part of Rustenburg Platinum Mine (Pty) Ltd (AMB), and that Kongiwe is not undertaking any mining activities. He indicated that the employment	-

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				opportunities will be managed by Rustenburg Platinum Mine (Pty) Ltd (AMB).	
Community Member	In-Person Meeting	Tuesday, 24 June 2025	The community member requested contact details of the municipal representative to submit their requests.	The municipal representative provided their contact details.	-
Comments raised during the Public Participation Meeting on the 11th of July 2025 (Mantserre communities).					
Mr Vincent Mogale, Community Member	In-Person Meeting	Friday, 11 July 2025	Mr Mogale stated that there was an issue regarding a Section 104 application, which has not been addressed. He noted that the agreement in this section stipulates that the community should benefit a percentage from the project. Mr Mogale expressed that the communication regarding the meeting was not well distributed and further indicated that the meeting should have been held at Mantserre's community main office hall, as one bus was not sufficient to transport the entire community.	Mr Letebele explained that the Section 104 matter, concerning the community's percentage and benefit, is covered in the lease agreement that can be accessed through the Mantserre Community Development Trust lawyer. Additionally, he stated that communication issues would be addressed and improved. He added that they would liaise with all the headmen in the 10 communities of Mantserre to ensure effective information dissemination and to make sure that everyone who wishes to attend the next meeting is given the opportunity to do so.	-
Mr Mokgosi Ralehoko, Youth League	In-Person Meeting	Friday, 11 July 2025	Mr Ralehoko inquired whether Kongiwe would upskill the youth in the surrounding community to enhance their employment prospects.	Mr Letebele explained that it is Valterra's intention to develop and upskill the youth. He added that training sessions have already been conducted, and discussions are ongoing regarding the provision of	-

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				portable skills, with the Mantserre community scheduled for inclusion.	
Mr Peter Boikhutso, Youth League	In-Person Meeting	Friday, 11 July 2025	Mr Boikhutso said that they are not stakeholders but landowners of the place where the proposed project is to take place and expressed concern that they were not being taken seriously. He stated that they do not wish to obstruct project progress but raised concern about the high unemployment rate in the Mantserre community, while members of the Xhosa tribe are fully represented at the mine and training centre. He added that Mantserre community is not properly represented at the mine. He said that Mr Letebele should inform Valterra management that the community demands 80% of the profit made from the proposed tailings dam; if not, they will stop all the engagement with the mine, and he further demanded 30% of business opportunities.	Mr Letebele stated that discussions with the management regarding community benefits are still ongoing.	-
Community Member	In-Person Meeting	Friday, 11 July 2025	A community member stated that they are instructing Kongiwe to inform the government that the community is demanding 80% of the profit made on the proposed project.	Mr Cornish-Bowden clarified that Kongiwe's role is to conduct the Environmental Impact Assessment (EIA) Studies and submit the findings to the Competent Authorities (CAs), who will decide whether the project should proceed or not. He emphasised that Kongiwe's	Section 1.2

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				role is to develop the report and submit its findings to government and that the decision to grant an approval is then the responsibility of the Competent Authority. He added that Kongiwe is not in a position to dictate any commercial relationships between the mine and the community. However, they do provide mitigation measures to the project managers to guide them on how to minimise the environmental and social impacts identified during the studies and consultations and the need to work with the community is noted.	
Mr Abraham Mmebe, Community Member	In-Person Meeting	Friday, 11 July 2025	Mr Mmebe inquired about the company responsible for treating the tailings dam. He also asked for clarification on the difference between a Waste Management Licence (WML) and a Water Use Licence Authorisation (WULA).	Ms Fiehn explained that the project is still at the pre-feasibility stage and that no contractors have been appointed yet. The treatment of the tailings is depended on the approval of the proposed project. Mr Cornish-Bowden explained that tailings are considered waste, and therefore, a WML is required for their processing. He added that since water will be used to process the tailings into slurry, a WULA will also be required.	Section 1.2.1 Section 2.3
Mr Mokoka, Community Member	In-Person Meeting	Friday, 11 July 2025	Mr Mokoka requested that future discussions should not involve only the Mantserre Community Development Trust, but the entire community must be included.	The project team noted this.	-

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Mr Phineus, Community Member	In-Person Meeting	Friday, 11 July 2025	Mr Phineus expressed concern that the community was not informed about projects taking place at Haakdorndrift. He said that as the landowner, they should have been formally notified. He emphasised that there is no development in the Mantserre community and highlighted that while several projects have been implemented in Mantserre, the local community has not benefited in terms of job opportunities and that there is no transparency in terms of opportunities.	The project team noted this comment.	-
Mr Dibusang Ramokoka, Community Member	In-Person Meeting	Friday, 11 July 2025	Mr Ramokoka highlighted that Mantserre is experiencing internal issues which involves a Valterra employee. He emphasised that this individual should refrain from interfering in matters concerning the Mantserre community or the Community Development Trust.	Mr Phiri, from the community, clarified to Mr Ramokoka that the purpose of the meeting was not about their internal issue but to focus on the matters related to the proposed project and community engagement.	Section 7
Ms Katlego Shuping, Youth League	In-Person Meeting	Friday, 11 July 2025	Ms Mogalei expressed concern that Anglo-American did not inform the community about its transitioning to Valterra Platinum. She emphasised the importance of transparency and community engagement in such changes and developments. She also raised a concern about the recruitment age range of 18 – 35 years, stating that there are individuals above that age	The project team noted the comment	-

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			who are still active, and in need of employment to support their families. Ms Mogale criticised the current project's remuneration practices, highlighting that the reported wage of R 2000 per month is insufficient and not sustainable for workers. She further expressed that she is knowledgeable and can transfer a lot of skills to the youth with her experience. She asked Valterra Platinum to allow her the opportunity to develop and upskill community members.		
Ms Tsholofelo Sevenster, Community Member	In-Person Meeting	Friday, 11 July 2025	Ms Sevenster expressed dissatisfaction with the way information about the proposed project was distributed, describing it as a failure. She stated that a loud hailer should have been used to announce the project across various communities, and requested that in the next phase, posters be displayed in all local shops to ensure better community awareness. She also criticised the Social and Labour Plan (SLP) requirements, particularly the Grade 12 qualification and the age restriction, stating that	Valterra acknowledged the comment regarding communication process and that it would be improved moving forward. Mr Cornish-Bowden reiterated Kongiwe's role in the proposed project, explained the scope of work, responsibilities, and limitations. He clarified that Kongiwe's role is to facilitate the EIA processes and ensure compliance with relevant procedures and legislation, but Kongiwe does not have the authority	-

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			these criteria exclude many capable community members. She emphasised the need for development initiatives, such as ABET (Adult Basic Education and Training) and FET (Further Education and Training) Colleges, to equip the community with the necessary qualifications and skills for participation in the proposed project. Ms Sevenster raised concerns about SMME training programs that assisted community members in setting up businesses but failed to provide them with actual procurement opportunities to apply their skills or participate in project-related work. She made the following specific requests: ❖ Kongiwe should inform the community about the percentage they will benefit and receive from the proposed project. ❖ Kongiwe should share all communication submitted to the DMRE regarding the community.	to make commercial decisions on behalf of the developer, Valterra Platinum. He further emphasised that Kongiwe does not have the authority to instruct Valterra on commercial aspects of the project, as such decisions lie beyond the scope of Kongiwe's mandate as the EAP. It was however noted that the comments would be recorded and form part of the submission and that recommendations relating to environmental and social mitigation and improvements would form part of the reporting. Post-Meeting Note: It is important to note that there is an existing Social and Labour Plan (SLP) in place, and this project will be implemented in alignment with the requirements and commitments outlined in that document.	

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			❖ Skills development centre be established in Mantserre. Mantserre be prioritised during the beneficiation phase of the project.		
Ms Mathapelo Letlhake, Community Member	In-Person Meeting	Friday, 11 July 2025	Ms Letlhake requested that a copy of the meeting minutes be shared with the broader community members to ensure transparency and inclusivity. She further requested a written and signed agreement confirming community's requests, as raised during the meeting, will be honoured and implemented.	The project team noted this Mr Cornish-Bowden confirmed that a copy of the minutes will be shared once they are compiled and ready, which may take approximately a week to finalise. Post-Meeting Note: It is important to note that there is an existing Social and Labour Plan (SLP) in place, and this project will be implemented in alignment with the requirements and commitments outlined in that document.	Section 7 Appendix C8
Comments during the Environmental Impact Assessment (EIA) Phase					
Comments raised during the Public Participation Meetings from the 09th of October 2025 (Thabazimbi and Baphalane Ba Ramokoka communities).					
Mr Bosney Mashau, PR Cllr	In-Person Meeting	Thursday, 09 October 2025	Mr Mashau indicated that the community had been mobilised to actively participate in public engagement processes, including those related to the Solar Plant project. However, he noted that while the project is currently underway, he	Ms Fiehn clarified to Mr Mashau that the Solar Plant under the Valterra project had been halted, and that any solar development currently underway is not associated with Valterra. She further explained that the Solar Plant project linked to Valterra has not yet	-

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			expressed concern that when employment and contracting opportunities arise, the very community members who participated in these consultations are often excluded from the recruitment and procurement processes.	met the required legal permitting obligations. In particular, she highlighted that substantial work remains to be completed, especially in relation to finalizing the Environmental Impact Assessment (EIA) process.	
			Mr Mashau inquired how Amandelbult was intending to support skills development initiatives, given that the proposed project would require a skilled workforce. He further noted that community members consistently participate in public consultation processes for Valterra projects; however, when recruitment begins, those same participants are often excluded from employment opportunities.	The comment was noted. Mr Letebele responded by stating that recruitment opportunities are communicated through community leadership structures. He further indicated that Valterra is in the process of developing portable skills training programmes aimed at empowering local community members. He emphasized the importance of equipping the community with relevant skills and building their capacity to participate meaningfully in upcoming projects.	-
Ms Malebo Moredi	In-Person Meeting	Thursday, 09 October 2025	Ms Moredi expressed concern that local leadership was failing the community. She alleged that favouritism and bribery were influencing employment processes, making it difficult for ordinary community members to access opportunities. She noted that information regarding the proposed project had been available for some time; however, Ward Councillors had not adequately disseminated this information. As a result, only a limited number of	Mr Letebele stated that the mine is not in a position to intervene in matters concerning community leadership, as it is not within the company's mandate to influence or dictate the selection of leaders elected by community members. He further noted that the mining industry is currently facing a significant contraction and as a result, there has been a substantial reduction in available employment opportunities. The apparent lack of communication from community leadership regarding job openings	-

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			people primarily those who attended the previous Public Participation (PP) meeting were informed. Ms Moredi emphasized that local leaders must take responsibility and stop using the narrative that the mine is not hiring, when in fact recruitment is taking place but the information is not being effectively shared.	may be due to the fact that there are either no opportunities available or only a minimal number.	
Mr George Serole	In-Person Meeting	Thursday, 09 October 2025	Mr Serole requested that the mine consider donating uniforms and providing a regular stipend to the Semane Community Patrol, in support of their community safety efforts.	Mr Letebele clarified that the request submitted by Mr Serole falls within the mandate of the Amandelbult Mine Corporate Affairs and Sustainability Office. As such, the matter will be escalated to the Donations Committee for review and further consideration.	-
			Mr Serole requested the establishment of an Information Centre in Northam to improve access to communication, opportunities, and community resources. He further highlighted that local manufacturing companies, which once played a significant role in job creation, have since ceased operations. He emphasized the need to revive the manufacturing sector in order to stimulate local economic development and reduce unemployment. Mr Serole also expressed the potential of agriculture as a viable employment avenue. However, he noted that the community faces a major constraint in this	The comments were noted. Mr Letebele advised that the concern regarding access to land should be directed to the local government, as it falls within their jurisdiction. He recommended that the matter be escalated through appropriate channels to the relevant municipal departments for consideration.	-

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			regard due to the lack of access to agricultural land.		
Ms Thabisile Mkhabela	In-Person Meeting	Thursday, 09 October 2025	Ms Mkhabela expressed disappointment in the performance of local leadership, stating that community leaders are failing to advocate effectively for job creation. She highlighted the community's growing frustration with ongoing unemployment and stressed the urgent need for intervention, given the high unemployment rate in the area.	The comment was noted.	-
Ms Kgadifele Phiri	In-Person Meeting	Thursday, 09 October 2025	Ms Phiri requested that the mine provide assistance to the elderly group she belongs to. Specifically, she requested donations of food and agricultural seeds to help support the group's nutritional needs and promote self-sustainability through small-scale farming.	Mr Letebele clarified that the request submitted by Ms Phiri falls within the mandate of the Amandelbult Mine Corporate Affairs and Sustainability Office. As such, the matter will be escalated to the Donations Committee for review and further consideration.	-
			During the meeting, Ms. Phiri proposed the creation of a list for the youth to better coordinate support and interventions. She highlighted the community's growing frustration with the prevalence of drug and alcohol abuse among the youth and stressed the need for urgent action.	The comment was noted.	-

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Ms Mahadi Hlalele	In-Person Meeting	Thursday, 09 October 2025	Ms Hlalele advocated for the removal of community leaders from the recruitment process, expressing concerns that they have not been effectively supporting or advocating for the community members during employment matters.	Mr Letebele responded to Ms Hlalele by explaining that different companies employ varied recruitment processes, and Valterra follows its own established procedures. He emphasized that external parties cannot dictate which recruitment methods the company adopts. Furthermore, Mr Letebele highlighted that the mining industry is currently contracting, which limits job opportunities. He encouraged the community to explore alternative economic opportunities, such as agriculture, as a means to address unemployment challenges.	-
Mr Petros Lewang	In-Person Meeting	Thursday, 09 October 2025	Mr Lewang raised a question regarding the air quality monitoring equipment located within the community. He highlighted that residents were not sufficiently informed about the installation, its function, or how the data collected would be shared with the community.	Mr Letebele acknowledged the inquiry and confirmed that the team would look into the matter raised by the community concerning the air quality monitoring equipment. Post the meeting: There are currently no monitoring stations within the surrounding communities because the nearest Ms Ursula Marvey's Response: As part of our Environmental Management Programme (EMPR) commitments, dust monitoring stations have been strategically placed around the mining right area to monitor and manage dust levels associated with operational activities. Communities are located more than 30 km away from the mining activities. Based on	Section 8.9

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				this distance and prevailing environmental assessments, the dust and air quality impacts from the project do not extend to these communities. We remain committed to transparency and will continue to share relevant environmental performance information through established communication channels.	
Ms Pauline Phiri	In-Person Meeting	Thursday, 09 October 2025	Ms Phiri requested that the mine consider providing harvesting materials as a donation to assist with local farming efforts.	The comment was noted by the Amandelbult Social Performance team.	-
Ms Lesolang Motswadi	In-Person Meeting	Thursday, 09 October 2025	Ms Motswadi commended the meeting for being informative. However, she expressed concern that the proposed project would create limited employment opportunities and that these would require specific skill sets. She requested detailed information on the skills required for employment to ensure transparency and to avoid any dissatisfaction or perceptions of nepotism within the community.	Mr Cornish-Bowden clarified that the project demands different skill sets at different phases. The construction phase will primarily require general construction skills, while the operational phase will necessitate more specialised skills such as heavy machinery operation and water cannon handling, alongside other technical proficiencies. He reiterated that the intention is to be open and transparent in terms of the availability of employment opportunities and to not create unrealistic expectations. He further reiterated that there is an existing recruitment process for the operation and that this project, as a component of the larger existing mine, would fit into the existing process.	-

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			Ms Motswadi questioned the qualifications of the officials at the Department of Mineral and Petroleum Resources (DMPR) Policy and Regulation responsible for approving applications, citing community frustrations due to frequent application rejections. She also recommended that specialists perform thorough site inspections to ensure compliance and completeness prior to application submission.	Ms Marvey assured the meeting that DMPR officials possess the necessary qualifications to evaluate applications. She further explained that site inspections are conducted prior to approval to verify that the site conditions are appropriate and that potential environmental and community impacts are carefully assessed.	
Mr Desmond Ramokoka	In-Person Meeting	Thursday, 09 October 2025	Mr Ramokoka sought clarification on the following points: 1. The specific role and involvement of Kongiwe in the proposed project. 2. The nature and extent of benefits the community will receive from the project. 3. The assertion that the Ramokoka community should be entitled to 30% of the project profits.	Mr Cornish-Bowden explained that Kongiwe Environmental was an independent environmental company appointed by Valterra to undertake the Environmental Impact Assessment (EIA) for the proposed project. He reiterated the role of the independent assessment practitioner and noted that there is no role for Kongiwe other than the scope of work related to the application for the Environmental Authorization (EA). He noted again that the project is expected to create a limited number of employment opportunities for community members and that these opportunities would be run through the existing processes established for the overall mining operation. Regarding the requested 30% profit share, he clarified that Kongiwe does not have the mandate to make decisions on profit distribution, as this is under	Section 1.2

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				Valterra's authority; Kongiwe's role is strictly advisory and environmental compliance related to the proposed project.	
Mr Welcome Matshoga	In-Person Meeting	Thursday, 09 October 2025	Mr Matshoga requested information on potential small business opportunities connected to the proposed project and asked which specific types of businesses would be aligned with or benefit from the project activities.	Mr Cornish-Bowden explained that employment opportunities will arise during both the construction and operational phases of the project. He further highlighted that the project may present small business opportunities and encouraged community members to explore ways to align their businesses with the project's requirements and activities. He reiterated that, as with employment, the existing hiring and contracting processes would be followed.	-
Mr Patrick Sethole	In-Person Meeting	Thursday, 09 October 2025	Mr Sethole asked about the recruitment procedures to be used for the project. He highlighted that most community members have underground mining experience but recognized that the project may demand different skills. He therefore requested that appropriate skills development and training initiatives be introduced to equip the community with the necessary competencies to access employment opportunities.	The comment was acknowledged. Mr Cornish-Bowden clarified that the key skills needed for the project primarily involve operating heavy machinery, including dump trucks and water cannons, which play a critical role during the reclamation phase.	-
Mr Gabriel Ratau	In-Person Meeting	Thursday, 09 October 2025	Mr Ratau raised a concern that the community members have not been provided with copies of the relevant project reports.	Ms Phakathi informed Mr Ratau that the non-technical reports of the Draft EIA/EMPr had been disseminated and made available at the Ramokoka Traditional	Section 7

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				Council and Ramokoka Clinic. She further confirmed with Mr Desmond Ramokoka that he had received the Non-Technical Reports (NTS). (The Non-Technical Reports and presentations were distributed at the meeting).	
			Mr Ratua requested information regarding opportunities for employment as general workers on the proposed project.	The comment was noted, and employment information was reiterated as reported above.	-
Mr David Sekanka	In-Person Meeting	Thursday, 09 October 2025	Mr Sekanka firmly demanded that the Ramokoka community receive 30% beneficiary participation from the project. He expressed frustration that the mine does not adequately consider the Ramokoka community during recruitment processes. Furthermore, he emphasized the need for training, skills development, and community development initiatives. Mr Sekanka also noted that Kongiwe and individuals from Gauteng and other provinces have been benefiting from the mines, while the Ramokoka community's involvement has been largely limited to participation in public consultation meetings for various EIA projects. He expressed a strong sentiment that the community has been	The Amandelbult Mine Social Performance Team noted the comment.	-

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			excluded from economic opportunities for an extended period.		
Mr Kamogelo Ntsie	In-Person Meeting	Thursday, 09 October 2025	Mr Ntsie sought clarification on whether Valterra or Kongiwe would be the mining operator for the proposed project. He recommended that the community engage with the main contractor responsible for executing the project, noting that Kongiwe's involvement is strictly as environmental consultants.	Mr Conish-Bowden clarified that Kongiwe is not the mining operator for the Proposed Project but serves as the Independent Environmental Assessment Practitioner (EAP) appointed to undertake the EIA process. He also added that Valterra will contract an external company which will be responsible for the mining operations. This recommendation was noted by Valterra's social performance team.	Section 1.2
Ms Siepati Phiri	In-Person Meeting	Thursday, 09 October 2025	Ms Phiri, speaking on behalf of the Community Engagement Forum (CEF), raised concerns about insufficient communication regarding the proposed project, which impacted meeting attendance. She highlighted that the Forum could have helped reach more community members had they been properly informed. Despite many invitations being extended, job opportunities remain limited. She reiterated the community's demand for a 30% share of project benefits and stressed that this must be addressed. Furthermore, she requested the establishment of a comprehensive list of potential candidates	Mr Cornish-Bowden clarified that the project was announced to stakeholders via email, newspaper advertisement, site notices, telephonic discussions and SMS. In addition, information was shared with community councillors to disseminate the message to community members who were not registered as Interested and Affected Parties (I&APs). Valterra's team noted and acknowledged the matters raised regarding opportunities. Mr Letebele further explained that Valterra's policy does not allow accepting lists from community members, as there is a formal recruitment process is in place.	Section 7

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			eligible for employment to promote transparency.		
Comments raised during the Public Participation Meeting on the 12th of November 2025 (Mantserre communities).					
Mr Boikhutjo	In-Person Meeting	Wednesday, 12 November 2025	Mr Boikhutjo raised a concern that on the previous meeting with Kongiwe the community requested that the General Manager of Valterra attend the session. He stated that the community has questions that can only be answered by the General Manager and included that Ms Makgasane should form part of this meeting. He emphasised that the community expects all previously agreed-upon commitments between the community and Valterra to be addressed before the meeting proceeds. Mr Boikhutjo further noted that the community feels their concerns are not being taken seriously by Valterra. As a result, community members indicated that they would not sign the attendance register for this meeting unless the General Manager and Ms Makgasane were present. He added that the community does not want Kongiwe to present on this meeting because they want Valterra to discuss matters	Mr Letebele responded by clarifying that Kongiwe as the Environmental Assessment Practitioner (EAP) operates in accordance with legal regulatory requirements and is independent. He explained that companies such as Kongiwe function as independent EAPs, and their role is to conduct environmental assessments as mandated by law. He emphasised that all stakeholders, including the community, are part of the process because no Environmental Impact Assessment (EIA) can proceed without public participation. However, he noted that the concerns raised by Mr Boikhutjo regarding benefits and issues with Valterra and Mantserre Community relate to the mine as a whole. He emphasised that this process, and hence Kongiwe's role, was limited to the application relating to the re-processing of the TSF and the related EIA. He requested that this meeting be related to the EIA and matters presented by the EAP.	Section 1.2 Section 7

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			relating to community benefits, as Kongiwe cannot resolve issues related to benefits requested by the Mantserre Community relating to the mining operation as a whole.	Mr Letebele further clarified that Valterra is present to provide input on matters that fall within their responsibility, particularly those related to the Amandelbult Mine operations. He explained that their involvement is to ensure that responses are consistent and that the Mantserre Community receives accurate and aligned information in relation to the presentation delivered by Kongiwe. It is noted that the meeting requested by the community was a broad mine wide meeting which falls outside the scope of the EIA process and that there are structures in place to facilitate such engagement.	
Mr Morelong	In-Person Meeting	Wednesday, 12 November 2025	Mr Morelong expressed concerns regarding the lack of engagement and transparency in previous Environmental Impact Assessment (EIA) processes conducted by other consultants. He stated that the community did not receive reports or follow-up meetings to address unresolved matters. He further requested that Kongiwe present the minutes from the previous meeting to ensure clarity and continuation of the process.	Mr Cornish-Bowden responded that Kongiwe follows all required procedures for public participation. He explained that all stakeholders are notified in advance of public meetings through site notices, SMS, e-mail, and the distribution of Background Information Documents (BID), Non-Technical Summary reports (NTS) and EIA reports to various accessible locations, including community halls, clinics, libraries, Royal Houses, and Board committee members.	Section 7

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				He stated that minutes from previous meetings are incorporated into the Draft EIA Report, which has been distributed to all stakeholders on the database. Mr Cornish-Bowden further acknowledged the request to present the previous meeting minutes. The previous meeting minutes for a meeting that took place 11 July 2025 were read by Mr Cornish-Bowden and the minutes were accepted. (note that the reading referred to above was initiated and various comments that follow were raised during such reading)	
Ms Mogale	In-Person Meeting	Wednesday, 12 November 2025	Ms Mogale requested that Mr Boikhutjo refrain from interrupting and avoid mixing issues related to Valterra and the Mantserre Community. She acknowledged the clarification provided that Kongiwe is an independent company and stated that the community accepts this explanation. Ms Mogale further requested Kongiwe to present the minutes of the meeting held on 11 July 2025. She noted that, as agreed at the start of the current meeting with Valterra, issues raised in the previous meeting would be addressed in a	Kongiwe noted the request and confirmed that the comments such as presenting previous minutes and obtaining clarity from the Valterra team on the community's anticipated benefits from the proposed project were acknowledged. Kongiwe further assured the meeting that all community inputs and concerns had been captured comprehensively omitting any issues raised during prior discussions. Mr Cornish-Bowden continued to read through the minutes for the meeting that took place on the 11 July 2025.	Section 7 Appendix C8

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			separate, dedicated session and not during the EIA presentation at this stage. From the Mantserre Community's perspective, the purpose of the current meeting was to confirm the accuracy of the previous minutes and to receive clarity from the Valterra team regarding the community's anticipated benefits from the proposed project.		
Mr Sekgone	In-Person Meeting	Wednesday, 12 November 2025	Mr Sekgone stated that he needed to step out of the discussion briefly but wished to raise a concern before doing so. He explained that the community has been campaigning to be included in matters related to the TSF dams, and that information received outside this meeting suggests that there is ongoing disagreement between the Mantserre Community, Anglo, and communities surrounding the TSF facilities. He asked whether other affected communities, such as Thabazimbi and others located around the TSF dams, would also be involved in the discussions. He further questioned whether the current meeting was intended to address TSF-related matters specifically.	Mr Letebele noted that, in terms of the Mining Health and Safety Act (MHSA) and the Mineral and Petroleum Resources Development Act (MPRDA), when a mine such as Valterra operating within the Amandelbult area conducts activities that have impacts on surrounding communities, all affected communities must be engaged. He explained that this legal requirement ensures that all neighbouring communities are informed and included in discussions regarding mining activities and any associated impacts.	-

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Mr Mohatse	In-Person Meeting	Wednesday, 12 November 2025	Mr Mohatse asked whether Kongiwe has communicated with the General Manager of Valterra regarding the community's concerns and challenges related to benefits for the Mantserre Community.	Mr Cornish-Bowden explained that Kongiwe communicates with the Valterra team on matters related to the EIA process and environmental issues. He clarified that Valterra appointed Kongiwe to conduct the EIA for the Amandelbult Tailings Storage Facility (TSF) Dam 2 Reclamation and Processing Project (Proposed Project), and communication is limited to this scope. He noted that the concerns are raised in the presence of the Valterra team that Kongiwe is required to communicate through. Ms Ursula added that the working relationship between Kongiwe and Valterra is focused solely on the proposed project within the context of the EIA process and the Environmental Authorisation (EA) application. She emphasised that as an independent EAP, Kongiwe does not have the authority or mandate to address mine-wide community benefit concerns raised by the Mantserre Community. These matters fall outside the scope of their work as an EAP.	-
Mr Mohatse	In-Person Meeting	Wednesday, 12 November 2025	Mr Mohatse expressed concern that although Kongiwe is introducing development initiatives in the area, the Mantserre Community is not experiencing direct or meaningful benefits. He	Mr Moyo responded that Valterra reaffirms its commitment to acting as a responsible and inclusive development partner. He emphasised the importance of continued engagement and collaboration with the	-

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			noted ongoing challenges such as high unemployment, lack of sustainable job opportunities, and a general feeling that Valterra Mine has not yet delivered tangible benefits to the local community.	community to ensure that the benefits arising from the project are effectively shared and contribute positively to local development.	
Mr Setseba	In-Person Meeting	Wednesday, 12 November 2025	Mr Setseba stated that the community will only sign the attendance register once the consolidated report on community benefits is made available. He emphasized that signatures will be provided only after the community has received this information. He further questioned whether Kongiwe is responsible for providing the community's "packaging benefits," given that Kongiwe is conducting the EIA process for the Proposed Project.	Mr Moyo noted the request and clarified that signing the attendance register is voluntary. He explained that the attendance register serves as evidence to the Department of Mineral Petroleum Resources (DMPR) that public participation has been conducted in accordance with EIA requirements (post meeting note: this also allows Kongiwe to communicate with I&APs should they wish.) With respect to the query on packaging benefits, Mr Moyo stated that it is not the responsibility of Mr Cornish-Bowden or Kongiwe to address commercial benefit-related matters. He emphasised that Kongiwe's mandate is limited to the execution of the EIA process as an independent EAP. Issues related to overall community benefits fall under the responsibility of Valterra and not the EAP.	-
Mr Moyo	In-Person Meeting	Wednesday, 12	Mr Moyo requested that the Mantserre Community provide clear direction to Valterra regarding their issues and expectations. He	Mr Boikhutjo responded that the community's direction is that Kongiwe must return with individuals who have the competency and authority to address	-

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		November 2025	emphasised that this would help prevent unnecessary pressure being placed on Kongiwe, particularly on matters that fall outside the scope of the EIA process.	matters related to employment. He stressed that this should occur without delay and together with the ongoing EIA processes, as the community urgently requires job opportunities. Post meeting note: The response noted above relates to a mine-wide implementation activity rather than an assessment of impact and mitigation measures. The EIA includes a socio-economic assessment and related mitigations.	
Mr Maketa	In-Person Meeting	Wednesday, 12 November 2025	Mr Maketa inquired whether the proposed project would result in job creation, specifying that his question relates solely to employment opportunities.	Mr Cornish-Bowden clarified that the matter of employing staff falls under the responsibility of Valterra. He reiterated that Kongiwe's role is limited to conducting the EIA process and engaging the Mantserre Community on aspects of the Proposed Project as part of Valterra's initiative. It was noted that Kongiwe had been transparent in all public meetings that the specific project does create some employment opportunities but that these were limited since existing infrastructure and processes are used and that the hydraulic reclamation method is not labour intensive in comparison to traditional mining operations.	-

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Mr Mohale	In-Person Meeting	Wednesday, 12 November 2025	Mr Mohale expressed concern regarding the Public Participation Process (PPP) for the Proposed Project. He emphasised that the engagement should focus on the Mantserre Community, as per the existing lease agreement with the mine. He stated that the community expects clarity on project specifics and the associated community benefits ("package").	Kongiwe clarified that PPP has been conducted to ensuring that all relevant stakeholders including the Mantserre Community are properly consulted in line with EIA regulatory requirements and proposed project activities. Commercial matters relating to the lease agreement and community benefits, or any commitments associated with the Valterra Mine fall outside the scope of the EIA process. These issues will therefore be addressed directly by the Valterra team, as they are the appropriate party to respond to questions related to agreements, benefits, and project-specific commitments.	Section 7
Mr Mpho Mohatse	In-Person Meeting	Wednesday, 12 November 2025	After a short break allowing the community to caucus on what benefits they wanted to state on record (despite this meeting not being the correct forum) Mr Mohatse in agreement with the rest of the Mantserre Community requested the following things from Valterra: • That 65% of employment opportunities should be allocated to the Mantserre	Mr Cornish-Bowden acknowledged the community's presentation, appreciating the clarity and articulation of the requests. He confirmed that these comments will be incorporated into the EIA comments and response report. Mr Cornish-Bowden emphasised that the meeting itself does not have the mandate or authority to approve or guarantee the requested allocations.	Appendix C8

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			Community, inclusive of both graduates and non-graduates. • That 50% of business opportunities should be awarded to Mantserre Community members. • Both requests should be without any age restrictions (meaning that opportunities should not be limited to people between the ages of 18 to 35 years but rather should be open to older people as well. He clarified that the 65% employment request applies to permanent employment and regarding business opportunities they requested not to form part of the subcontractors or suppliers but relates to significant business opportunities.	Therefore, the EIA report will reflect the community's requests as recommendations for consideration by Valterra in future engagements with the community as well as the competent authority, the Department of Mineral Petroleum Resources (DMPR) when considering he application. He stated that the EIA report will document that these points were formally discussed and recorded during the meeting.	
Comments raised during an Online Meeting with the Broader Stakeholders, 24 November 2025.					
Mr Cornish-Bowden	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Mr Cornish-Bowden noted that in the previous meeting of this nature, Ms Liefferink had come well prepared and had reviewed the Non-Technical Summary (NTS). He indicated that he had a presentation available to share but was also willing to proceed directly to any questions she had prepared, depending on her preference.	Ms Liefferink stated that she would appreciate viewing the presentation. However, she requested that the issue regarding the applicable legal matrix for the reclamation activities be addressed, noting that her understanding is that the operation involves the reclamation of residual Platinum Group Metals (PGMs)	Section 3.5 Section 3.5.9 Section 3.4 Section 3.5.2

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				using both hydraulic and mechanical methods. She asked for confirmation of this understanding. Mr Cornish-Bowden confirmed Ms Liefferink's understanding was correct.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink raised a concern regarding the information contained in the Non-Technical Summary. She noted that the introductory paragraph states that the EIA has been undertaken in terms of National Environmental Management Act (NEMA) (as amended) and the EIA Regulations, and that the proposed project involves an application for amendments under the Mineral and Petroleum Resources Development Act (MPRDA) to the Department of Mineral and Petroleum Resources (DMPR) for the inclusion of the Tailings Storage Facilities (TSF) in the mining work programme. She indicated that, based on ongoing discussions in the sector, her understanding is that the reclamation of residual PGMs from historic TSF may not require a mining right, as such activities could fall under the National Environmental Management: Waste Act. She requested clarity	Mr Cornish-Bowden explained that the Amandelbult TSFs differ significantly from the types of facilities typically considered in similar projects, such as those in Johannesburg (Gauteng). The TSFs at Amandelbult form part of an active operational complex. TSF Dam 1 has already been retreated; TSF Dam 2 is the current target for reclamation; and TSF Dams 3A and 3B continue to form part of the operational system, with Dam 3B still actively receiving tailings. He emphasised that Dam 2 was operational until very recently and remains an integral component of the active tailings management system. The material reclaimed from Dam 2 will be deposited into Dam 3B. Therefore, in his view, the facility does not constitute as a historic TSF. He further noted that this context differs substantially from projects such as those undertaken by DRDGOLD Ltd, as an example, which typically involve historic,	Section 3.5.1

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			on whether the Amandelbult TSF in question is considered a historic TSF.	standalone TSFs not associated with active mining operations. He added that the presentation to follow would include maps and layout plans to illustrate this context.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink requested clarification on why a mining right was not previously required. She noted that, given the extraction of PGMs and the need to establish financial guarantees, Valterra would ordinarily have needed to apply for a mining right. She asked why Valterra is now seeking an amendment to include the TSF, and whether the TSF had not originally formed part of the existing mining right.	Mr Cornish-Bowden explained that the reprocessing activity was not included in the original mining right. As a result, the associated methodologies and operational details need to be incorporated through an amendment to ensure that the project is fully legitimate and compliant with regulatory requirements.	Section 3.2.1
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink noted that she now understands the clarification provided. She acknowledged that a mining right does exist, but that an amendment is required to include the reclamation activities.	Mr Cornish-Bowden confirmed that the existing mining right will indeed require an amendment to authorise the reclamation and reprocessing activities proposed for the project.	Section 3.2.1
Ms Hazel Fiehn, Valterra Platinum Environmental Authorisations	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Fiehn clarified that Valterra currently holds a mining right over only a portion of the TSF, while the Environmental Management Programme (EMPr) covers the entire TSF footprint. She explained that Valterra seeks to formalise and align the authorisation by amending the mining	Ms Liefferink thanked Ms Fiehn for the clarification provided.	-

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and Permitting Principal			right to ensure that the company is legally permitted to conduct mining-related activities over the full extent of the TSF.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink requested clarity regarding the water source for the project, noting that the information is likely included in the EIA Report but requested for confirmation of where the client (Valterra) sources water.	Mr Cornish-Bowden explained that the water is sourced from the existing Amandelbult Operational Complex, specifically from the Concentrator Plant, and is utilised under the current licenced operations. He confirmed that the project uses processing water already generated within the established Plant infrastructure. Ms Liefferink acknowledged the clarification.	Section 4.4.1
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink sought clarification regarding the existing Pollution Control Dams (PCDs), specifically asking whether they are lined.	Mr Cornish-Bowden confirmed that the existing PCDs are lined. He noted that while there were initially considerations to construct new PCDs, the Scoping process for the proposed project determined that it would be sufficient and appropriate to utilise the existing PCDs rather than establish new ones.	Section 3.5.9 Section 4.3
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink raised a concern regarding the stockpiling of topsoil, noting that the life of the mine is 20 years. She requested clarification on how Kongiwe would ensure that the seed bank in the topsoil remains viable and conducive for future rehabilitation.	Mr Cornish-Bowden explained that a Soil Management Plan forms part of the EIA. The plan establishes maximum stockpile heights and includes measures to allow for natural vegetation establishment, ensuring that the topsoil remains viable for rehabilitation purposes.	Section 3.5.7

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Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink sought clarification regarding the predetermined future land use of the footprint. She acknowledged that in the interim, the area will be used for deposition/redeposition of tailings but requested confirmation of the ultimate land use as indicated in the EIA documents.	Mr Cornish-Bowden clarified that the footprint is part of the current licenced tailings operation within the overall TSF complex. It will continue to be used for tailings deposition in the future. The ultimate land use will remain as a tailing's facility, which will be rehabilitated and vegetated, but will not be removed or repurposed for other uses.	Section 3.5.7
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink raised a concern regarding the EMPr regulations, noting that rehabilitation and closure objectives must be established from the commencement of mining or any operational activity and must comply with the principles of sustainable development. She emphasised the importance of ensuring sustainable livelihood opportunities for communities following the cessation of mining or the relinquishment of a mining right. She highlighted that while the TSF will remain in situ and may be vegetated (e.g., grassed), this does not constitute a sustainable land use beyond stabilisation of the site. She requested clarification on whether Kongiwe had engaged with I&APs, particularly the local communities,	Ms Fiehn responded that Valterra has a closure plan covering the entire mine, including the TSF. She noted that the area in question was previously designated as wilderness. Valterra is currently evaluating various projects to identify viable opportunities for the use of existing infrastructure on site, including potential benefits for local communities. She further explained that Valterra has been collaborating closely with Anglo American in this process, and that these considerations form part of Valterra's ongoing closure planning and objectives.	-

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			regarding suggestions for the future land use of the area.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink expressed a concern regarding the concept of "wilderness status". She noted that while areas may be designated as wilderness, this designation does not necessarily align with the principles of sustainable development. She requested clarification on the definition and implications of wilderness status within the context of mine closure and rehabilitation.	Ms Fiehn explained that wilderness status generally refers to maintaining a natural environment. However, she emphasised that Valterra is actively exploring viable opportunities for the future use of existing infrastructure on site, taking into consideration community needs and potential demand for resources. For example, opportunities such as reworking tailings for brickmaking which would in future be assessed in collaboration with the community. Ms Ursula confirmed that Ms Fiehn's response sufficiently addressed the concern.	-
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink sought clarification regarding engagement with communities, specifically asking what decisions or suggestions have been made by the communities and whether Valterra has had discussions with them regarding future land use and closure planning.	Ms Fiehn explained that Valterra has primarily conducted internal studies to assess potential opportunities. Once Valterra determines feasible options, discussions will be held with the relevant communities. She noted that the mine remains far from full closure and that many communities are not in close proximity to the operations. Valterra has, however, engaged at a high level through workshops with Anglo American. Detailed community	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				engagement will occur as the project progresses and closure planning advances.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink raised a concern regarding the upcoming amendments to the national Air Quality: Dust regulations. She noted that mining companies will now be required to prepare a Dust Management Plan, which includes penalties for exceedances, replacing the previous Dust Monitoring Plan that did not include such penalties. She sought confirmation that the client (Valterra) will be preparing a Dust Management Plan in compliance with the new regulations.	Mr Cornish-Bowden confirmed that the preparation of a Dust Management Plan is included within the mitigation measures outlined in the EIA/EMPr report.	EMPr Section 9.5.9
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink requested clarification on whether cumulative impacts have been considered in the assessment, noting that the project area has received multiple community complaints regarding dust fallout within the broader Platinum Group Metal (PGM) region. She also inquired whether the site falls within a designated Air Quality Priority Area.	Mr Cornish-Bowden stated that he does not recall whether the site is within an air priority area but confirmed that cumulative impacts have been considered as part of the EIA studies. Ms Fiehn noted that this was an Air Quality Priory Area.	Section 9 Section 9.2
Ms Mariette Liefferink, CEO, Federation for Sustainable	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink expressed her appreciation for the project, noting that she had no major concerns. She commended the use of brownfield sites and the minimisation of impacts on greenfield areas,	Mr Cornish-Bowden thanked Ms Liefferink for her comments and confirmed that the public participation process was well attended, with several meetings conducted that were lively and engaging. He noted that all comments were recorded, reflecting good	Section 7

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Environment (FSE)			as well as the use of process water. She stated that she has no objection to the project. She further suggested that future considerations should focus not only on-site rehabilitation after mining but also on delivering value to the landscapes and communities affected. She highlighted the importance of ensuring that mining operations do not create dependency and that beneficiation or diversification of activities occurs during the life of the mine. Ms Liefferink also inquired whether the public participation process was well attended.	progress in the process. Ms Phakathi advised that over 540 stakeholders participated.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink expressed her appreciation for the presentation and raised a point regarding adherence to the Global Industry Standard on Tailings Management (GISTM) principles. She noted that, as Anglo American adhered to these principles, she assumes that Valterra, as its successor, also subscribes to GISTM. She emphasised that GISTM involves not only ensuring TSF safety and emergency preparedness but also requires meaningful engagement	Mr Cornish-Bowden acknowledged Ms Liefferink's comments and confirmed that her concerns are well noted. He expressed appreciation for her input.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
			throughout all phases of a project, including development, construction, operation, decommissioning, closure, and post-closure. This engagement should allow sufficient time, provide adequate information, and ensure that the comments and opinions of Interested and Affected Parties are considered in decision-making. Ms Liefferink highlighted that a common challenge within the mining sector is the lack of closure certificates for major operations, sometimes resulting in care and maintenance or transfer of operations to smaller companies. She expressed the sincere hope that Valterra will not exploit any legislative loopholes and will adhere to best practice principles.		
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink thanked Mr Cornish-Bowden for the presentation, noting that it was very informative and beneficial. She expressed her appreciation for being invited and provided ample time to offer her comments.	Mr Cornish-Bowden acknowledged her appreciation and responded that it was his pleasure to facilitate the discussion.	-

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink inquired whether the trust mentioned by Ms Peta and Mr Seleke represents the communities.	Mr Seleke confirmed that it is the Community Development Trust of the Baphalane Ba Mantserre Community.	-
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink sought clarification on whether there is a formal agreement, such as a Mining Lease or Use (MLU), between the mine and the community, and how this relates to the Social Labour Plan objectives, procurement, and skills development initiatives.	Ms Peta confirmed that the mine operates on the community's land under a notarial lease agreement between the former Anglo American and the community. She further confirmed that a Social Labour Plan is in place, over which the community has oversight.	-
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink inquired whether the agreement has benefited the community or if grievances have been expressed.	Ms Peta requested that Mr Seleke respond, as her audio line was unstable and she could not hear Ms Liefferink's comment. Mr Cornish-Bowden responded, noting that as this is a historic mine, there have been both grievances and positive outcomes for the community. He highlighted that the community has made numerous requests and contributions during the stakeholder engagement process, which are captured in the draft EIA report and will be included in the final EIA report. He emphasised that the relationship between the mine	Appendix C8

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Stakeholder	Consultation Method	Date of Comments Received	Issues Raised	Response to issues as mandated by the Applicant	Section Reference in the Report
				and the community has been long-standing, with expected challenges and achievements over time.	
Ms Mariette Liefferink, CEO, Federation for Sustainable Environment (FSE)	Online Meeting (Microsoft Teams)	Monday, 24 November 2025	Ms Liefferink noted that, given the current unemployment and economic situation in South Africa, and the challenges faced by municipalities, communities are often dependent on the mining industry for the provision of services.	Mr Cornish-Bowden thanked Ms Liefferink and all attendees for their participation. He confirmed that, in the absence of further questions or comments, the meeting would be concluded. He extended his gratitude to all stakeholders and the Valterra team for their attendance and contributions.	-

Appendix D
Specialist Studies

Appendix D1
Terrestrial Impact Statement

TERRESTRIAL BIODIVERSITY COMPLIANCE STATEMENT FOR THE PROPOSED RECLAMATION AND PROCESSING OF THE AMANDELBULT TAILINGS STORAGE FACILITY (TSF) DAM 2

Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo, South Africa

08 December 2025

Prepared by:

The Biodiversity Company

Cell: +27 81 319 1225

Fax: +27 86 527 1965

info@thebiodiversitycompany.com

www.thebiodiversitycompany.com

Report Name	**TERRESTRIAL BIODIVERSITY COMPLIANCE STATEMENT FOR THE PROPOSED RECLAMATION AND PROCESSING OF THE AMANDELBULT TAILINGS STORAGE FACILITY (TSF) DAM 2**
Specialist Theme	Terrestrial Biodiversity, Plant and Animal Theme
Project Reference	Reclamation and Processing of the Amandelbult TSF Dam 2
Report Version	08 December 2025
Environmental Assessment Practitioner	KONGIWE
Fieldwork and Report Writer	Carami Burger (Pr. Nat. Sci. 121757)
Report Reviewer and October 2025 Updates	Martinus Erasmus (Pr. Nat. Sci. 118630)
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, 2017. We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.

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1 Introduction

1.1 Background

The Biodiversity Company was appointed to undertake a terrestrial biodiversity assessment for the proposed Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 Project. The project is located between the towns of Northam and Thabazimbi within the Thabazimbi Local Municipality and Waterberg District Municipality, Limpopo Province (Figure 1-1).

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with tailings being deposited mainly on 3B, but also on 3A from time to time. Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021. The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000.

The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of platinum group metals (PGMs) and Chrome. The reclamation will also potentially open additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

A 50 m buffer has been applied to the proposed development area and is collectively referred to as the Project Area of Influence (PAOI) from hereon. A map illustrating the regional locality of the PAOI is depicted in Figure 1-1.

To determine the baseline ecological state of the PAOI and to present a detailed description of the receiving environment, a desktop assessment and field survey (conducted on the 29th of April 2025) was undertaken. The field survey occurred during the late wet season, which is a suitable time for data collection within this habitat (SANBI, 2020). Both the desktop assessment and field survey involved the detection, identification, and description of any locally relevant sensitive receptors. The potential risks that the proposed development would have on the sensitive features was also investigated.

This assessment was conducted in accordance with the amendments to the Environmental Impact Assessment Regulations, 2014 (No. 326, 7 April 2017) of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998). The approach has taken cognisance of the recently published

Government Notice 320 in terms of NEMA dated 20 March 2020 as well as the Government Notice 1150 in terms of NEMA dated 30 October 2020: “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation”.

The National Web-based Environmental Screening Tool has characterised the theme sensitivities of the PAOI as:

- Terrestrial Biodiversity Theme sensitivity is Low;
- Plant Species Theme sensitivity is Low; and
- Animal Species Theme sensitivity is High.

The purpose of conducting the specialist study is to provide relevant input into the Environmental Authorisation application process, with a focus on the proposed activities and the impacts associated with the project. This report, after taking into consideration the findings and recommendations provided by the specialist stipulated herein, should inform, and guide the Registered Environmental Assessment Practitioner (EAP) and regulatory authorities, enabling informed decision making as to the ecological viability of the proposed project.

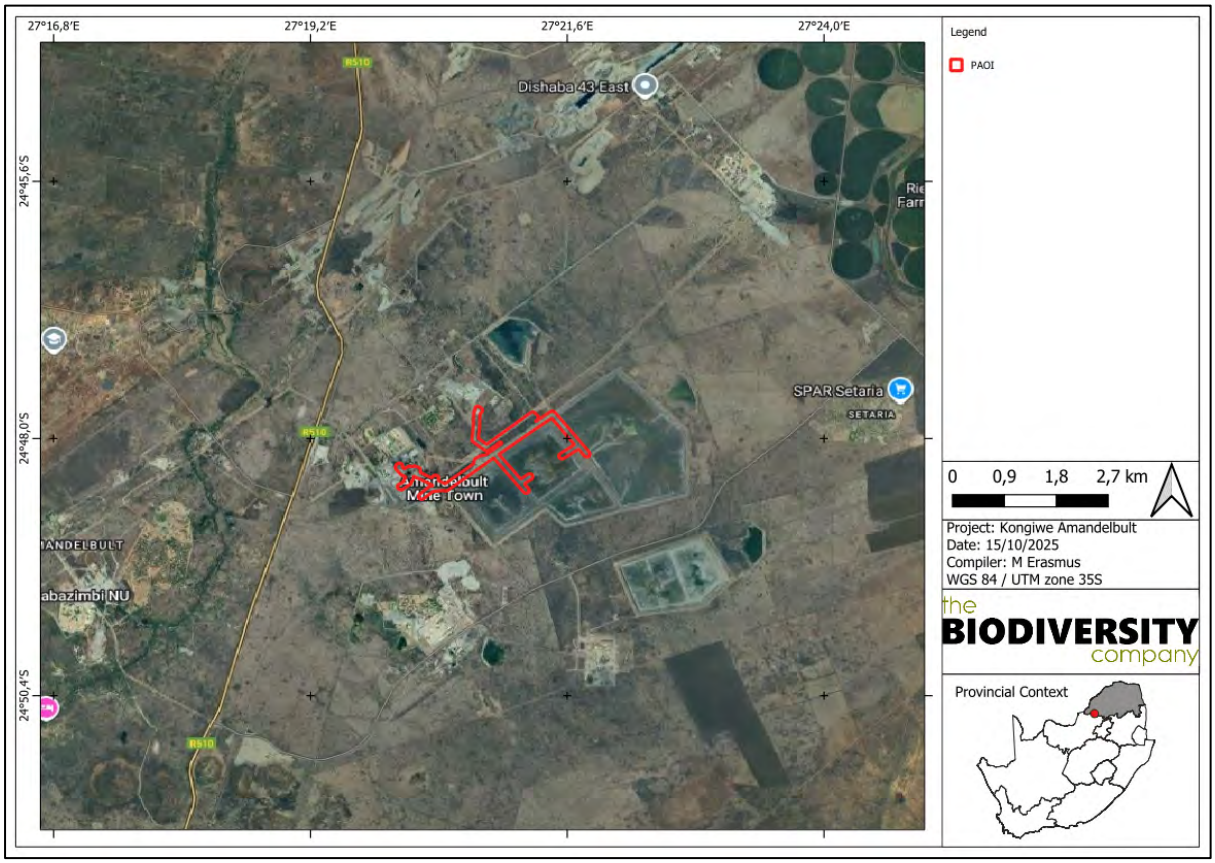


Figure 1-1 Map depicting the regional context of the Project Area of Influence (PAOI).

1.2 Project Description and Technical Information

The following general site information was provided by Kongiwe Environmental (Pty) Ltd (2025) and pertains to the proposed development. The layout of the project is indicated in Figure 1-3 to Figure 1-5 below.

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations. Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4

Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process. Residual tailings

waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilized slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow toward a collection area located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

Figure 1-2 Mobile tracked hydraulic monitor on a TSF in South Africa (for illustration only)

Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm.

Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road adjacent to the TSF, will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Power Supply, Sewage, Process Water and other requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

Work Schedule

The anticipated life span of the Project is approximately 20 years. It is expected that there will be a 2-year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan..

Technical Details

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing.

The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen
- Set of cyclones
- Process water tank
- Gland service water tank
- Compressor
- MCC
- Transformers
- Substations
- Overhead Crane
- Mini workshop

- Firewater tank
- Ablution facilities
- Offices
- Control room
- Surge tank
- Concrete and Steel structures
- Pumps
- Piping
- Instrumentation.

TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000L)
- Fuel dispensing system
- Fuel filtration and Conditioning system
- Fuel monitoring devices
- Refuelling bays

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. the area of the road will be approximately 1.1 Ha (11 000m2)

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.

- TSF Chrome Recovery Plant – Current plant to be used - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.

- TSF Tailings Thickening Plant – Current thickening plant to be used- A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

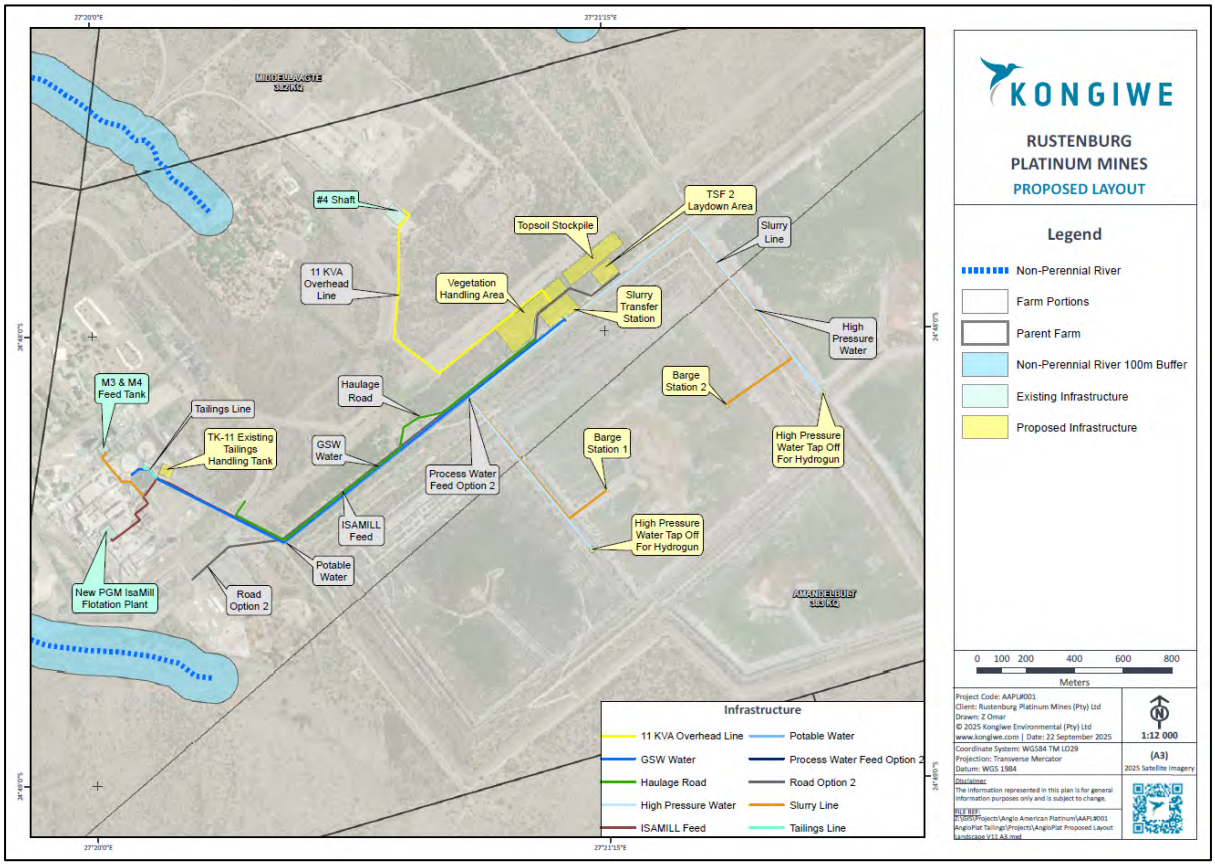


Figure 1-3 Layout of the proposed project (Kongiwe, 2025)

1.3 Scope of Work

The aim of the biodiversity assessment was to provide information to guide the risk of the proposed development on the current state of the associated ecosystems within the PAOI. This was achieved through the following:

- Desktop assessment to identify the ecologically important terrestrial features within the PAOI;
- Desktop assessment to identify possible Species of Conservation Concern (SCC) that may occur within the PAOI;
- Field survey to identify and record flora and fauna species, (especially SCC) within the PAOI;
- Determine the Site Ecological Importance (SEI), also commonly referred to as the sensitivity of the PAOI; and
- The prescription of mitigation measures for identified risks associated with the proposed development.

1.4 Assumptions and Limitations

The following assumptions and limitations are applicable for this assessment:

- It is assumed that all information received from the client and landowner is accurate;
- All datasets accessed and utilised for this assessment are considered to be representative of the most recent and suitable data for the intended purposes;
- Insects and invertebrates do not form part of the scope of work for this assessment;
- Avifauna data for this assessment have been derived from both previous site visits and the current assessment of the PAOI;
- The assessment area (PAOI) was based on the footprint areas as provided for by the client, and any alterations to the area and/or missing Geographic Information System (GIS) information pertaining to the assessment area would have affected the area surveyed and hence the results of this assessment;
    - The proposed layout was updated in October 2025, resulting in extrapolation in field data for the alterations in layout.
- The project description was based on information provided by the client, and any alterations to the area and/or missing data pertaining to the development would have affected the area surveyed and hence the results of this assessment;
- A single site survey was conducted on 29 April 2025. Therefore, this assessment does not consider temporal/seasonal trends. However, it is the opinion of the specialist stipulated herein that the data collected is sufficient to derive a meaningful baseline;
- Whilst every effort was made to cover as much of the PAOI as possible, representative sampling was completed. Consequently, it is possible that some fauna and flora species present within the PAOI may have not been recorded during the field survey; and
- The GPS used in the assessment has an accuracy of 5 m and consequently any spatial features may be offset by up to 5 m.

1.5 Legislative Framework

In line with the protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity, as per Government Notice 320 published in terms of NEMA, dated 20 March 2020: “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation” – section 3, subsection 1:

- An applicant intending to undertake an activity identified in the scope of the protocol, on a site identified by The Screening Tool as being of a ‘Very High’ terrestrial biodiversity sensitivity, is required to submit a Terrestrial Biodiversity Specialist Assessment; however
    - Where the information gathered from the site sensitivity verification differs from the designation of ‘Very High’ terrestrial biodiversity sensitivity on the screening tool and is instead found to be of a ‘Low’ sensitivity, then a Terrestrial Biodiversity Compliance Statement must be submitted.

The information obtained from a site sensitivity verification, which involved both a desktop assessment as well as a field survey, confirmed that the proposed PAOI is of a ‘Medium’ to ‘Very Low’ sensitivity. Therefore, this report constitutes a Terrestrial Biodiversity Compliance Statement.

As per sections 2 and 3 of the protocol discussed above, a Terrestrial Biodiversity Compliance Statement must contain the information as presented in Table 1-1 below.

Table 1-1 Terrestrial Biodiversity Compliance Statement information requirements as per the relevant protocol, including the location of the information within this report.

Information to be Included (as per GN 320, 20 March 2020)	Report Section
Methodology used to undertake the site assessment and survey, and prepare the compliance statement, including relevant equipment and modelling used	7.1
Description of the assumptions and any uncertainties or gaps in knowledge or data	1.4
A baseline profile description of biodiversity and ecosystems of the site	3.1.4 and 3.2
Site sensitivity verification: Desktop Analysis using satellite imagery and available information	3.1.1
A statement on the duration, date, and season of the site inspection	3.4
Site sensitivity verification: Onsite inspection, including a description of current land use and vegetation found on-site	3.4
Site sensitivity verification: Photographs/evidence of environmental sensitivity	3.2, and 3.4
Screening tool confirmation/dispute: The assessment must verify the "Low" sensitivity of the site, in terms of plant, animal, and terrestrial biodiversity themes	3.4.2
Proposed impact management outcomes or monitoring requirements for inclusion in the EMPr	4
Indicate whether the proposed development will have any impact on the terrestrial environment, animals and/or plants	5
A signed statement of independence by the specialist	7.3
Specialist details, including a CV	7.4

A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

2 Fieldwork

2.1 Biodiversity Field Assessment

A single season field survey was undertaken on the 29th of April 2025, which constitutes a late wet season survey, to determine the presence of any local SCC and to achieve the delineation of local habitat types and their associated sensitivities. Effort was made to cover all the different habitat types within the PAOI, within the limits of time, access, and security. This site visit is considered sufficient for the project.

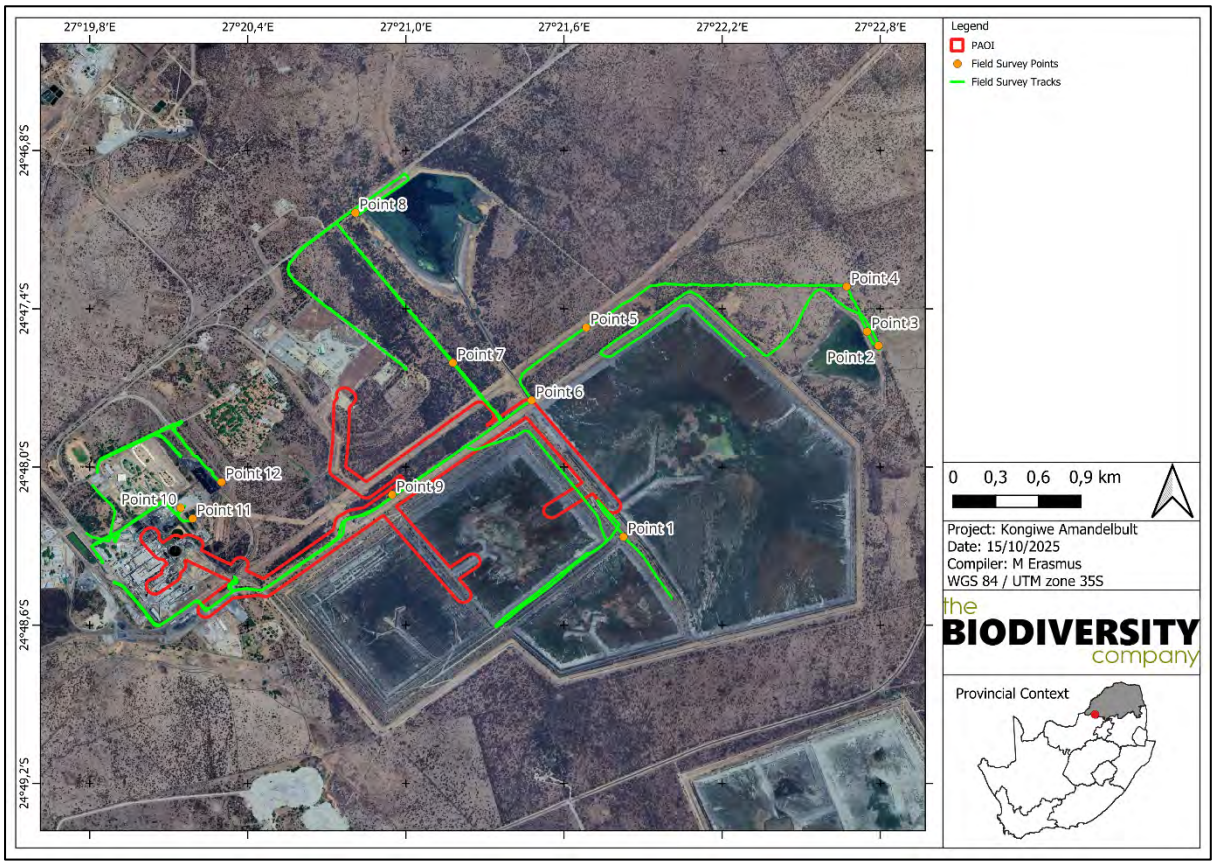


Figure 2-1 Map depicting the survey points and field tracks within the entire PAOI.

3 Results & Discussion

3.1 Desktop Baseline

3.1.1 Ecologically Important Landscape Features

Table 3-1 below has been produced because of the spatial data collected and analysed (as provided by various sources such as the national and provincial environmental authorities and SANBI). It presents a summative breakdown of the ecological boundaries considered and the associated relevance that each has to the region or PAOI. Where a feature is regarded as relevant it is considered an ecologically important landscape feature and discussed further as part of the sub-sections that follow.

Table 3-1 Summary of relevance of the proposed project to ecologically important landscape features

Desktop Information Considered	Relevance	Reasoning
Provincial Conservation Plan (2018)	Relevant	The PAOI overlaps with Other Natural Areas (ONA) and No Natural Remaining (NNR).
Ecosystem Threat Status (RLE, 2021)	Relevant	The PAOI falls within an 'Least Concern' (LC) ecosystem.
Ecosystem Protection Level (NBA, 2018)	Relevant	The PAOI overlaps with a 'Moderately Protected' (MP) ecosystem.
National Protected Areas Expansion Strategy (2018)	Irrelevant	The PAOI does not overlap with any NPAES areas.
South African Protected and Conservation Areas Databases (2024)	Relevant	Located 4 km from the Buffelsfontein Private Nature Reserve.
Key Biodiversity Areas (KBA, 2024)	Irrelevant	The PAOI does not overlap with any KBAs.
Strategic Water Source Areas (SWSA) (2021)	Relevant	The PAOI overlaps with the Crocodile River Valley Groundwater Strategic Water Source Areas.
South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (2018)	Irrelevant	The PAOI does not overlap with any SAIIAE wetlands.
National Freshwater Priority Areas (NFEPA) (2011)	Relevant	The PAOI overlaps with two non-priority wetlands.
Mining and Biodiversity Guideline (2013)	Relevant	The majority of the PAOI overlap with High Biodiversity Importance with a High risk for mining.
Vegetation Type (Mucina and Rutherford, 2006)	Relevant	The PAOI overlaps with the Dwaalboom Thornveld vegetation type.

3.1.2 Fauna Species of Conservation Concern

The Screening Tool indicates that one (1) mammal SCCs and five (5) avifauna SCC are predicted to occur within the PAOI. Most species have an overall low likelihood of occurring within the area due to the absence of suitable habitat. (Table 3-2). Further, none of these listed fauna SCC below were confirmed during the site survey.

Please note that the Screening Tool report includes lists of bird, mammal, reptile, amphibian, butterfly, and plant species of conservation concern known or expected to occur on the proposed development footprint. Some of these SCC are sensitive to illegal harvesting. Such species have had their names obscured and are listed as sensitive plant unique number / sensitive animal unique number. As per the best practise guideline that accompanies the protocol and screening tool, please, the name of the sensitive species may not appear in the final EIA report nor any of the specialist reports released into the public domain. It should be referred to as *sensitive plant* or *sensitive animal* and its threat status may be included, e.g. *critically endangered sensitive plant* or *endangered sensitive animal.*

Table 3-2 List of mammal SCC that are expected within the PAOI EN = Endangered, LC = Least Concern, NT = Near Threatened and VU = Vulnerable.

Group	Scientific Name	Common Name	Screening Tool	Red List		Likelihood of Occurrence	Reason
				Regional	Global		
Mammalia	*Sensitive Species 5*		Medium	VU	VU	Low	Unsuitable habitat
Avifauna	*Aquila rapax*	Tawny Eagle	Medium	EN	VU	Low	Unsuitable habitat
Avifauna	*Hydroprogne caspia*	Caspian tern	Medium	VU	LC	Low	Unsuitable habitat
Avifauna	*Mycteria ibis*	Stork, Yellow-billed	High	LC	LC	Low	Unsuitable habitat
Avifauna	*Podica senegalensis*	Finfoot, African	Medium	VU	LC	Low	Unsuitable habitat
Avifauna	*Polemaetus bellicosus*	Eagle, Martial	High	EN	VU	Low	Unsuitable habitat

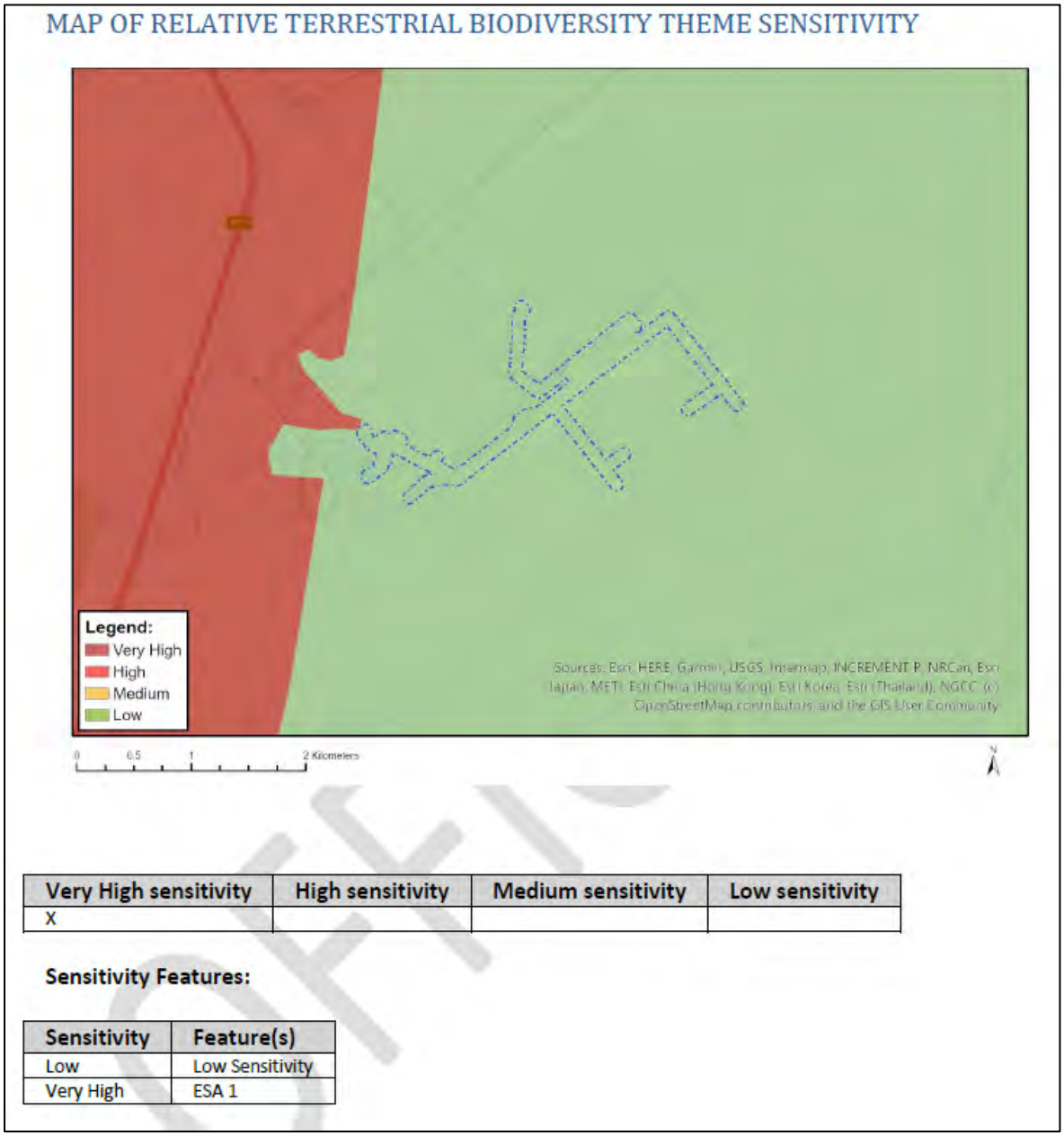
3.1.3 Flora Species of Conservation Concern

The Screening Tool indicates that no flora SCC are predicted to occur within the PAOI.

3.1.4 Desktop Ecological Sensitivity

The following is deduced from the National Web-based Environmental Screening Tool Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended):

- Terrestrial Biodiversity Theme sensitivity is ‘Low’ for the PAOI, (Figure 3-1);
- Animal Species Theme sensitivity is ‘High’ for the PAOI owing to the potential occurrence of several species (Figure 3-2); and
- Plant Species Theme sensitivity is ‘Low’ for the PAOI (Figure 3-3).

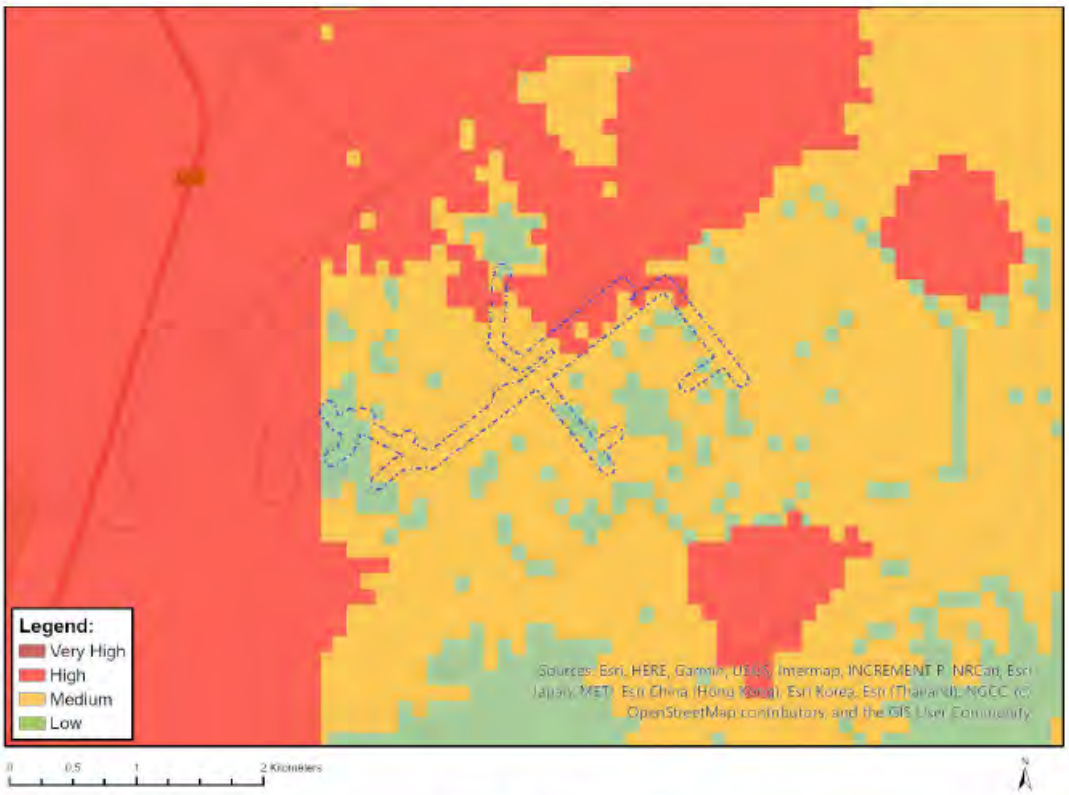


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	ESA 1

Figure 3-1 Map depicting the relative terrestrial biodiversity theme sensitivity for the PAOI.



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Polemaetus bellicosus
High	Aves-Torgos tracheliotos
Low	Subject to confirmation
Medium	Aves-Aquila rapax

Figure 3-2 Map depicting the relative animal species theme sensitivity for the PAOI.

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY

Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

Figure 3-3 Map depicting the relative plant species theme sensitivity for the PAOI.

3.2 Biodiversity Field Survey

3.2.1 Habitat Assessment

The following sections discuss the results from the field survey that was conducted for the proposed project, which was undertaken on the 29th of April 2025. Habitats observed are described in Table 3-3.

Table 3-3 Sensitivity summary of the habitat types delineated within the PAOI.

Survey Point	Description	SEI	Photographs
Site GPS Reference: Point 1 Date: 29/04/2025 GPS Coordinates: 24°48'15.90"S 27°21'49.53"E	**Modified** The modified areas have little to no remaining natural vegetation due to land transformation by current mining activities, existing pipelines and roads. No fauna or flora SCC observed, and none expected for the habitat unit.	Very Low	
Site GPS Reference: Marker 4 Date: 29/04/2025 GPS Coordinates: 24°47'18.95"S 27°22'40.36"E	**Water Resource** These include different wetland systems as well as drainage channels. Even though disturbed, the ecological integrity, importance and functioning of these areas play a crucial role as a water resource system locally and regionally, and an important habitat for various fauna and flora. No fauna or flora SCC observed, and none expected for the habitat unit.	Medium	

Survey Point	Description	SEI	Photographs
GPS Coordinates: 24°47'36.29"S 27°21'10.72"E	roads and pipelines. These areas aren't entirely transformed but in a constant disturbed state. No fauna or flora SCC observed, and none expected for the habitat unit.		
Site GPS Reference: Marker 9 Date: 29/04/2025 GPS Coordinates: 24°48'6.32"S 27°20'56.86"E	**Disturbed Bushveld** A small patch of disturbed bushveld remains between active mining areas and an access road, still containing some indigenous floral species. However, this area is fragmented, very small, and has been impacted by ongoing mining activities. No fauna or flora SCC observed, and none expected for the habitat unit.	Low	
Site GPS Reference: Marker 8 Date: 29/04/2025 GPS Coordinates: 24°48'9.30"S 27°20'8.71"E	**Modified** The modified areas have little to no remaining natural vegetation due to land transformation by active mining operations. No fauna or flora SCC observed, and none expected for the habitat unit.	Very Low	

Survey Point	Description	SEI	Photographs

3.3 Habitat Assessment

Two (2) main habitat types were identified across the PAOI and include:

- Disturbed Bushveld; and
- Modified.

The habitat units for the PAOI can be seen delineated in Figure 3-4 and descriptions of the habitat units can be found in Table 3-4.

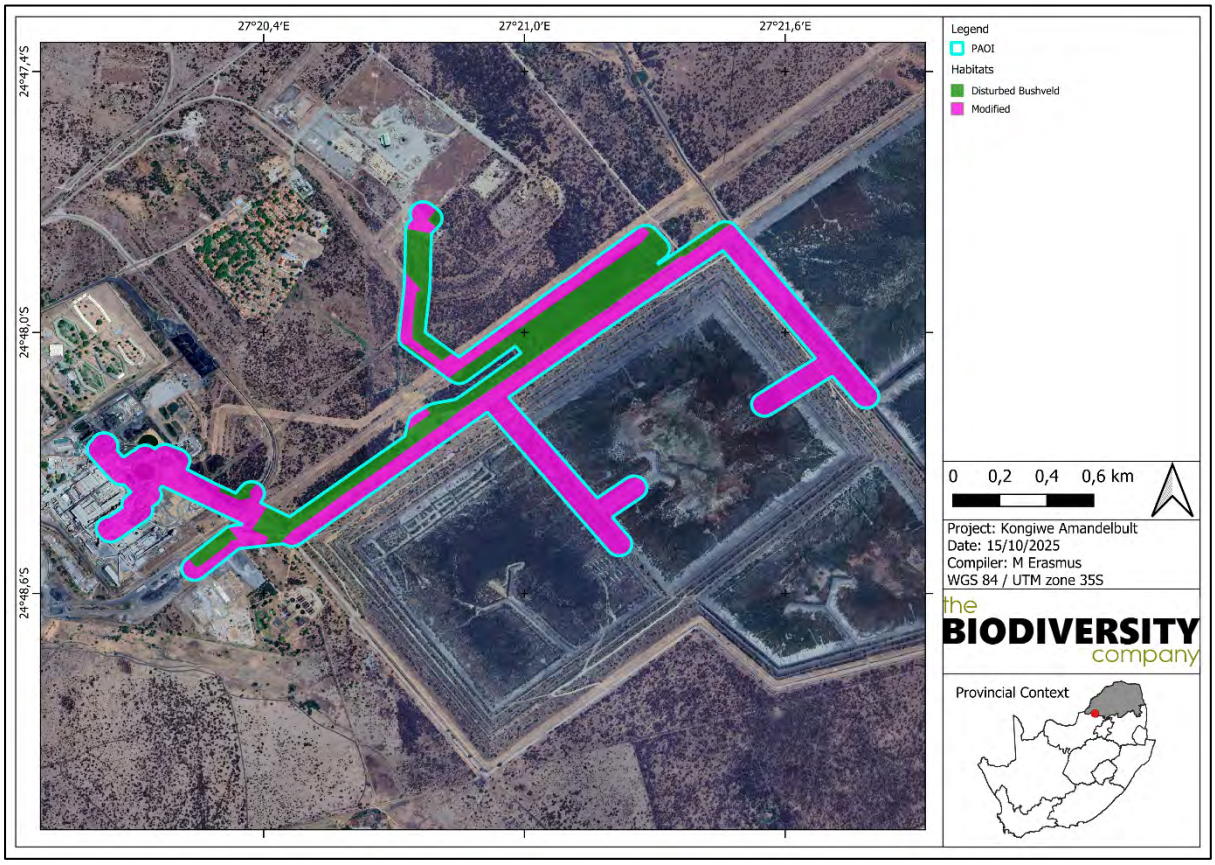


Figure 3-4 Habitats identified within the PAOI

Table 3-4 Table providing descriptions of the habitat types delineated for the PAOI

Habitat	Description and Condition
Disturbed Bushveld	This habitat is characterized by areas that have been significantly impacted by mining activities, overgrazing, and the creation of roads and establishment of. These disturbances have led to reduced habitat integrity and diversity, adversely affecting the floral communities. While these habitats are not entirely transformed, they remain in a persistently disturbed state, unable to recover to a more natural condition due to ongoing disturbances and impacts from active mining operations. This habitat can be found in various states of disturbance, often experiencing encroachment by *Dichrostachys cinerea* or infestation by *Bidens pilosa* and *Zinnia peruviana*. These areas are considered to have low ecological sensitivity, as they may serve as movement corridors and frequently act as barriers between bushveld and modified areas. No fauna or flora Species of Conservation Concern (SCC) (including avifauna) were observed, and none are expected to be resident/breed in the PAOI.
Modified	The modified areas exhibit minimal to no remaining natural vegetation due to extensive land transformation resulting from current mining activities, existing pipelines and roads. These habitats exist in a perpetually disturbed state and are unable to recover to a more natural condition due to ongoing disturbances and impacts. The ecological services provided by this habitat are significantly limited, primarily due to the extensive cover of impermeable surfaces and large expanses of bare land. Despite these limitations certain sections of the area may function as movement corridors. No fauna or flora SCC were observed, and none are expected to reside within the PAOI.

3.4 Site Sensitivity Verification

3.4.1 Habitats and Site Ecological Importance (SEI)

Based on the criteria provided in Appendix B of this report, all habitats within the PAOI were assigned a sensitivity category, i.e., a SEI category. Habitats within the PAOI varied in sensitivity from Very Low to Medium SEI (Table 3-5 and Figure 3-6). The findings of this assessment therefore contradict the findings set forth by the Screening Tool with regards to the combined Terrestrial Biodiversity Theme Sensitivity.

Table 3-5 Summary of habitat types and associated SEIs delineated within the PAOI.

Habitat Type	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance Guidelines
Modified	**Low**	**Very Low**	**Very Low**	**High**	**Very Low**
	No confirmed or highly likely populations of SCC. < 50% of receptor contains natural habitat with limited potential to support SCC.	Several major current negative ecological impacts.		Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality.	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.
Disturbed Bushveld	**Low**	**Low**	**Low**	**Medium**	**Low**
	< 50% of receptor contains natural habitat with limited potential to support SCC.	Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Several minor and major current negative ecological impacts.		Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality.	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.

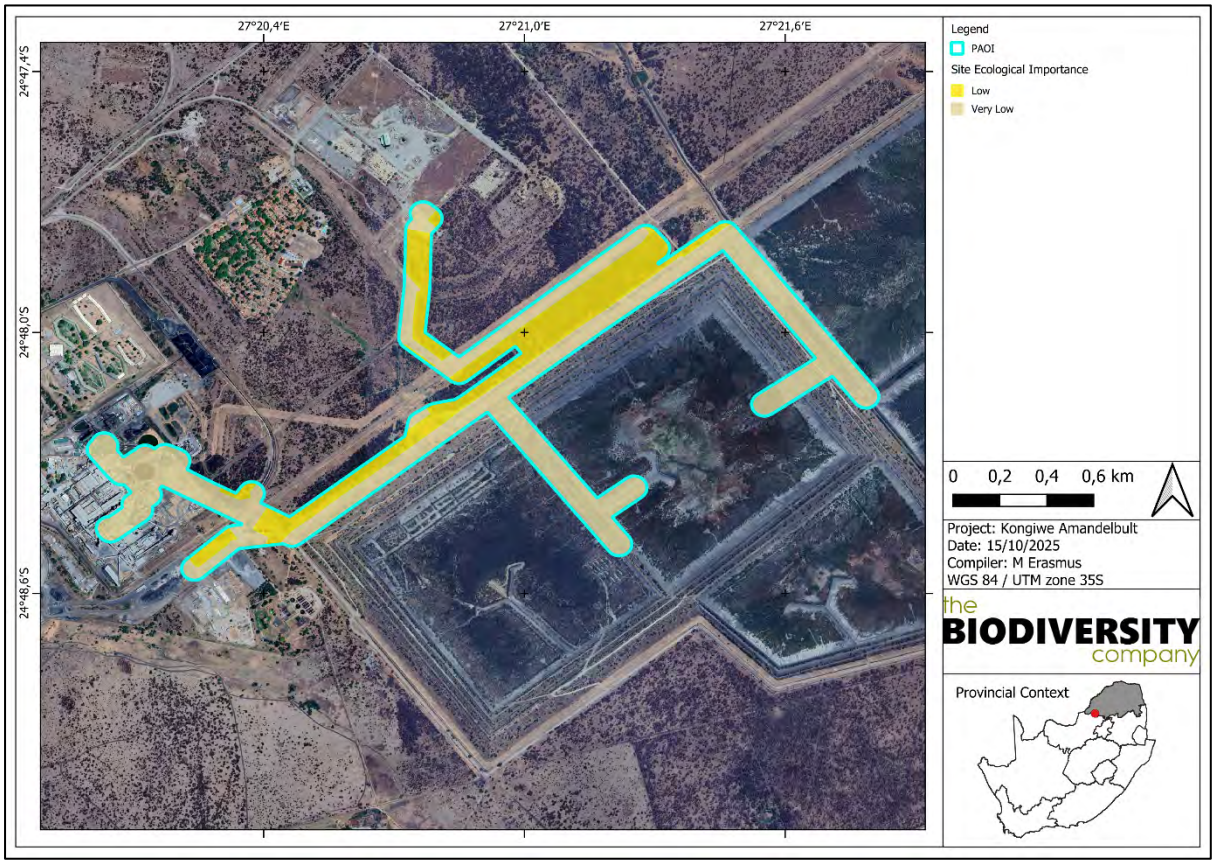


Figure 3-6 Map depicting the Site Ecological Importance (SEI) sensitivity for the PAOI.

3.4.2 Screening Tool Comparison

The allocated sensitivities for each of the relevant themes are either disputed or validated in Table 3-6 below. A summative explanation for each result is provided as relevant. The specialist assigned sensitivity ratings are based largely on the SEI process followed in the previous section, and consideration is given to any observed or likely presence of SCC or protected species.

Table 3-6 Summary of the screening tool vs specialist assigned sensitivities.

Screening Tool Theme	Screening Tool	Habitat	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Terrestrial Theme	Low	Modified	Very Low	Disputed – These areas have been modified and have little to no natural vegetation left.
		Disturbed Bushveld	Low	Validated – Habitat disturbed due to historic and current anthropogenic activities and has therefore lost ecosystem functionality. It still serves as a corridor for flora and fauna dispersion.
Animal Theme	High	N/A	Low	Disputed – No SCC were observed, moreover, some fauna SCC may potentially move through the area sporadically, but it is unlikely that they will remain within the area.
Plant Theme	Low	N/A	Low	Validated – No SCCs observed or expected.

4 Impact Management and Mitigation Plan

The aim of the management outcomes is to present mitigation actions in such a way that they can be incorporated into the Environmental Management Programme (EMPr), and possible biodiversity management programme, for the project, which should in turn allow for a more successful implementation and auditing of the mitigations and monitoring guidelines. Table 4-1 presents the project specific, non-negotiable mitigation measures relative to the terrestrial assessment. Table 4-2 presents general mitigation measures.

The focus of mitigation measures is to reduce the significance of the likely impacts associated with the development, and thereby:

- Prevent the further loss and fragmentation of indigenous vegetation communities within the ecosystem within and around the PAOI;
- Reduce the negative fragmentation effects of the development and facilitate the safe movement of fauna species;
- Prevent the direct and indirect loss and disturbance of flora and fauna species and communities; and
- Adequately follow the guidelines for interpreting the SEI ratings assigned to the PAOI.

4.1 Project Specific Mitigation

Table 4-1 Project specific mitigation measures for the project.

Anticipated Impact	**Environmental and Groundwater Pollution**
Activity/risk source	**Chemical (organic/inorganic) spills, Erosion**
Mitigation Objective	**Avoid and reduce Pollution**
Mitigation: Action/control	
• Keep the surface & sub-surface water and storm water away that may run off from the dumps from the low laying areas, such as wetlands, as well as the surrounding areas, from leaving the project area in an uncontrolled manner. • Construct cut-off berms downslope of working areas. • Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. • Storm Water run off & Discharge Water Quality monitoring needs to be implemented. • Incorporate green /soft engineering stormwater measures. Avoid unnecessary vegetation clearing and preferential surface flow paths. • Monitoring of adjacent watercourses must be undertaken to assess the impact of runoff to these systems. • Cut-off trenches or other suitable stormwater management measures must be incorporated into the design to decrease contamination of watercourses via runoff. • No cleaning of vehicles, machines and equipment in water resources. • No servicing of machines, vehicles and equipment outside of designated laydown areas. • Storage of potential contaminants in bunded areas. • All contractors must have spill kits available and be trained in the correct use thereof. • All released water must be within DWAF (1996) water quality standards for aquatic ecosystems, and discharge must be managed to avoid scouring and erosion of the receiving systems. • Contain wastewater in a PCD. Contaminated water must not be discharged into the watercourses. • Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.	
Anticipated Impact	**Introduction of alien and invasive species, especially plants**
Activity/risk source	**Land clearing, fire and dust.**
Mitigation Objective	**Avoidance / minimisation of the disturbance and degradation of vegetation and ecosystems**
Mitigation: Action/control	

• Compile and implement an alien vegetation management plan from the onset of construction. The plan must identify areas for action (if any) and prescribe the necessary removal methods and frequencies to be applied. This plan must also include a monitoring plan and be updated as/when new data is collated. • Implement a stormwater management plan for all developable areas. • Implementation of a waste management plan. • Temporary storage of domestic waste shall be in covered waste skips. • Removal of domestic waste on a regular basis, no overspill is permitted	
Anticipated Impact	**Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)**
Activity/risk source	**Land clearing, Fire and human presence as well as roads.**
Mitigation Objective	**Avoidance / minimisation of the disturbance and mortality of fauna**
Mitigation: Action/control	
• Clearly mark construction zones to prevent impact on surrounding areas, using physical barriers like safety tape and signs instead of painted lines. • Prior to vegetation clearing activities, the area to be cleared should be walked on foot by 1-2 individuals to create a disturbance in order for fauna to move off. Disturbance must occur as soon before vegetation clearing as possible and no unnecessary disturbance to the area is permitted o Any fauna threatened by the construction activities should be removed safely by an appropriately qualified environmental officer or removal specialist. • Limit construction vehicle speeds to 40 km/h to prevent accidents, and install appropriate speed control measures and signage. o Driving on access roads at night should be restricted to maximum 20 km/h to reduce or prevent wildlife road mortalities which occur more frequently during this period. • Minimize the time between clearing an area and starting development to prevent wildlife from returning to disturbed sites. • Conduct excavations progressively and cover any open holes overnight to prevent wildlife from falling in. Inspect these areas before backfilling. • Implement noise and light mitigation measures for any nighttime construction activities to minimise disturbances to nocturnal species expected in the area. • Provide all personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. Discussions The training must include. o All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this. • Design and limit outdoor lighting to reduce its impact on wildlife. Use fixtures with baffles, hoods, or louvres, directing light downward and away from sensitive areas like wetlands. Avoid fluorescent and mercury vapor lights, opting for sodium vapor (yellow) lights whenever possible. • Utilize motion detection lighting where feasible to minimize unnecessary illumination. • Prohibit vehicle traffic and the use of vehicle lights at night. • Keep noise levels low from dusk to dawn to avoid disturbing amphibians and nocturnal mammals.	

4.2 General mitigation

Table 4-2 General mitigation measures for the project.

Mitigation: Action/control
• Demarcate work areas during the construction phase to avoid affecting outside areas. Use physical barriers e.g., safety tape, not painted lines, and use signage. • All activities must make use of existing roads and tracks as far as practically and feasibly possible. No new roads or servitudes should be constructed where existing infrastructure can be used. • Do not clear areas of indigenous vegetation outside of the direct project footprint. • Minimise vegetation clearing to the minimum required. • Compile and implement a rehabilitation plan from the onset of the project. • Rehabilitate areas as soon as they are no longer impacted by construction. o The rehabilitated areas must be revegetated with indigenous vegetation. • Progressive rehabilitation will enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. Surplus rehabilitation material can be applied to other others in need of stabilisation and vegetation cover. • Environmental Officer (EO) to provide supervision and oversight of vegetation clearing activities. • Consult a fire expert and compile and implement a fire management plan to minimise the risk of veld fires around the project site . • Dust-reducing mitigation measures must be put in place and must be strictly adhered to, for all roads and bare (unvegetated) areas. o Reduce the dust generated by operational vehicles and earth moving machinery, through wetting the soil surface and putting up signs to enforce speed limits to enforce reduced speeds. o No non-environmentally friendly suppressants may be used as this could result in pollution of water sources • Implementation of a waste management plan, this plan must also prescribe a monitoring plan and be updated as/when new data is collated. Waste management must be a priority and all waste must be collected, stored and disposed of adequately. It is recommended that all waste be removed from site on a weekly basis (as a minimum) to prevent rodents and pests entering the site. o Refuse bins will be emptied and secured. o Temporary storage of domestic waste shall be in covered waste skips. o Maximum domestic waste storage period will be 7 days. • A pest control plan must be put in place and implemented; it is imperative that poisons not be used. • Prohibit staff from bringing any plant species into or out of the PAOI. This includes both indigenous and exotic plants to prevent the spread of invasive species and illegal plant collection. • Develop and strictly adhere to a Rehabilitation Plan for the development area. • Infrastructure must be consolidated where possible in order to minimise the amount of ground and air space used. • Cement must be mixed in a designated area on a liner away from water sources and buffers and that successful rehabilitation of the construction areas can take place. • Leaking equipment and vehicles must be repaired immediately or be removed from project area to facilitate repair. • A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site. o Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use. o No servicing of equipment on site unless necessary. o All contaminated soil / yard stone shall be treated in situ or removed and be placed in containers. o Appropriately contain any generator diesel storage tanks, machinery spills (e.g., accidental spills of hydrocarbons oils, diesel etc.) in such a way as to prevent them from leaking and entering the environment. o Construction activities and vehicles could cause spillages of lubricants, fuels and waste material negatively affecting the functioning of the ecosystem. o All vehicles and equipment must be maintained, and all refuelling and servicing of equipment is to take place in demarcated areas outside of the PAOI.

4.3 Cumulative Impacts

The quantitative impact of the proposed project in isolation on terrestrial biodiversity is anticipated to be "low" due to the expected adherence to mitigation. The cumulative impact of the proposed project on habitats, plants and animals is anticipated to be "low". The project area has undergone historic and current disturbance, like the disturbances that the local area has undergone.

After implementation of the mitigation measures as stipulated above the integrity and functionality of the natural habitat is not expected to deteriorate further as a result of the proposed development and no irreplaceable loss of terrestrial biodiversity is anticipated.

Table 4-3 Cumulative Impacts associated with the proposed project

Impact	**Project in Isolation**						**Project and Surrounding Projects**					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
	4	2	2	2	3		4	3	3	2	3	
Cumulative habitat loss and ecological processes	Life of operation or less than 20 years: Long Term	Development specific/ within the site boundary / < 100 ha impacted /	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	**Low**	Life of operation or less than 20 years: Long Term	Entire habitat unit / Entire system/ > 2000 ha impacted	Significant / ecosystem structure and function moderately altered	Ecology with limited sensitivity/importance	Likely	**Low**

5 Conclusion

The PAOI exists in a predominantly secondary or modified state, having been subjected to various anthropogenic impacts from ongoing mining activities and the associated edge effects. This habitat is unlikely to fully recover without human intervention and will continue to degrade without further active rehabilitation.

The completion of this terrestrial biodiversity assessment led to a validation of the 'Low' Terrestrial Biodiversity Theme Sensitivity as set out in the National Environmental Screening Tool.

The Animal Species Theme sensitivity is 'High' for the PAOI as allocated by the National Environmental Screening Tool, which was disputed as 'Low'. Plant Species Theme sensitivity is 'Low' for the PAOI as allocated by the National Environmental Screening Tool, which was validated as 'Low'.

5.1 Impact Statement

The location, state and size of the ecosystem suggests that it is unlikely that any functional habitat will be lost because of the impacts arising from the proposed activities. However, these assumptions pertain to the terrestrial habitat only and the recommendations and mitigations presented in the accompanying wetland assessment must be strictly adhered to.

5.2 Specialist Opinion

It is the opinion of the specialist that the proposed development is favourable only if all mitigation measures provided in this and other specialist reports are implemented, as well as the following:

1) An alien and invasive species management plan must be compiled and implemented from the onset of the project.
2) A rehabilitation plan must be compiled and implemented post construction.
3) A soil erosion plan must be compiled and implemented from the onset of the project.

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7 Appendix Items

7.1 Appendix A – Methods

7.1.1 Desktop Dataset Assessment

7.1.1.1 Ecologically Important Landscape Features

Existing ecologically relevant data layers were incorporated into a GIS to establish how the proposed development might interact with any ecologically important entities. Emphasis was placed around the following spatial datasets:

- National Biodiversity Assessment 2018 (Skowno et al, 2019) - The purpose of the National Biodiversity Assessment (NBA) is to assess the state of South Africa's biodiversity based on best available science, with a view to understanding trends over time and informing policy and decision-making across a range of sectors. The NBA deals with all three components of biodiversity: genes, species and ecosystems; and assesses biodiversity and ecosystems across terrestrial, freshwater, estuarine and marine environments. The two headline indicators assessed in the NBA are:
    - Ecosystem Threat Status – indicator of an ecosystem's wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition. Red List of Ecosystems (RLE) 2021 – The list was first published in 2011 and has since been substantially revised by authors Dr Andrew Skowno and Mrs Maphale Monyeki (SANBI, 2022). This list is based on assessments that followed the International Union for Conservation of Nature (IUCN) Red List of Ecosystems Framework (version 1.1) and covers all 456 terrestrial ecosystem types described in South Africa by Mucina and Rutherford (2006). A total of 120 of the 456 terrestrial ecosystem types assessed are categorised as threatened and together make up approximately 10% of the remaining natural habitat in the country. Of these 120 ecosystem types, 55 are Critically Endangered (CR), 51 Endangered (EN) and 14 are Vulnerable (VU). The remainder are categorised as Least Concern (LC) (SANBI, 2022; Skowno & Monyeki, 2021).
    - Ecosystem Protection Level – indicator of the extent to which ecosystems are adequately protected or under-protected. Ecosystem types are categorised as Well Protected (WP), Moderately Protected (MP), Poorly Protected (PP), or Not Protected (NP), based on the proportion of the biodiversity target for each ecosystem type that is included within one or more protected areas. Not Protected, Poorly Protected or Moderately Protected ecosystem types are collectively referred to as under-protected ecosystems.
- Protected areas:
    - South Africa Protected Areas Database (SAPAD) and South Africa Conservation Areas Database (SACAD) (DFFE, 2024a) – The South African Protected Areas Database (SAPAD) and South Africa Conservation Areas Database (SACAD) contains spatial data for the conservation of South Africa. It includes spatial and attribute information for both formally protected areas and areas that have less formal protection. The database is updated on a continuous basis and forms the basis for the Register of Protected Areas which is a legislative requirement under the National Environmental Management: Protected Areas Act, Act 57 of 2003.

    - National Protected Areas Expansion Strategy (NPAES) (DFFE, 2022b) – The National Protected Area Expansion Strategy (NPAES) provides spatial information on areas that are suitable for terrestrial ecosystem protection. These focus areas are large, intact and unfragmented and are therefore, of high importance for biodiversity, climate resilience and freshwater protection.

- The Limpopo Conservation Plan was completed in 2018 for the Limpopo Department of Economic Development, Environment & Tourism (LEDET) (Desmet *et al.,* 2018). The purpose of the LCPv2 was to develop the spatial component of a bioregional plan (i.e. map of Critical Biodiversity Areas and associated land-use guidelines). The previous Limpopo Conservation Plan (LCPv1) was completely revised and updated (Desmet *et al.,* 2013). A Limpopo Conservation Plan map was produced as part of this plan and sites were assigned to the following CBA categories based on their biodiversity characteristics, spatial configuration and requirement for meeting targets for both biodiversity pattern and ecological processes:
- Critical Biodiversity Area 1 (CBA1);
- Critical Biodiversity Area 2 (CBA2);
- Ecological Support Area 1 (ESA1);
- Ecological Support Area 2 (ESA2);
- Other Natural Area (ONA);
- Protected Area (PA); and
- No Natural Remaining (NNR).
- Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. Thus, if these areas are not maintained in a natural or near natural state then biodiversity targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity compatible land uses and resource uses (Desmet *et al*., 2013).
- Ecological Support Areas (ESA's) are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services (SANBI, 2017). Critical Biodiversity Areas and Ecological Support Areas may be terrestrial or aquatic.
- Other Natural Areas (ONAs) consist of all those areas in good or fair ecological condition that fall outside the protected area network and have not been identified as CBAs or ESAs. A biodiversity sector plan or bioregional plan must not specify the desired state/management objectives for ONAs or provide land-use guidelines for ONAs (Driver *et al*., 2017).
- Areas with No Natural Habitat Remaining (NNR) are areas in poor ecological condition that have not been identified as CBAs or ESAs. They include all irreversibly modified areas (such as urban or industrial areas and mines), and most severely modified areas (such as cultivated fields and forestry plantations). A biodiversity sector plan or bioregional plan must not specify the desired state/management objective or provide land-use guidelines for NNR areas (Driver *et al*., 2017).
- Key Biodiversity Areas (KBAs) (SANBI, 2024) – KBAs are identified using the Global Standard for the Identification of KBAs, developed by the International Union for the Conservation of Nature (IUCN). The standard involves applying five criteria to gauge an area's importance for

biodiversity. These criteria consider the presence of threatened species or ecosystems, species with limited global distributions, pristine wilderness, significant biological processes, or irreplaceable biodiversity. Each criterion has specific quantitative thresholds to determine if they are met. As of 2023, over 16,000 KBAs have been identified globally, covering more than 20 million square kilometres. South Africa completed its first comprehensive national assessment in 2023, evaluating over 9,900 species or ecosystem types and identifying 260+ individual KBAs; and

- Freshwater Ecology:
    - Strategic Water Source Areas (SWSAs) (Le Maitre et al, 2018) – SWSAs are defined as areas of land that supply a quantity of mean annual surface water runoff in relation to their size and therefore, contribute considerably to the overall water supply of the country. These are key ecological infrastructure assets and the effective protection of surface water SWSAs areas is vital for national security because a lack of water security will compromise national security and human wellbeing.
    - South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (Van Deventer et al, 2018) – A South African Inventory of Inland Aquatic Ecosystems (SAIIAE) was established during the National Biodiversity Assessment of 2018. It is a collection of data layers that represent the extent of river and inland wetland ecosystem types as well as pressures on these systems.
    - National Freshwater Ecosystem Priority Area (NFEPA) (Nel *et al*., 2011) – The NFEPA database provides strategic spatial priorities for conserving the country's freshwater ecosystems and associated biodiversity as well as supporting sustainable use of water resources.
- Mining and Biodiversity Guidelines:
    - The Mining and Biodiversity Guidelines (2013) was developed by the Department of Mineral Resources, the Chamber of Mines, the SANBI and the South African Mining and Biodiversity Forum, with the intention to find a balance between economic growth and environmental sustainability. The Guideline is envisioned as a tool to "foster a strong relationship between biodiversity and mining, which will eventually translate into best practice within the mining sector. It provides a tool to facilitate the sustainable development of South Africa's mineral resources, in a way that enables regulators, industry and practitioners to minimise the impact of mining on the country's biodiversity and ecosystem services. It provides the mining sector with a practical, user- friendly manual for integrating biodiversity considerations into the planning processes and managing biodiversity during the operational phases of a mine, from exploration through to closure. The Guideline provides explicit direction in terms of where: mining-related impacts are legally prohibited; biodiversity priority areas may present high risks for mining projects; and biodiversity may limit the potential for mining.
    - In identifying biodiversity priority areas, which have different levels of risk against mining, the Guideline categorises biodiversity priority areas into four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service point of view as well as the implications for mining in these areas:
        A) Legally protected areas, where mining is prohibited;
        B) Areas of highest biodiversity importance, which are at the highest risk for mining;
        C) Areas of high biodiversity importance, which are at a high risk for mining; and

D) Areas of moderate biodiversity importance, which are at a moderate risk for mining.

Table 7-1 presents the four different categories and the implications for mining within each of these categories.

Table 7-1 Summary of the Mining and Biodiversity Guidelines

Category	Biodiversity priority areas	Risk for mining	Implications for mining
A. Legally protected	• Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves) Areas declared under Section 49 of the Mineral and Petroleum Resources Development Act (No. 28 of 2002)	**Mining prohibited**	Mining projects cannot commence as mining is legally prohibited. Although mining is prohibited in Protected Areas, it may be allowed in Protected Environments if both the Minister of Mineral Resources and Minister of Environmental Affairs approve it. In cases where mining activities were conducted lawfully in protected areas before Section 48 of the Protected Areas Act (No. 57 of 2003) came into effect, the Minister of Environmental Affairs may, after consulting with the Minister of Mineral Resources, allow such mining activities to continue, subject to prescribed conditions that reduce environmental impacts.
B. Highest biodiversity importance	• CE and EN • CBAs (or equivalent areas) from provincial spatial biodiversity plans • River and wetland Freshwater Ecosystem Priority Areas (FEPAs) and a 1 km buffer around these FEPAs • Ramsar Sites	**Highest risk for mining**	Environmental screening, environmental impact assessment (EIA) and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, and to provide site-specific basis on which to apply the mitigation hierarchy to inform regulatory decision-making for mining, water use licenses, and EAs. If they are confirmed, the likelihood of a fatal flaw for new mining projects is very high because of the significance of the biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to ensure protection of biodiversity, environmental sustainability, and human wellbeing. An EIA should include the strategic assessment of optimum, sustainable land use for a particular area and will determine the significance of the impact on biodiversity. This assessment should fully consider the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country. Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts and may specify biodiversity offsets that would be written into license agreements and/or authorisations.
C. High biodiversity importance	• Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves) • Transfrontier Conservation Areas (remaining areas outside of formally proclaimed protected areas) • Other identified priorities from provincial spatial biodiversity plans • High water yield areas • Coastal Protection Zone • Estuarine functional zone	**High risk for mining**	These areas are important for conserving biodiversity, for supporting or buffering other biodiversity priority areas, and maintaining important ecosystem services for particular communities or the country as a whole. An EIA should include an assessment of optimum, sustainable land use for a particular area and will determine the significance of the impact on biodiversity. Mining options may be limited in these areas, and limitations for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into license agreements and/or authorisations.

Category	Biodiversity priority areas	Risk for mining	Implications for mining
D. Moderate biodiversity importance	• Ecological support areas • Vulnerable ecosystems • Focus areas for protected area expansion (land-based and offshore protection)	**Moderate risk for mining**	These areas are of moderate biodiversity value. EIAs and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened species) not included in the existing datasets, and on providing site-specific information to guide the application of the mitigation hierarchy. Authorisations may set limits and specify biodiversity offsets that would be written into license agreements and/or authorisations.

7.2 Appendix B – Terrestrial Site Ecological Importance

The different habitat types within the PAOI were delineated and identified based on observations made during the field survey, and information from available satellite imagery. These habitat types were assigned Ecological Importance (EI) categories based on their ecological integrity, conservation value, the presence of SCC and their ecosystem processes.

Site Ecological Importance (SEI) is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/fauna community or habitat type present in the Project Area) and Receptor Resilience (RR) (its resilience to impacts).

BI is a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor. The criteria for the CI and FI ratings are provided in Table 7-2 and Table 7-3 respectively.

Table 7-2 Summary of Conservation Importance (CI) criteria

Conservation Importance	Fulfilling Criteria
Very High	Confirmed or highly likely occurrence of Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Extremely Rare or CR species that have a global extent of occurrence (EOO) of < 10 km^2. Any area of natural habitat of a CR ecosystem type or large area (> 0.1% of the total ecosystem type extent) of natural habitat of an EN ecosystem type. Globally significant populations of congregatory species (> 10% of global population).
High	Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km^2. IUCN threatened species (CR, EN, VU) must be listed under any criterion other than A. If listed as threatened only under Criterion A, include if there are less than 10 locations or < 10 000 mature individuals remaining. Small area (> 0.01% but < 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1%) of natural habitat of VU ecosystem type. Presence of Rare species. Globally significant populations of congregatory species (> 1% but < 10% of global population).
Medium	Confirmed or highly likely occurrence of populations of Near Threatened (NT) species, threatened species (CR, EN, VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals. Any area of natural habitat of threatened ecosystem type with status of VU. Presence of range-restricted species. > 50% of receptor contains natural habitat with potential to support SCC.
Low	No confirmed or highly likely populations of SCC. No confirmed or highly likely populations of range-restricted species. < 50% of receptor contains natural habitat with limited potential to support SCC.
Very Low	No confirmed and highly unlikely populations of SCC. No confirmed and highly unlikely populations of range-restricted species. No natural habitat remaining.

Table 7-3 Summary of Functional Integrity (FI) criteria

Functional Integrity	Fulfilling Criteria
Very High	Very large (> 100 ha) intact area for any conservation status of ecosystem type or > 5 ha for CR ecosystem types.

	High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. No or minimal current negative ecological impacts, with no signs of major past disturbance.
High	Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type or > 10 ha for EN ecosystem types. Good habitat connectivity, with potentially functional ecological corridors and a regularly used road network between intact habitat patches. Only minor current negative ecological impacts, with no signs of major past disturbance and good rehabilitation potential.
Medium	Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types. Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches. Mostly minor current negative ecological impacts, with some major impacts and a few signs of minor past disturbance. Moderate rehabilitation potential.
Low	Small (> 1 ha but < 5 ha) area. Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation potential. Several minor and major current negative ecological impacts.
Very Low	Very small (< 1 ha) area. No habitat connectivity except for flying species or flora with wind-dispersed seeds. Several major current negative ecological impacts.

BI can be derived from a simple matrix of CI and FI as provided in Table 7-4.

Table 7-4 Matrix used to derive Biodiversity Importance (BI) from Functional Integrity (FI) and Conservation Importance (CI)

Biodiversity Importance		**Conservation Importance**				
		Very High	**High**	**Medium**	**Low**	**Very Low**
Functional Integrity	**Very High**	Very High	Very High	High	Medium	Low
	High	Very High	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very Low
	Low	Medium	Medium	Low	Low	Very Low
	Very Low	Medium	Low	Very Low	Very Low	Very Low

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor, as summarised in Table 7-5.

Table 7-5 Summary of Receptor Resilience (RR) criteria

Resilience	**Fulfilling Criteria**
Very High	Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) returning to a site once the disturbance or impact has been removed.
High	Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) returning to a site once the disturbance or impact has been removed.
Medium	Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) returning to a site once the disturbance or impact has been removed.
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) returning to a site once the disturbance or impact has been removed.

Very Low	Habitat that is unable to recover from major impacts, or species that are unlikely to: (i) remain at a site even when a disturbance or impact is occurring, or (ii) return to a site once the disturbance or impact has been removed.

After the determination of BI and RR, the SEI can be ascertained using the matrix as provided in Table 7-6.

Table 7-6 Matrix used to derive Site Ecological Importance from Receptor Resilience (RR) and Biodiversity Importance (BI)

Site Ecological Importance		**Biodiversity Importance**				
		Very High	**High**	**Medium**	**Low**	**Very Low**
Receptor Resilience	**Very Low**	Very High	Very High	High	Medium	Low
	Low	Very High	Very High	High	Medium	Very Low
	Medium	Very High	High	Medium	Low	Very Low
	High	High	Medium	Low	Very Low	Very Low
	Very High	Medium	Low	Very Low	Very Low	Very Low

Interpretation of the SEI in the context of the proposed project is provided in Table 7-7.

Table 7-7 Guideline for interpreting Site Ecological Importance in the context of proposed activities

Site Ecological Importance	Interpretation in relation to proposed development activities
Very High	Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e., last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted, limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities.
Very Low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

The SEI evaluated for each taxon can be combined into a single multi-taxon evaluation of SEI for the assessment area. Either a combination of the maximum SEI for each receptor should be applied, or the SEI may be evaluated only once per receptor but for all necessary taxa simultaneously. For the latter, justification of the SEI for each receptor is based on the criteria that conforms to the highest CI and FI, and the lowest RR across all taxa.

7.3 Appendix C – Specialist Declaration of Independence

I, Carami Burger, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

Carami Burger

Ecologist

The Biodiversity Company

May 2025

I, Martinus Erasmus, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

Martinus Erasmus

Terrestrial Ecologist

The Biodiversity Company

May 2025

7.4 Appendix D – Specialist CVs

Carami Burger

B.Sc. Honours – Ecological Interactions and Ecosystem Resilience (Cum Laude)

(Pr Sci Nat)

Cell: +27 83 630 9077

Email: Carami@thebiodiversitycompany.com

Identity Number: 9606250185084

Date of birth: 25 June 1996

Profile Summary

Working experience in South Africa and Mozambique.

Specialist experience with infrastructure development, road development, renewable energy, mining and prospecting.

Specialist expertise include terrestrial ecology, wetland resources, rehabilitation and management plans, environmental compliance and monitoring.

Areas of Interest

Renewable Energy & Bulk Services Infrastructure Development, Mining, Farming, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Basic Assessments
- Terrestrial Ecological Assessments
- Wetland Delineation and Ecological Assessments
- Environmental Management Programmes (EMPr)
- Rehabilitation Plans
- Invasive Species Plans
- Search and Rescue Plans
- Environmental Compliance Audits
- Water Use License Applications
- Dust Fallout Monitoring
- Water Quality Monitoring

Countries worked in

South Africa

Mozambique

Zambia

Angola

Sierra Leone

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Qualifications

- BSc Hons Ecological Interactions and Ecosystem Resilience.
- BSc Botany and Zoology.
- Pr Sci Nat (121757)

Martinus Erasmus

B-Tech Nature Conservation (*Pr Sci Nat*)

Cell: +27 82 448 1667

Email: martinus@thebiodiversitycompany.com

Identity Number: 9209035136082

Date of birth: 03 September 1992

Profile Summary

Working experience throughout Southern Africa as well as West Africa.

Specialist experience in exploration, mining, engineering, hydropower, private sector, and renewable energy.

Specialist guidance, support, and facilitation for compliance with legislative processes, in-country requirements, and international lenders.

Specialist expertise includes Botany and Terrestrial Ecology.

Country Experience

Botswana

Eswatini

Guinea

Lesotho

Liberia

Mauritius

Mozambique

Nigeria

South Africa

Zambia

Zimbabwe

Key Experience

- Familiar with World Bank and the International Finance Corporation requirements
- Environmental, Social, and Health Impact Assessments (ESHIA)
- Environmental Management Programmes (EMP)
- Rehabilitation Plans and Monitoring
- Botany, especially in the Limpopo, Mpumalanga, Gauteng, and North-West provinces in South Africa.
- Terrestrial Ecological Assessments
- Veld management and Veld condition

Areas of Interest

Mining, Oil & Gas, Renewable Energy & Bulk Services Infrastructure Development, Sustainability, and Conservation

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient I

Qualifications

- B-Tech in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa.
- National Diploma in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa.
- Pr Sci Nat (118630)

Appendix D1
Wetland Impact Assessment

Freshwater Compliance Statement for the proposed Reclamation and Processing of Dam 2 of the Amandelbult Tailing Storage Facility Project

Thabazimbi Municipality, Limpopo Province, South Africa

18/10/2025

Prepared by:

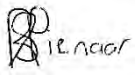
The Biodiversity Company

Cell: +27 81 319 1225

Fax: +27 86 527 1965

info@thebiodiversitycompany.com

www.thebiodiversitycompany.com

Report Name	**Freshwater Compliance Statement for the proposed Reclamation and Processing of Dam 2 of the Amandelbult Tailing Storage Facility Project**	
Specialist Theme	Aquatic Theme – Wetland Compliance Statement	
Project Reference	Amandelbult TSF	
Report Version	18/10/2025	
Environmental Assessment Practitioner	KONGIWE	
Fieldwork & Report Writer	Rian Pienaar (SACNASP Pr. Sci. Nat. 135544)	
Reviewer	Divan van Rooyen (SACNASP Pr. Sci. Nat. 151272)	
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspices of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations (2014), as amended. We have no conflicting interests in the undertaking of this activity and have no interest in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.	

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1 Introduction

1.1 Background

The Biodiversity Company was commissioned to conduct a wetland baseline and impact assessment in support of the Environmental Authorisation and water use authorisation procedures for the Amandelbult Tailings Storage Facility (TSF) project. The Project is located near Northam within the Thabazimbi local Municipality, Limpopo Province, South Africa (Figure 1-1). A 500 m radius has been demarcated to facilitate the identification of wetlands proximal to the Project; this area is referred to as the Project Area of Influence (PAOI).

This assessment has been completed in accordance with the requirements of the published Government Notice (GN) 4167 by the Department of Water and Sanitation (DWS) (previously GN 509 of 2016 and GN 3139 of 2023). The said notice was published in the Government Gazette (no. 49833) under Section 39 of the National Water Act (Act no. 36 of 1998) in December 2023, for a Water Use Licence (WUL) in terms of Section 21(c) & (i) water uses. The GN 4167 process provides an allowance to apply for a WUL for Section 21(c) & (i) under a General Authorisation (GA), as opposed to a full Water Use Licence Application. A water use (or potential) qualifies for a GA under GN 4167 when the proposed water use/activity is subjected to analysis using the DWS Risk Assessment Matrix (RAM), provided the identified risks are all considered low risk, and the applicant is listed under Appendix D1 or Appendix D2 of the same notice. This assessment will implement the RAM and provide a specialist opinion on the favourability for a water use authorisation.

This assessment was conducted in accordance with the amendments to the Environmental Impact Assessment Regulations (2014) (GNR 326, 7 April 2017) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The approach has taken cognisance of the recently published Government Notices (GN) 320 (20 March 2020) and GN 1150 (30 October 2020) in terms of NEMA, dated 20 March and 30 October 2020: “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation” (Reporting Criteria).

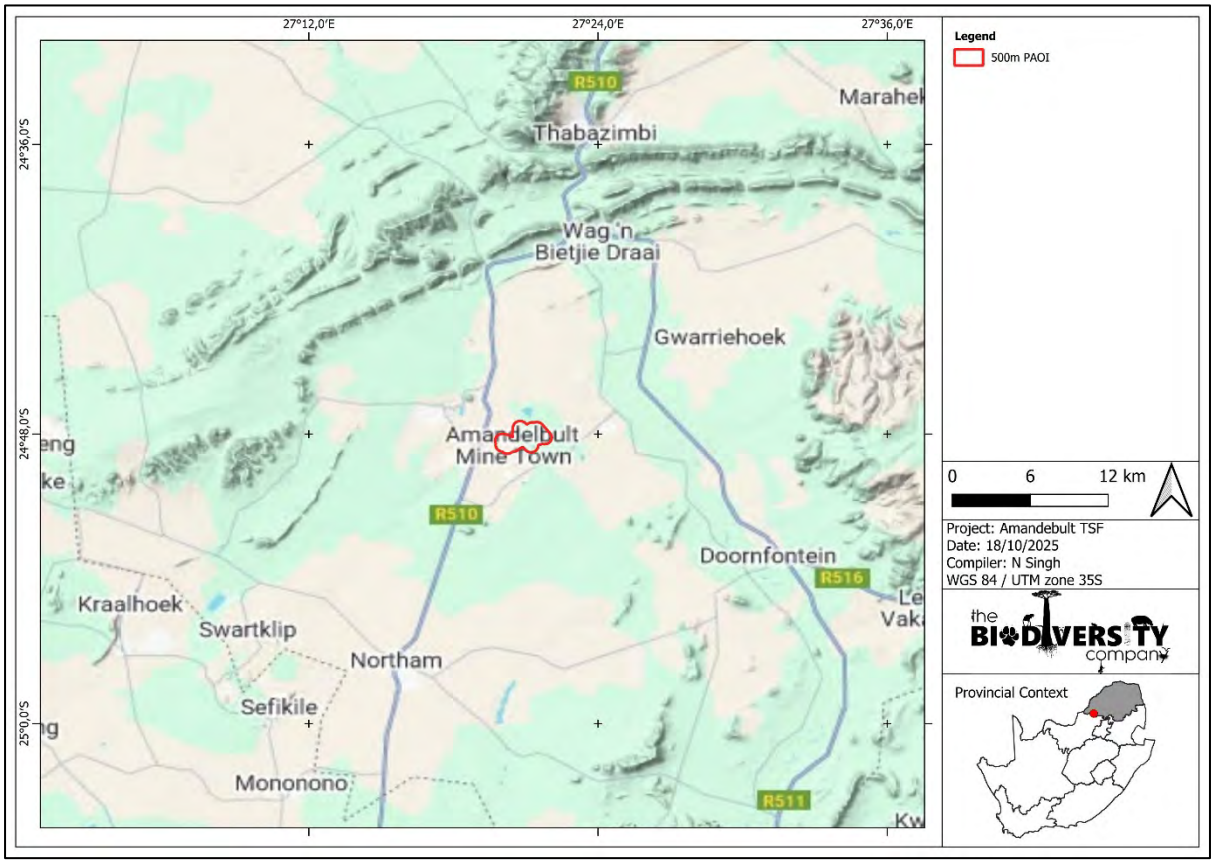


Figure 1-1 Locality of the Project

1.2 Scope of Work

The following tasks were completed in fulfilment of the terms of reference for this assessment:

- A desktop assessment of available and related datasets to provide context of the freshwater biodiversity of the project area and to indicate potential wetland areas;
- The delineation, classification and assessment of wetlands within 500 m of the project area;
- An assessment of the related impacts using the risk assessment (DWS, 2023);
- The provision of recommendations relevant to associated impacts; and
- Report compilation detailing the baseline findings.

1.3 Project Description

The following general site information was provided by Kongiwe Environmental (Pty) Ltd (2025) and pertains to the proposed development. The layout of the project is indicated in Figure 1-3 below.

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple

cuts designated for hydraulic mining operations. Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4

Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process. Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilized slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow toward a collection area located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

Figure 1-2 Mobile tracked hydraulic monitor on a TSF in South Africa (for illustration only)

Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm.

Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road adjacent to the TSF, will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Power Supply, Sewage, Process Water and other requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

Work Schedule

The anticipated life span of the Project is approximately 20 years. It is expected that there will be a 2-year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan..

Technical Details

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing.

The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen
- Set of cyclones
- Process water tank
- Gland service water tank
- Compressor
- MCC
- Transformers
- Substations
- Overhead Crane
- Mini workshop
- Firewater tank
- Ablution facilities
- Offices

- Control room
- Surge tank
- Concrete and Steel structures
- Pumps
- Piping
- Instrumentation.

TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000L)
- Fuel dispensing system
- Fuel filtration and Conditioning system
- Fuel monitoring devices
- Refuelling bays

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. the area of the road will be approximately 1.1 Ha (11 000m2)

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM

plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.

- TSF Chrome Recovery Plant – Current plant to be used - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.

- TSF Tailings Thickening Plant – Current thickening plant to be used- A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

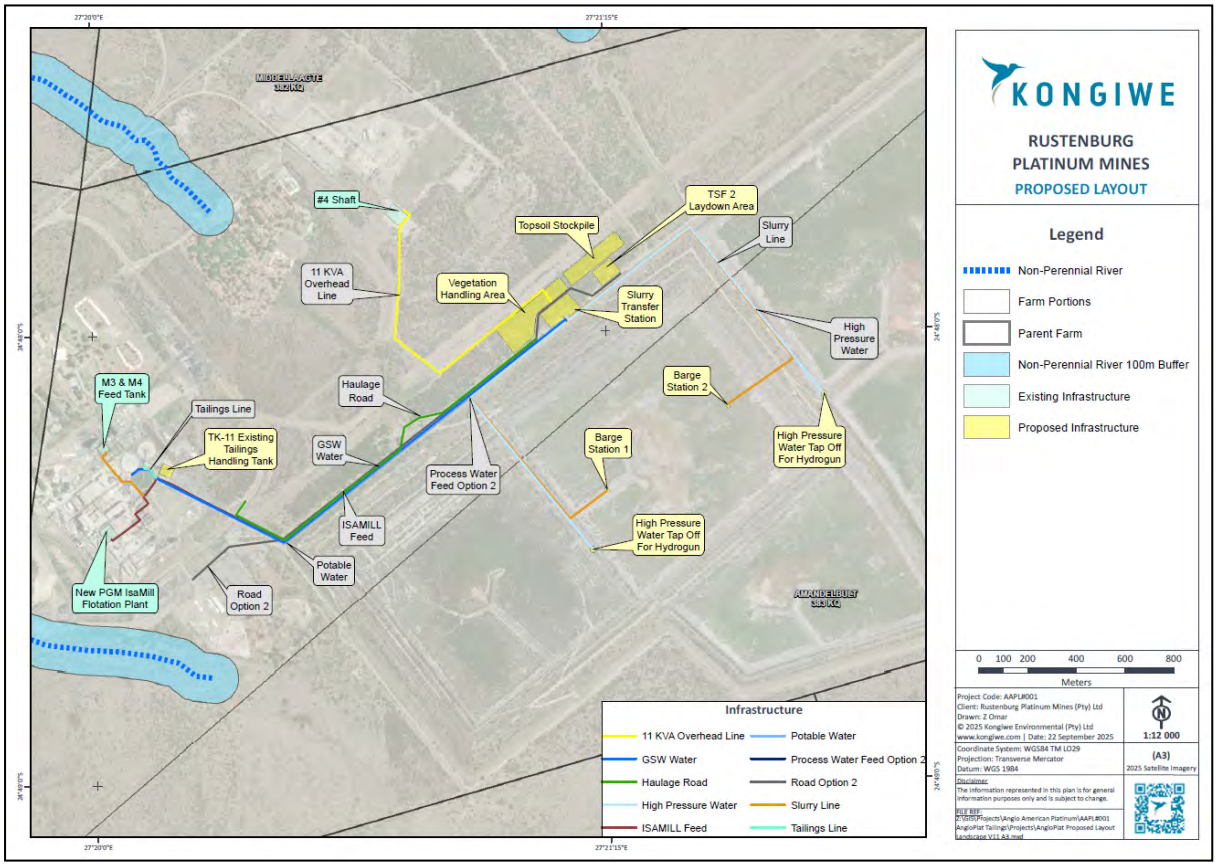


Figure 1-3 Layout of the proposed project (Kongiwe, 2025)

1.4 Assumptions and Limitations

The following aspects were considered as limitations:

- It has been assumed that the spatial files provided to the specialist are accurate;
- Areas characterised by external wetland attributes were the focus for this assessment, where wetlands were thereafter confirmed by soil form indicators;
- Areas within the 500 m PAOI were delineated and assessed via desktop where inaccessible;
- Ecological assessments were not conducted as only drainage features were identified within the PAOI that are typically modified, lacking habitat complexity, biodiversity, and attributes required for the detailed ecological assessments that wetland features undergo;
- Only Section 21(c) and 21(i) water uses are applicable to the use of the DWS RAM (2023) which has been excluded from the assessment given that the infrastructure does not fall within the regulated area of the drainage features, underscoring that the risks will be low and insignificant from the proposed development; and
- The GPS used for water resource delineations is accurate to within five metres. Therefore, the wetland delineation plotted digitally may be offset by a maximum of five metres to either side.

1.5 Key Legislative Requirements

The legislation, policies and guidelines listed below in Table 1-1 are applicable to the current project. The list below, although extensive, may not be complete and other legislation, policies and guidelines may apply in addition to those listed below.

Table 1-1 A list of key legislative requirements

Region	Legislation / Guideline	Comment
National	National Environmental Management Act (Act No. 107 of 1998) (NEMA)	To provide for the effective protection and controlled utilisation of the environment and for matters incidental thereto.
	The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEMBA), Threatened or Protected Species Regulations	The protection of species and ecosystems that warrant protection.
	National Environmental Management: Waste Act (Act No. 59 of 2008)	The regulation of waste management to protect the environment.
	National Water Act (Act No. 36 of 1998) (NWA)	To provide for the regulation of water uses.
	NWA: Government Notice (GN) 4167 (previously GN 509 of 2016 and GN 3139 of 2023)	WUL in terms of Section 21(c) & (i) water uses and the provision to apply for a GA subject to usage and outcome of the RAM.
	NEMBA: Alien and Invasive Species Regulations (2014) (GNR R598, 1 August 2014) NEMBA: Alien and Invasive Species Lists (2020) (GN 1003, September 2020)	The regulation and management of alien invasive species.
	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA)	To provide for control over the utilisation of the natural agricultural resources, including the vegetation and the combating of weeds and invader plants.
Provincial	Limpopo Environmental Management Act, 2003 (Act No. 7 of 2003)	To consolidate and amend the environmental management legislation of or assigned to the Province; and to provide for matters incidental thereto.
	Limpopo Conservation Plan (2013)	A spatial tool comprising of set of maps of biodiversity priority areas accompanied by contextual information and land use guidelines for use in land use and development planning, environmental assessment and regulation, and natural resource management.

1.5.1 National Water Act, 1998 (NWA)

The DWS is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, or aquifers. The National Water Act (Act No. 36 of 1998) (NWA) allows for the protection of water resources, which includes:

- The maintenance of the quality of the water resource to the extent that the water resources may be used in an ecologically sustainable way;
- The prevention of the degradation of the water resource; and
- The rehabilitation of the water resource.

A watercourse means:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows; and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

The NWA recognises that the entire ecosystem, not just the water itself, constitutes a water resource and as such needs to be conserved. No activity may therefore take place within a watercourse unless

it is authorised by the DWS. Any area within a wetland or riparian zone is therefore excluded from development unless authorisation is obtained from the DWS in terms of Section 21 (c) and (i).

1.5.2 National Environmental Management Act (NEMA, 1998)

The National Environmental Management Act (NEMA) (Act 107 of 1998) and the associated Regulations as amended in April 2017, states that prior to any development taking place within a wetland or riparian area, an EA process needs to be followed. This could follow either the Basic Assessment Report process or the EIA process depending on the scale of the impact.

1.6 Legislative Framework

In line with the protocol for the specialist assessment and minimum report content requirements for environmental impacts on freshwater biodiversity, as per Government Notice 320 published in terms of NEMA, dated 20 March 2020: "Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA, 1998, when applying for EA" – the following has been assumed:

- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of:
    - "Very high sensitivity" for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment;
    - "Low sensitivity" for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement;
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of "very high" aquatic biodiversity sensitivity, and it is found to be of a "low" sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted;
- Similarly, where the information gathered from the site sensitivity verification differs from the screening tool designation of "low" aquatic biodiversity sensitivity, and it is found to be of a "very high" sensitivity, an Aquatic Biodiversity Specialist Assessment must be submitted.

Given that the proposed development falls within areas characterised by low aquatic biodiversity the reporting requirements for a compliance statement has been followed.

An Aquatic / Freshwater Compliance Assessment Report must contain the information as presented in Table 1-2 below.

Table 1-2 Aquatic Biodiversity Specialist Compliance Assessment information requirements as per the relevant protocol, including the location of the information within this report

Information to be Included (as per GN 320, 20 March 2020)	Report Section
contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae	7.3
a signed statement of independence by the specialist	7.2
a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment	2
a baseline profile description of biodiversity and ecosystems of the site	3.1.4
the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	7.1

in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase	5.1
where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr	4
a description of the assumptions made as well as any uncertainties or gaps in knowledge or data	1.4
any conditions to which this statement is subjected	5.2

A signed copy of the assessment must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

2 Fieldwork

A field survey for the area was undertaken on the 29th of April 2025, which is a wet-season survey, to identify the presence of freshwater features (wetlands) and to delineate their spatial extents. The seasonality is not considered to be a limiting factor to the assessment, and the results of this assessment are conclusive.

3 Results & Discussion

3.1 Desktop Dataset Assessment

3.1.1 Climate

The SVcb 1 vegetation type is characterised by a summer rainfall with a Mean Annual Precipitation (MAP) that ranges between 500 mm and 600 mm. Of the savanna vegetation units that are located outside Kalahari bioregions, this unit has the highest mean annual potential evaporation. In the winter season frost is frequent (Mucina & Rutherford, 2006).

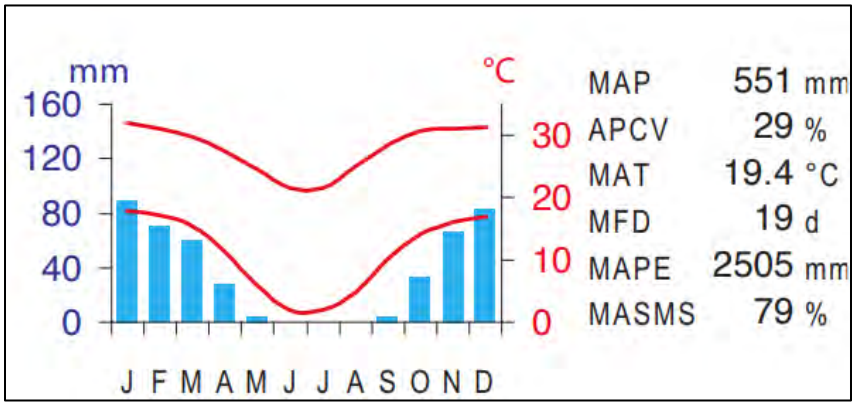


Figure 3-1 Climate for the Dwaalboom Thornveld (SVcb 1) vegetation type (Mucina & Rutherford, 2006)

3.1.2 Soils and Geology

The Rustenburg Layered Suite as well as the Bushveld Igneous Complex are present in this region with a lot of mafic intrusive rocks present. The underlying geology of this region is a granite-gneiss terrane (Archaean) and it is covered partly with chemical and clastic sediments and volcanics derived from Rayton and Silverton formation which both form part of the Pretoria Group. Vertic clays had developed in the area due to the presence of norite and gabbro rocks. The land types of Ea and Ae are mostly present in these areas (Mucina and Rutherford, 2006).

According to the land type database (Land Type Survey Staff, 1972 - 2006), the PAOI is characterised by the Ea 70 land type. The Ea land type consists of one or more of the following soils: Vertic, Melanic, and red structured diagnostic horizons, of which these soils are all undifferentiated.

3.1.3 Hydrological Characteristics

The PAOI falls within the Bushveld Basin Ecoregion, within the Limpopo-Olifants Water Management Area. At a finer scale, within the A24F and A24C quaternary catchments. The fine scale hydrological features are presented in the following section.

3.1.3.1 Topographical River Lines and Inland Water Areas

The topographical inland and river line data for the “2470” dataset indicated one non-perennial drainage line within the PAOI (Figure 3-2).

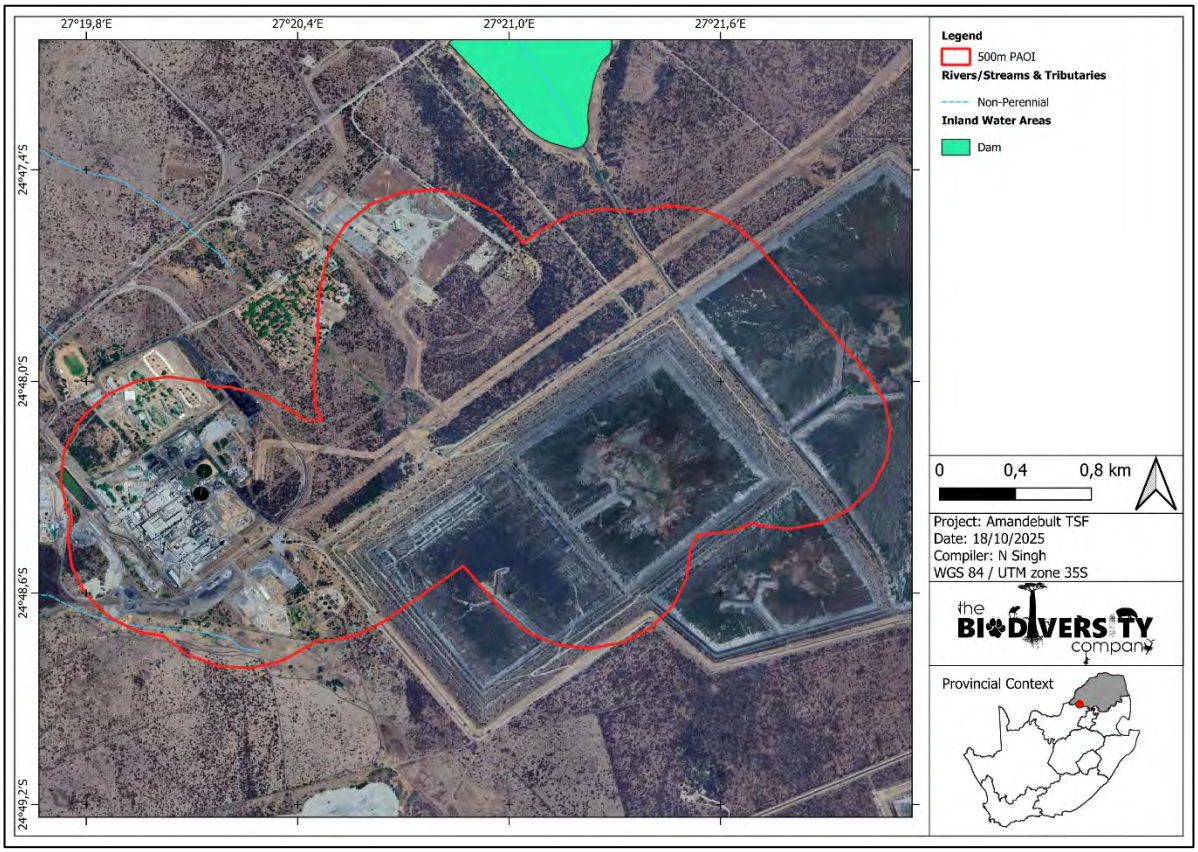


Figure 3-2 Topographical Inland Water Areas and River Lines that intersect the Project Area of Influence

3.1.4 Ecologically Important Landscape Features

The Geographic Information System (GIS) analysis pertaining to the relevance of the proposed project to ecologically important landscape features is summarised in Table 3-1. Only features that were identified to be relevant to the proposed project were further discussed.

Table 3-1 Summary of relevance of the proposed project to ecologically important landscape features

Desktop Information Considered	Relevant/Irrelevant	Section
Provincial Conservation Plan	Relevant – PAOI overlaps with Ecological Support Areas (ESA) and other national areas.	3.1.4.1
Strategic Water Source Areas	Relevant – PAOI overlaps with a SWSA, Crocodile River Valley.	3.1.4.2
South African Inventory of Inland Aquatic Ecosystems (SAIIAE)	Irrelevant – PAOI does not overlap with SAIIAE wetlands and rivers.	-
National Freshwater Priority Area	Irrelevant – PAOI does not overlap with NFEPA wetlands and rivers.	-

3.1.4.1 Limpopo Conservation Plan

According to the Limpopo Conservation Plan (Figure 3-3), the PAOI intersects the following map categories:

- Ecological Support Areas 1;
- No Natural Remaining; and
- Other Natural areas.

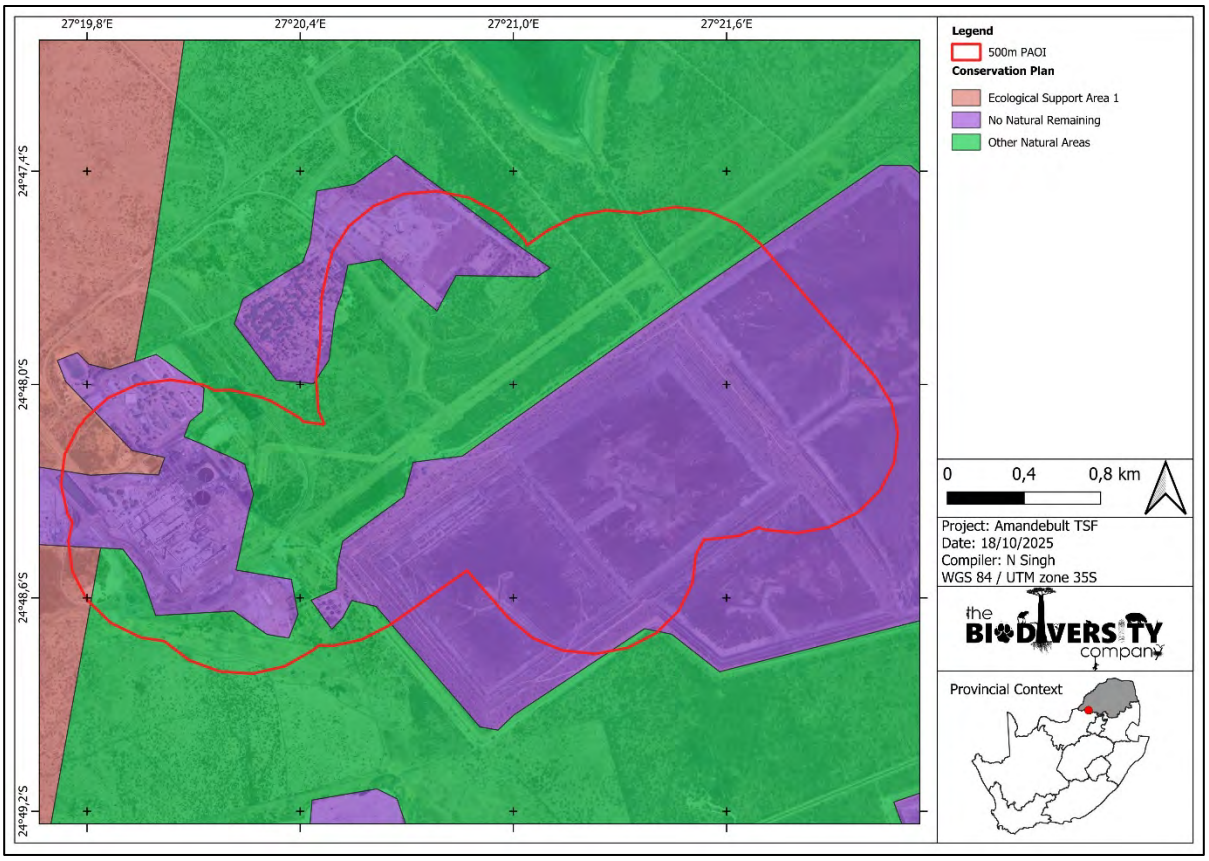


Figure 3-3 Limpopo Conservation Plan overlayed with the Project Area of Influence

3.1.4.2 Strategic Water Rersources Areas

Strategic Water Source Areas (SWSAs) are areas that supply a disproportionate amount of mean annual runoff to a geographical region of interest. The areas supplying ≥ 50% of South Africa's water supply (which were represented by areas with a mean annual runoff of ≥ 135 mm/year) represent

national SWSAs (SANBI, 2013). Groundwater and interflow play a key role in sustaining surface water flows during the dry season and account for up to 42% of river baseflow, thereby sustaining aquatic and water-dependent biota. Therefore, the protection and management of these areas are imperative (Le Maitre *et al*., 2018).

According to the SWSAs of South Africa, Lesotho and Swaziland, the PAOI overlaps with a Groundwater Strategic Water Source Area known as the Crocodile River Valley Groundwater Water Source Area (Figure 3-4; Lotter and Le Maitre, 2021).

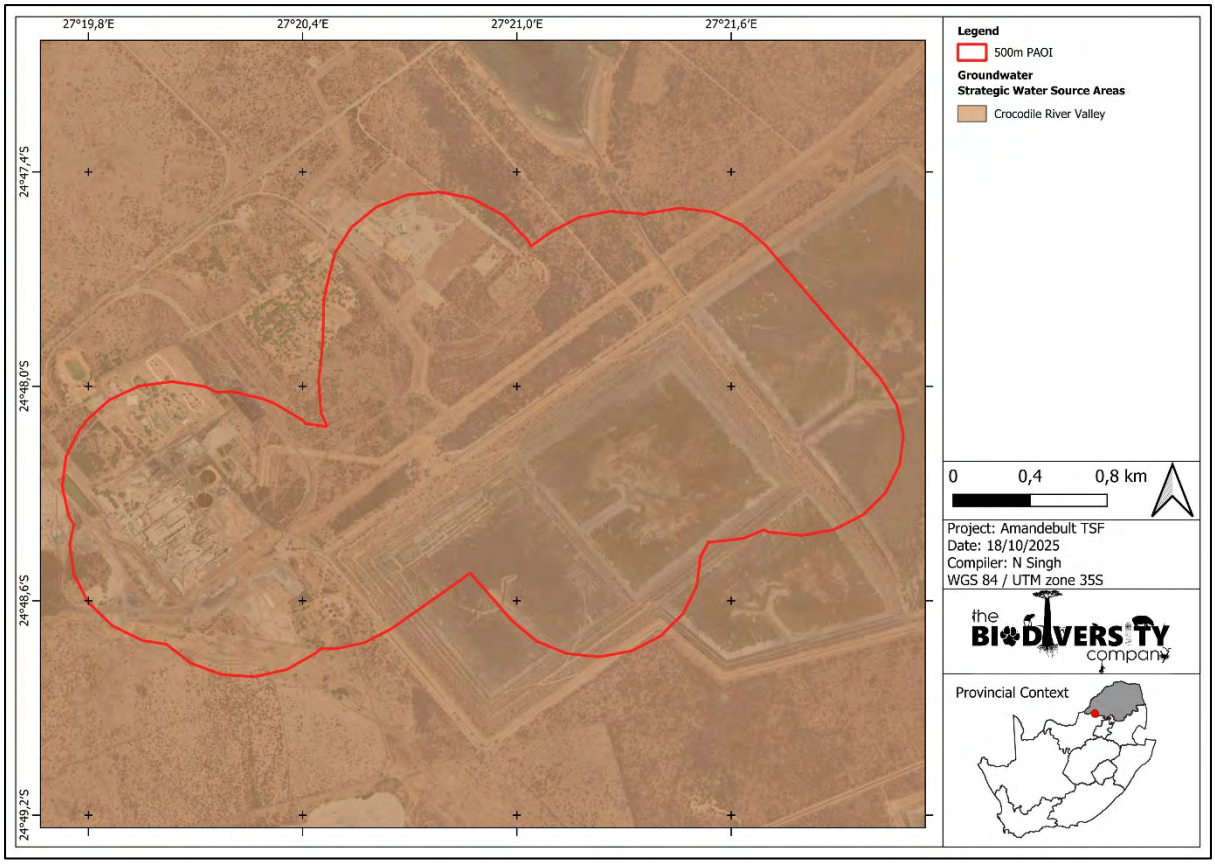


Figure 3-4 Strategic Water Source Areas in relevant to the project

3.2 Wetland Field Survey

3.2.1 Delineation

Within the 500-metre PAOI, two drainage features were identified (Figure 3.5). The identified features are effectively avoided by the proposed development.

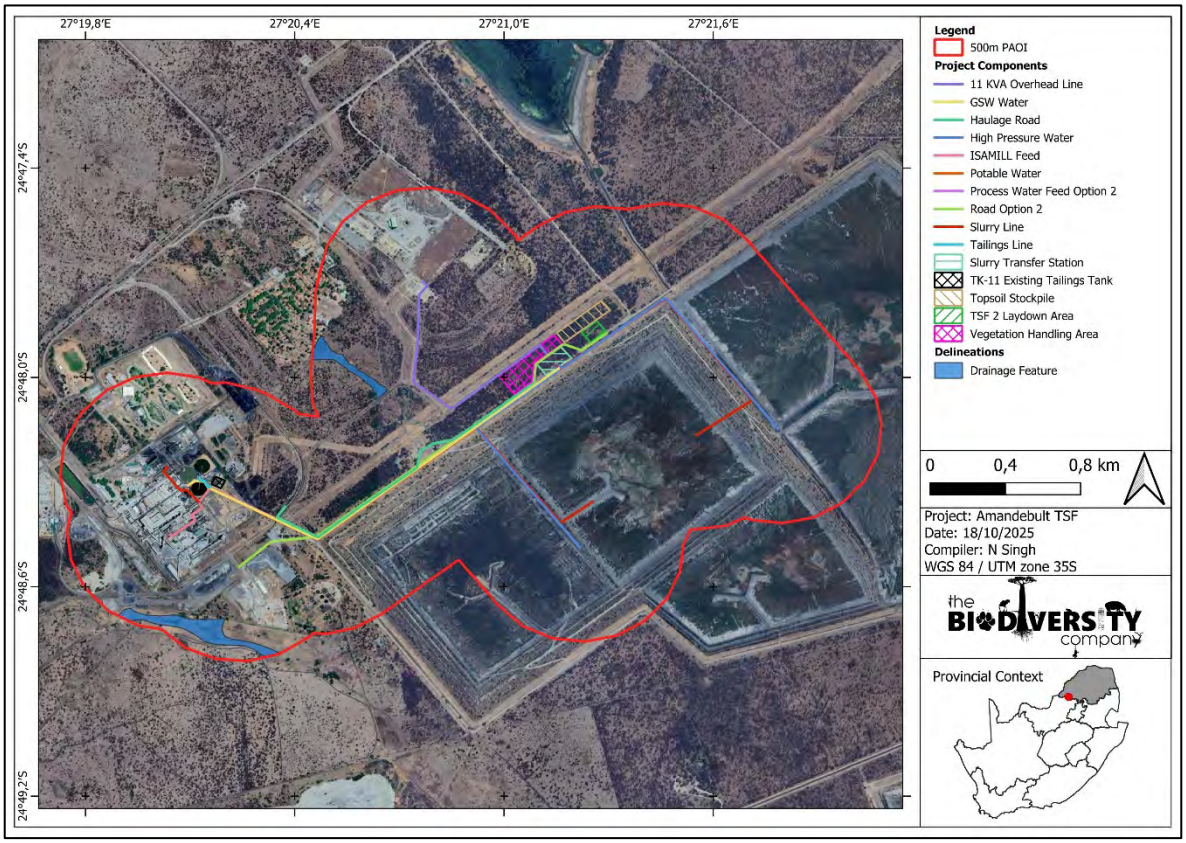


Figure 3-5 Delineation of wetland features within the Project Area of Influence

3.2.2 Area of Wetlands

The table below summarises the individual wetland areas and the percentage that the identified features comprises of the total freshwater area within the PAOI, which amounts to 6.49 ha (Table 3-2).

Table 3-2 Summary of wetland area within the Project Area of Influence

HGM Units	Area (Ha)	Size (%)
Drainage features	6.49	100
Total	**6.49**	**100**

3.2.3 Risk Screening

Table 3-3 provides the results of risk screening for the delineated wetlands and provides motivation for each of the determined categories. The drainage features are perceived to be noy be at risk from the proposed pipeline development.

Table 3-3 Risk status of the delineated wetlands

HGM unit	Risk Status	Rationale
Drainage Areas	Not At Risk	These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from construction or operational activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

3.3 Buffer Requirements

The buffer requirements for the wetlands were calculated using the Site-Based Tool: Determination of buffer zone requirements for wetland ecosystems (Macfarlane *et al.,* 2014). The recommended buffer zones are presented in Table 3-4 and Figure 3-6.

A drainage buffer of 32 m was calculated for the drainage features in the pre-mitigation scenario, which can be reduced to a minimum post-mitigation buffer of 15 m. In consideration of the current layout, the proposed development sufficiently avoids the suggested buffers.

Table 3-4 Buffer requirements for the relevant wetland feature

Scenario	Buffer Distance
Post-Mitigation	15 m
Pre-Mitigation	32 m

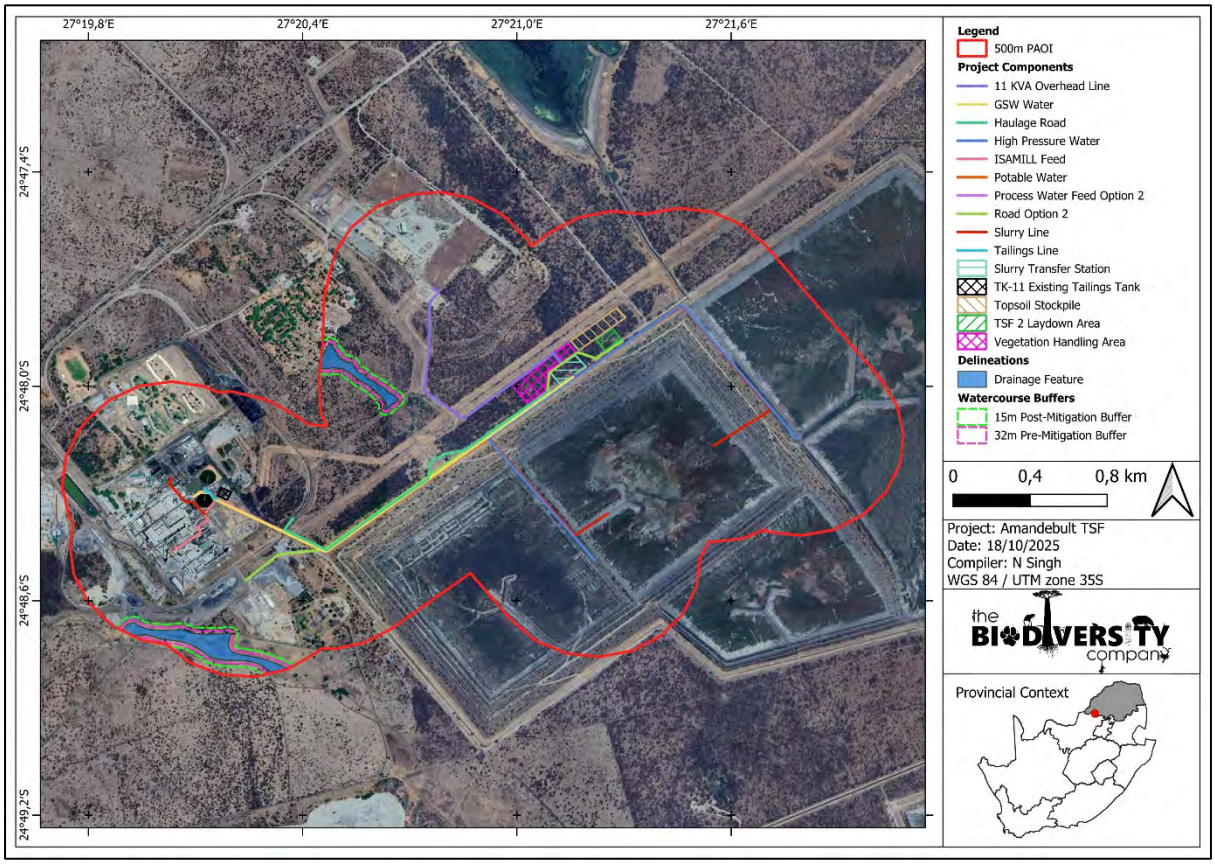


Figure 3-6 Recommended buffers for the assessed wetlands

3.3.1 Regulation Zones

Table 3-5 presents the legislated zones of regulation that would be applicable to the wetland areas.

The proposed activities do not fall within the 100 m NWA and 32 m NEMA regulated area of a natural watercourse.

The zones of regulation were only computed for the delineated extent of the watercourses and is displayed in Figure 3-7.

Table 3-5 Legislated zones of regulation.

Regulatory authorisation required	Zone of applicability
Water Use License Application in terms of the National Water Act, 1998 (Act No. 36 of 1998). GN 4167 as published in the Government Gazette 49833 of 2023. GN 509 as published in the Government Gazette 40229 of 2016.	In accordance with GN 4167 of 2023 and GN 509 of 2016, as it relates to the NWA, a regulated area of a watercourse in terms of water uses as listed in Section 21c and 21i is defined as: • the outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam; • in the absence of a determined 1 in 100-year flood line or riparian area the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or • a 500 m radius from the delineated boundary (extent) of any wetland or pan in terms of this regulation.
Environmental Authorisation in terms of the Listed activities of the National Environmental Management Act, 1998 (Act No. 107 of 1998). EIA Regulations (2014), as amended.	Activity 12 of Listing Notice 1 (GN 327) of the National Environmental Management Act, 1998 (Act No.107 of 1998) EIA regulations, 2014 (as amended) states that: The development of: (xii) Infrastructure or structures with a physical footprint of 100 square meters or more; Where such development occurs— Within a watercourse; In front of a development setback; or If no development setback has been adopted, within 32 meters of a watercourse, measured from the edge of a watercourse. Activity 19 of Listing Notice 1 (GN 327) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) EIA regulations, 2014 (as amended) states that: "The infilling or depositing of any material of more than 10 cubic meters into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic meters from a watercourse."

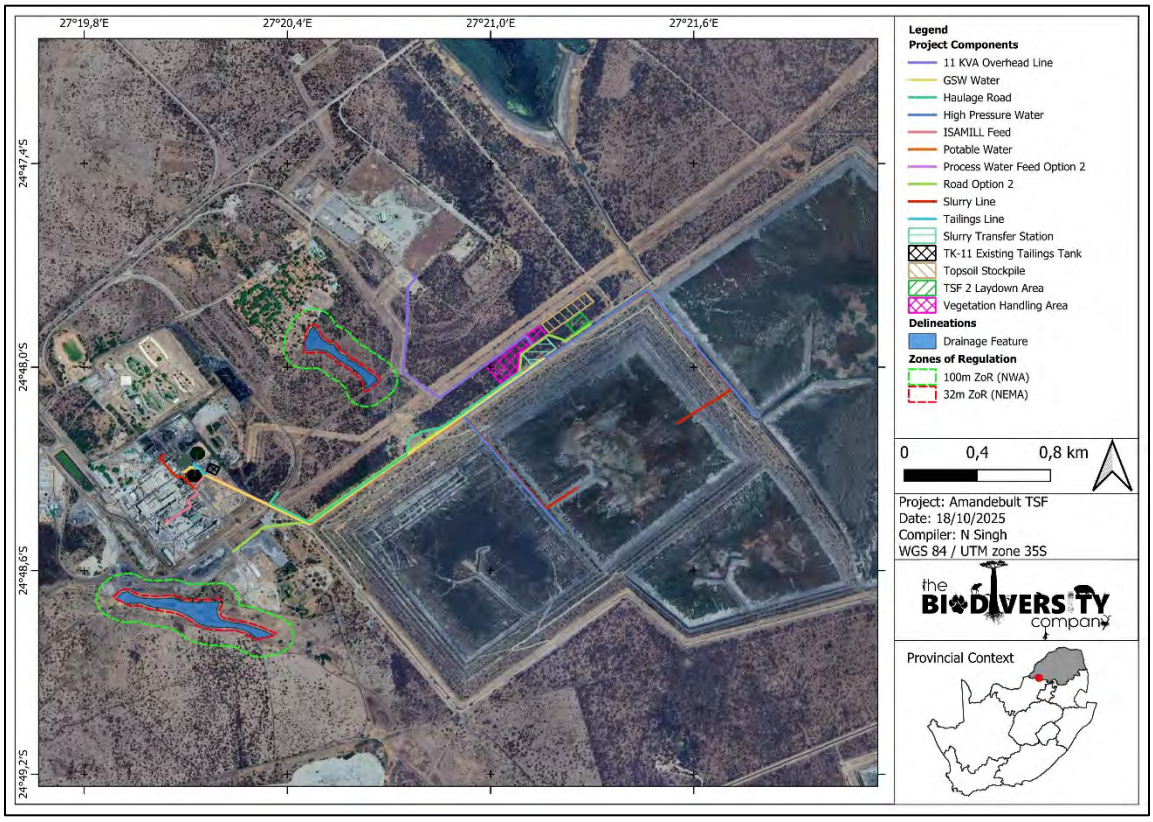


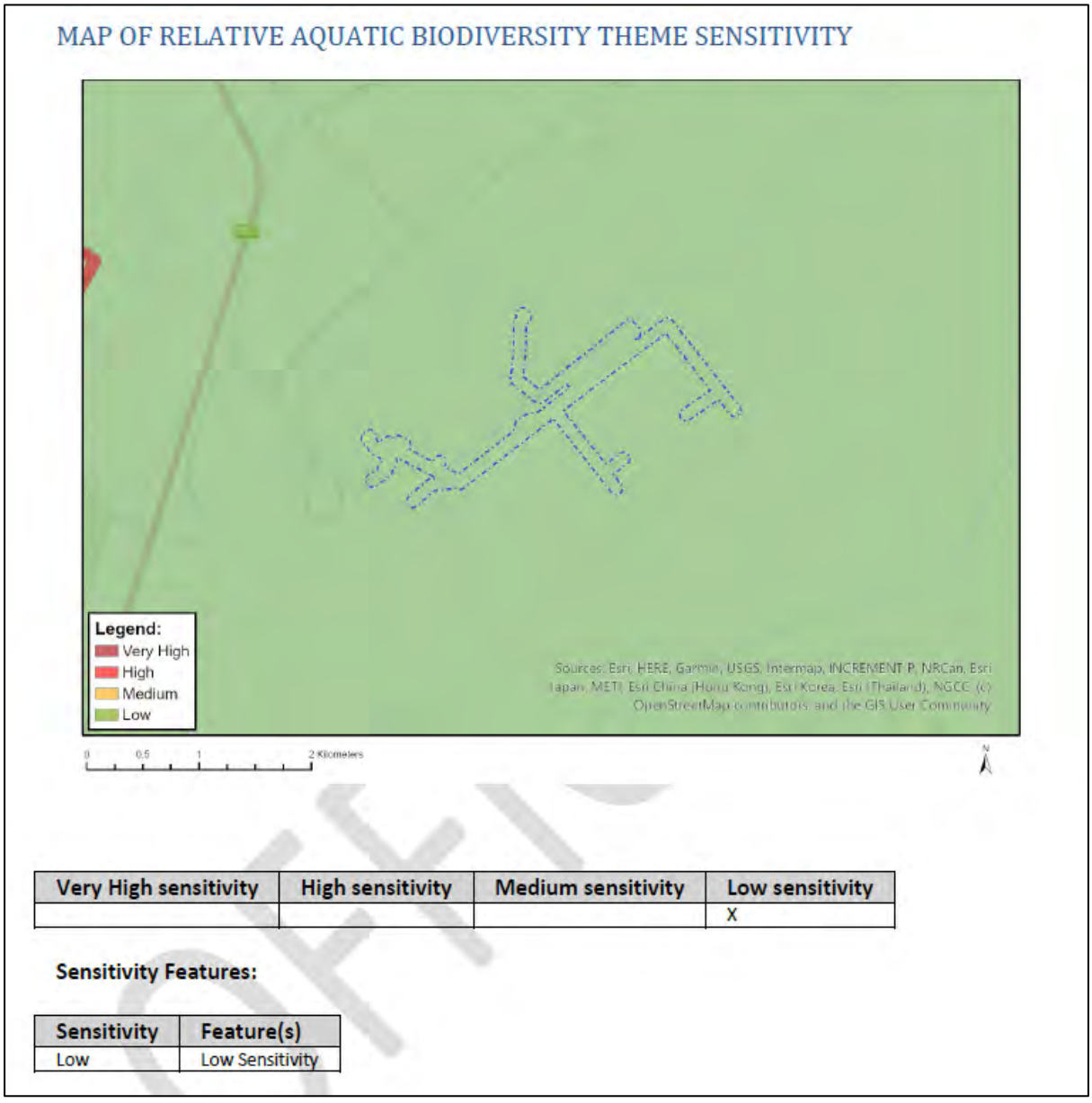
Figure 3-7 Relevant zones of regulation for the natural watercourses

3.4 Site Sensitivity Verification

3.4.1 Desktop Ecological Sensitivity

The following is deduced from the National Web-based Environmental Screening Tool Regulation 16(1)(v) of the EIA Regulations 2014, as amended):

- Aquatic Biodiversity Theme Sensitivity “Low” for the Project Site, attributed to the absence of any water courses (Figure 3-8).



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

Figure 3-8 Aquatic Biodiversity Theme Sensitivity for the Project Site according to the National Web-based Environmental Screening Tool

3.4.2 Screening Tool Comparison

The allocated sensitivities for each of the relevant themes are either disputed or validated for the assessed areas as presented in Table 3-6 below. A summative explanation for each result is provided as relevant. It should be noted that the National Web-based Environmental Screening Tool allocates

sensitivities to freshwater resources identified through the available national freshwater datasets based on their presence (very high) or absence (low).

The specialist-assigned sensitivity ratings presented herein consider the presence of features, their size and the ecological characteristics. Figure 3-9 presents the delineated systems within the PAOI and the assigned sensitivities.

Table 3-6 Summary of the screening tool vs specialist-assigned sensitivities

Feature	Screening Tool Theme	Screening Tool	Specialist Finding	Tool Validated or Disputed by Specialist - Reasoning
Drainage Feature and 15 m Buffer	Aquatic Biodiversity Theme	**Low**	**Low**	Validated – The non-perennial features and their buffers do not support significant aquatic biodiversity or wetland function and are not considered priority conservation areas. These features exhibit seasonal flows with artificial inputs.
Remaining Area	Aquatic Biodiversity Theme	**Low**	**Low**	Validated – No natural surface water features were identified within these areas.

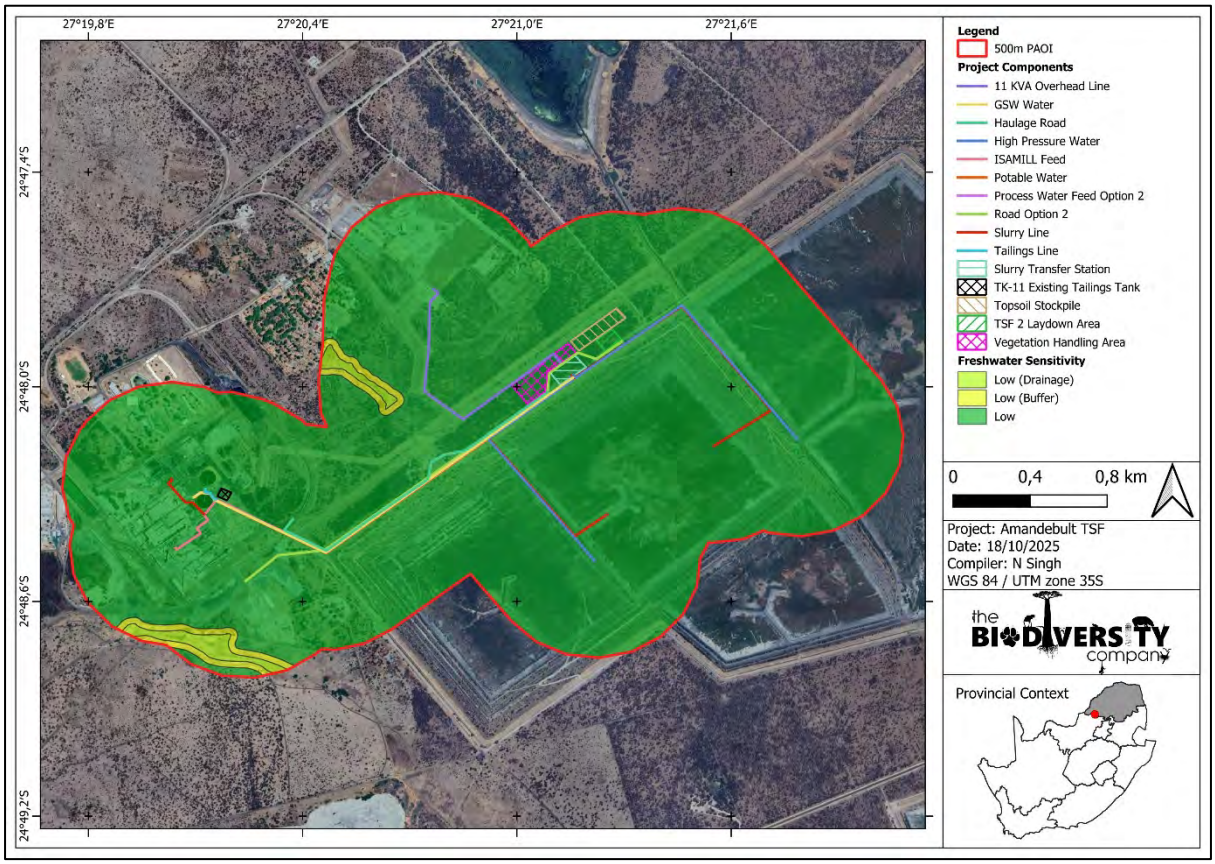


Figure 3-9 Map illustrating the freshwater sensitivity for the Project Area of Influence

4 Recommendations

This section outlines the general mitigation measures to be implemented as a precautionary measure to minimize potential environmental impacts, ensure compliance with relevant regulations, and promote best practices throughout the project lifecycle.

- Erosion and Sediment Control:
    - Install silt fences, sediment traps, and erosion control blankets to prevent soil and sediment from entering the drainage during excavation and backfilling.

- Minimize Disturbance:
    - Restrict construction activities to the smallest area necessary and avoid unnecessary clearing of vegetation.
- Timing of Works:
    - Schedule construction during dry periods to reduce the risk of runoff and sedimentation.
- Stormwater Management:
    - Implement temporary stormwater diversion and containment measures to prevent construction runoff from reaching the drainage.
- Spill Prevention and Response:
    - Store fuels, lubricants, and chemicals in secure, bunded areas away from the drainage. Keep spill kits on site and train workers in spill response procedures.
- Rehabilitation and Revegetation:
- Restore disturbed areas promptly after construction by replanting native vegetation or applying ground cover to stabilize soils and prevent erosion.
- Buffer Zones:
    - Avoid the 15 m drainage buffer, unless for activities that have been authorised as part of the project.
- Waste Management:
    - Collect and properly dispose of all construction waste, including excess soil, packaging, and materials, to prevent pollution of the drainage.

5 Conclusion

Within the 500 m PAOI, two drainage features were identified and are effectively avoided by the proposed development. These features are effectively buffered from potential impacts by existing infrastructure and land uses, including roads, buildings, and material stockpiles. These existing activities act as physical barriers, limiting direct access and reducing the likelihood of disturbance or contamination from construction or operational activities. As a result, the non-perennial features are shielded from significant changes in hydrology, sedimentation, or pollutant input, ensuring their continued stability and function within the landscape.

5.1 Risk and Impact Statement

No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible.

It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.

5.2 Specialist Opinion

No fatal flaws were identified for the project. It is the opinion of the specialists that the project may be favourably considered for approval, and the Competent Authority must consider the prescribed mitigation measures for the authorisation.

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7 Appendix Items

7.1 Appendix A – Methodology

7.1.1 Desktop Dataset Assessment

The desktop assessment was undertaken using GIS to access, view and overlay the latest available related datasets with the project area. The information represented within the datasets was used to develop the relevant digital maps used to identify potentially environmentally sensitive areas. These datasets and their respective dates of publishing are provided below:

- Vegetation Types - Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018 & Mucina and Rutherford 2006);
- Soils and Geology - Land Types Database (Land Type Survey Staff, 1972 - 2006); and
- Topographical Inland Water Areas and River Lines (based on the 1994 1:500 000 topographic maps as per the Chief Directorate of the National Geo-spatial Information).

7.1.1.1 Vegetation Types - Vegetation Map of South Africa, Lesotho and Swaziland

The Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018) is the latest and updated version of the maps published in earlier time such as those presented by Mucina and Rutherford (2006) and those presented in the National Biodiversity Assessment (2011). The map provides spatial details on the representative vegetation of South Africa and is complemented in this report using information from Strelitzia (Mucina & Rutherford, 2006) to provide insight on the landscape features, biogeography, climate, geology, and soils of the project area.

7.1.1.2 Soils and Geology - Land Type Database

The Land Type Survey provides information on the soils, terrain, climate, and geology of areas within South Africa. The data includes the pedological classification of soils and is used in this report to provide insight on the common soil forms associated with aquatic or freshwater systems of a particular area.

7.1.1.3 Topographical River Lines and Inland Water Areas

Topographical Inland Water Areas and River Lines for South Africa are based on the topographic maps dated 1994 as per the National Geo-spatial Information. These datasets are used in this report to provide insight on potential wetland areas and serves to highlight the location and extent of drainage features, dams, wetlands, reservoirs and other relevant inland waterbodies.

7.1.1.4 Ecologically Important Landscape Features

The datasets listed below were incorporated to establish the relation between the project and ecologically important or sensitive freshwater entities. Emphasis was placed around the following spatial datasets:

- South African Inventory of Inland Aquatic Ecosystems (SAIIAE), NBA 2018 Rivers and Wetlands (Van Deventer *et al.,* 2019);
- National Freshwater Priority Areas, Rivers and Wetlands, 2011 (Nel *et al.,* 2011); and
- Limpopo Conservation Plan V2.0 (Desmet *et al*., 2013).

7.1.1.4.1 The South African Inventory of Inland Aquatic Ecosystems

The SAIIAE was established during the 2018 NBA, the SAIIAE is a collection of spatial data layers that represent the extent of river and inland wetland ecosystem types as well as the pressures on these systems. The same two headline indicators, and their associated categorisations, are applied as with the terrestrial ecosystem NBA, namely Ecosystem Threat Status and Ecosystem Protection Level. The Ecosystem Threat Status of river and wetland ecosystem types are based on the extent to which each ecosystem type had been altered from its natural condition.

7.1.1.4.2 National Freshwater Ecosystem Priority Areas, Rivers and Wetlands

In an attempt to better conserve aquatic ecosystems, South Africa has categorised its inland aquatic systems according to set ecological criteria (i.e., ecosystem representation, water yield, connectivity, unique features, and threatened taxa) to identify Freshwater Ecosystem Priority Areas (FEPAs). The FEPAs are intended to be conservation support tools, and it is envisioned that they will guide the effective implementation of measures to achieve the National Environment Management: Biodiversity Act's biodiversity conservation goals (Nel *et al.,* 2011).

7.1.1.4.3 Limpopo Conservation Plan

The key output of this systematic biodiversity plan is a map of biodiversity priority areas (Desmet *et. al*., 2013). The plan classifies areas on the basis of their contributions to reaching the associated conservation targets within the province (Desmet *et. al*., 2013). The Limpopo Conservation Plan uses the following terms to categorise the various land use types according to their biodiversity and environmental importance:

- Critical Biodiversity Area (CBA);
- Ecological Support Area (ESA);
- Other Natural Area (ONA);
- Protected Area (PA); and
- No Natural Remaining Habitat.

CBAs are areas of high biodiversity value and need to be kept in a natural state, with no further loss of habitat or species (Desmet *et. al*., 2013).

The Limpopo Conservation Plan specifies two different CBA areas, Irreplaceable CBA's and Best Design Selected Site CBA's. Irreplaceable CBA's are areas required to meet biodiversity targets and where no other areas are available to achieve such targets. Design Selected Site CBA's are areas that have been selected to meet biodiversity targets, but where alternative sites may be available to achieve such targets.

ESAs are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services. ESA1 sites refer to areas where natural habitat remnants do exist and ESA2 sites refer to areas where no natural habitat remains, but the area is still considered important in terms of regulating land use to prevent further impact. Critical Biodiversity Areas and Ecological Support Areas may be terrestrial or aquatic (SANBI-BGIS, 2017).

ONAs consist of all those areas in good or fair ecological condition that fall outside the protected area network and have not been identified as CBAs or ESAs.

Areas with no habitat remaining refer to areas with no significant direct biodiversity value. Unnatural or degraded natural areas that are not required as ESA, including intensive agriculture, urban, industry, and human infrastructure.

7.1.2 Wetland Field Survey

7.1.2.1 Identification and Mapping

The wetland areas were delineated in accordance with the DWAF (2005) guidelines, a cross section is presented in Figure 7-1. The outer edges of the wetland areas were identified by considering the following four specific indicators:

- The Terrain Unit Indicator helps to identify those parts of the landscape where wetlands are more likely to occur;
- The Soil Form Indicator identifies the soil forms, as defined by the Soil Classification Working Group (1991), which are associated with prolonged and frequent saturation;
- The soil forms (types of soil) found in the landscape were identified using the South African soil classification system namely; Soil Classification: A Taxonomic System for South Africa (Soil Classification Working Group, 1991);
- The Soil Wetness Indicator identifies the morphological "signatures" developed in the soil profile as a result of prolonged and frequent saturation; and
- The Vegetation Indicator identifies hydrophilic vegetation associated with frequently saturated soils.

Vegetation is used as the primary wetland indicator. However, in practise the soil wetness indicator tends to be the most important, and the other three indicators are used in a confirmatory role.

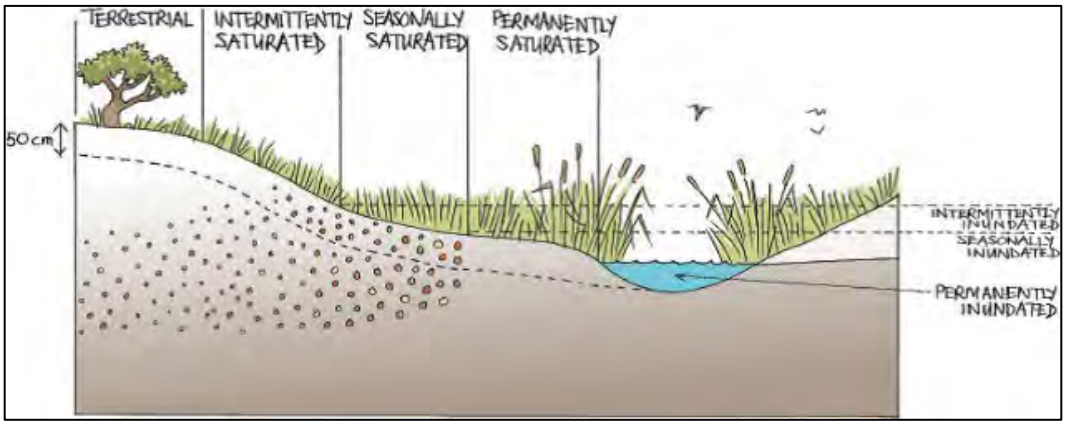


Figure 7-1 Cross section of a wetland, indicating how the soil wetness and vegetation indicators respond to changes in topography (Ollis et al. 2013)

7.1.2.2 Delineation

The wetland indicators described above are used to determine the boundaries of the wetlands within the project area. These delineations are then illustrated by means of maps accompanied by descriptions.

7.1.2.3 Classification and Description

The National Wetland Classification Systems developed by the SANBI will be considered for this study. This system comprises a hierarchical classification process of defining a wetland based on the principles of the Hydrogeomorphic (HGM) approach at higher levels, and then also includes structural features at the lower levels of classification (Ollis *et al.,* 2013).

7.1.3 Risk Screening

A risk screening procedure which considers the general topography of the proposed area in conjunction with the spatial proximity of the natural wetlands to the proposed areas of development was used to determine the 'risk status' of the delineated wetlands. Two broad categories are included in the screening process which classify wetlands to be 'At Risk' or 'Not At Risk'.

7.1.4 Buffer Requirements

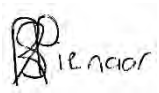
The "Preliminary Guideline for the Determination of Buffer Zones for Rivers, Wetlands and Estuaries" (Macfarlane *et al.,* 2014) was used to determine the appropriate buffer zone for the proposed activity.

7.2 Appendix B – Specialist Declaration of Independence

Declaration

I, Rian Pienaar, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the Competent Authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.



Rian Pienaar

Freshwater Ecologist

The Biodiversity Company

October 2025

Declaration

I, Divan van Rooyen, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the Competent Authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the Competent Authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

Divan van Rooyen

Freshwater Ecologist

The Biodiversity Company

October 2025

7.3 Appendix C – Specialist CVs

Rian Pienaar

M.Sc. Environmental Science

Pri Sci Nat (135544)

Cell: +27 78 0505 0201

Email: rian@thebiodiversitycompany.com

Identity Number: 9405235011089

Date of birth: 23 May 1994

Profile Summary

Working experience throughout Southern Africa

Specialist experience with mining, construction and agriculture.

Specialist expertise include wetlands resources, aquatic ecology, parasitology and ecotoxicology.

Areas of Interest

Mining, Oil & Gas, Renewable Energy & Bulk Services Infrastructure Development, Farming, Land Contamination, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Soil classification
- Agriculture potential assessments
- Land contamination assessments

Country Experience

South Africa

Mozambique

Botswana

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Qualifications

- MSc (North-West University of Potchefstroom) – Environmental Science (Cum Lauda)
- BSc Honours (North-West University of Potchefstroom) – Environmental Science with Aquatic ecosystem heath.
- BSc Environmental sciences
- Pri Sci Nat (135544)

Divan van Rooyen

Ph.D. Environmental Science

Pri Sci Nat (151272)

Cell: +27 83 265 8776

Email: divan@thebiodiversitycompany.com

Identity Number: 9312205072085

Date of birth: 20 December 1993

Profile Summary

Working experience throughout Southern Africa

Specialist experience with mining, WWTW's and construction.

Specialist expertise include wetlands resources, aquatic ecology and ecotoxicology.

Areas of Interest

Mining, Seismic Surveys, Renewable Energy, Bulk Services Infrastructure Development & WWTW's.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Aquatic biomonitoring

Country Experience

South Africa

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Qualifications

- PhD (North-West University of Potchefstroom) – Environmental Science with Aquatic Ecosystem Health
- MSc (North-West University of Potchefstroom) – Environmental Science (Ecological Remediation and Sustainable Management)
- BSc Honours (North-West University of Potchefstroom) – Environmental Science with Ecological Remediation and Sustainable Management
- BSc Environmental sciences
- Pri Sci Nat (151272)

Appendix D1
Soil and Agriculture

SOIL AND AGRICULTURAL COMPLIANCE STATEMENT FOR THE PROPOSED RECLAMATION AND PROCESSING OF THE AMANDELBULT TAILINGS STORAGE FACILITY (TSF) DAM 2

Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province, South Africa

08 December 2025

Prepared by:

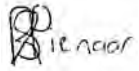
The Biodiversity Company

Cell: +27 81 319 1225

Fax : +27 86 527 1965

info@thebiodiversitycompany.com

www.thebiodiversitycompany.com

Report Name	**SOIL AND AGRICULTURAL COMPLIANCE STATEMENT FOR THE PROPOSED RECLAMATION AND PROCESSING OF THE AMANDELBULT TAILINGS STORAGE FACILITY (TSF) DAM 2**	
Specialist Theme	Soil and Agricultural Theme	
Project Reference	Amandelbult TSF	
Report Version	8 December 2025	
Environmental Assessment Practitioner	KONGIWE	
Fieldwork	Rian Pienaar (SACNASP 135544)	
Fieldwork, Report Writer	Masilabela Seepamore (SACNASP 113907)	
Reviewer	Mattew Mamera (SACNASP 116356)	
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, 2017 (as amended). We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.	

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1 Introduction

1.1 Background

The Biodiversity Company was appointed to conduct a soil and agricultural potential assessment for the proposed Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2 Project. The project is located between the towns of Northam and Thabazimbi within the Thabazimbi Local Municipality and Waterberg District Municipality, Limpopo Province Limpopo Province, South Africa (Figure 1-1).

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with tailings being deposited mainly on 3B, but also on 3A from time to time. Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021. The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000. The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of platinum group metals (PGMs) and Chrome. The reclamation will also potentially open additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

The approach adopted for this assessment has taken cognisance of Government Notice 320 in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) dated 20 March 2020: “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA, 1998, when applying for Environmental Authorisation”. The National Web based Environmental Screening Tool (DFFE, 2025) has characterised the agricultural theme sensitivity of the project area ranging from “Low” to “High”, with a key consideration of this assessment being the determination of agricultural theme sensitivities for the project. Based on the verified baseline findings, the proposed project area was found to have a predominate “Low” sensitivity. The GNR 320 requirements of an Agricultural Compliance Statement stipulate that a 50 m buffered development envelope be considered.

This report aims to present and discuss the findings from the soil resources identified within the 50 m buffered area. The report will also identify the soil suitability and land potential of these soils, the land

uses within the assessment area and the risks associated with the proposed project from an agricultural and soil resources management perspective.

This report should be interpreted after taking into consideration the findings, management measures and recommendations provided by the specialist (Section 3 & 4 of this report). Further, this report should inform and guide the Environmental Assessment Practitioner (EAP) and regulatory authorities, enabling informed decision making, as to the soil resources of the proposed project.

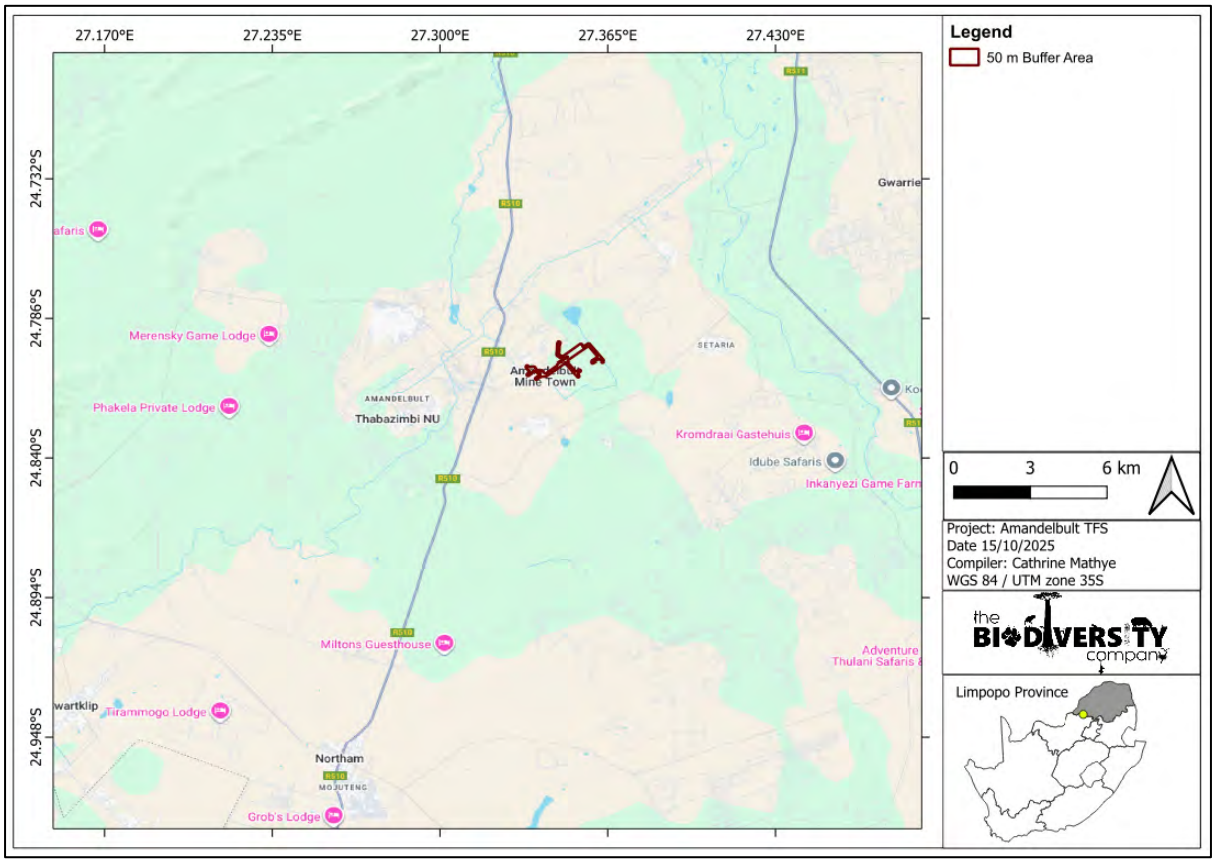


Figure 1-1 Spatial regional context of the proposed development

1.2 Project Description and Technical Information

The following general site information was provided by Kongiwe Environmental (Pty) Ltd (2025) and pertains to the proposed development. The layout of the project is indicated in Figure 1-2 and Figure 1-3 below.

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations. Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will

be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM: WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

Figure 1-2 Mobile tracked hydraulic monitor on a TSF in South Africa (for illustration only)

Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm. Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road adjacent to the TSF, will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Power Supply, Sewage, Process Water and other requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m3 /h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

Work Schedule

The anticipated life span of the Project is approximately 20 years. It is expected that there will be a 2-year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan.

Technical Details

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam No. 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;

- Concrete Bund
- Motor;
- Control centre; and
- Access ladder

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen
- Set of cyclones
- Process water tank
- Gland service water tank
- Compressor
- MCC
- Transformers
- Substations
- Overhead Crane
- Mini workshop
- Firewater tank
- Ablution facilities
- Offices
- Control room
- Surge tank
- Concrete and Steel structures
- Pumps
- Piping
- Instrumentation

TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000L)
- Fuel dispensing system
- Fuel filtration and Conditioning system
- Fuel monitoring devices
- Refuelling bays

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction.

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. the area of the road will be approximately 1.1 Ha (11 000m^2).

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.

- TSF Chrome Recovery Plant – Current plant to be used - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.

- TSF Tailings Thickening Plant – Current thickening plant to be used- A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m^3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

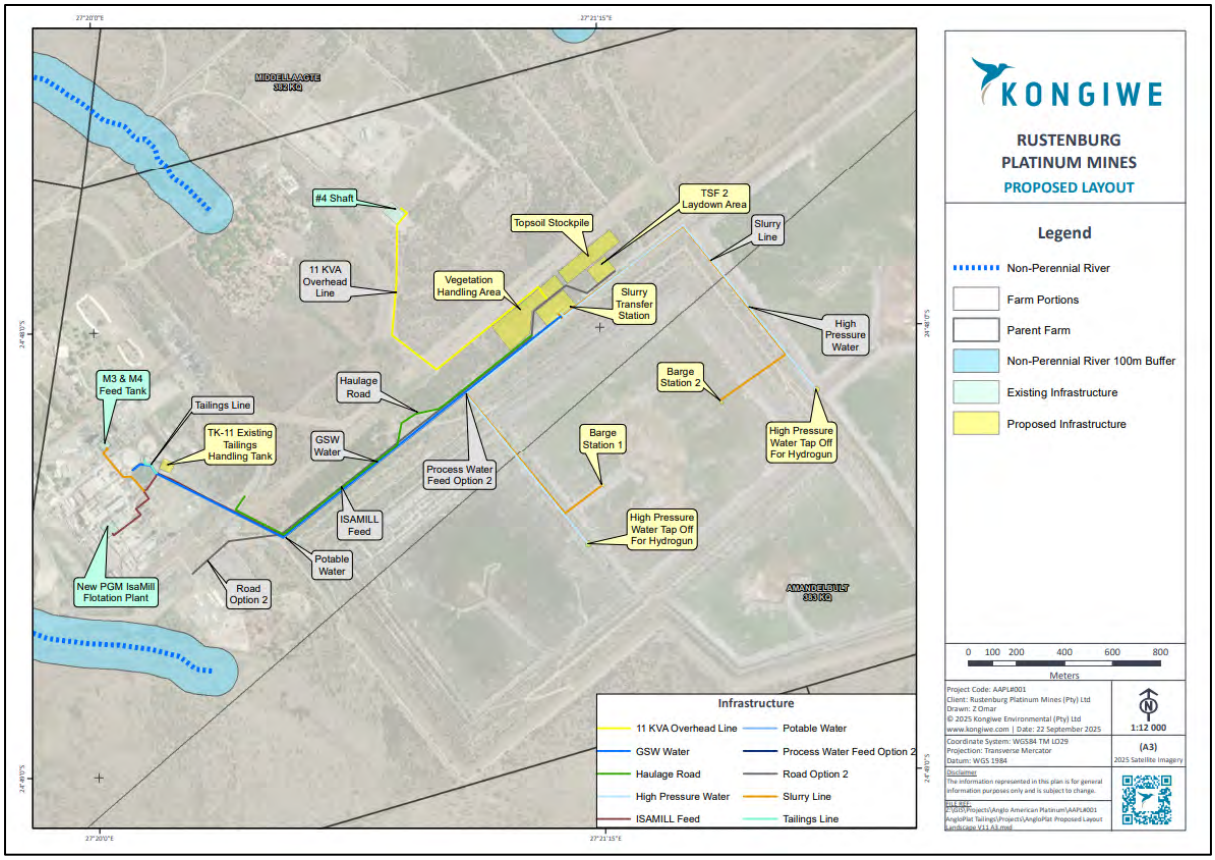


Figure 1-3 Layout of the proposed project (Kongiwe, 2025)

1.3 Scope of Work

In addition to the requirements stipulated in GNR 320, the following Terms of Reference apply to the Agricultural Compliance Statement:

- Ensure a thorough assessment, which includes both the desktop assessment of databases and aerial photography; a description of the on-site verification of the agricultural potential of the area; and the soil forms present in the development area;
- Identify and assess potential impacts on both agricultural potential and soil resulting from the proposed project;
- Identify and describe potential cumulative soil, agricultural potential and land capability impacts resulting from the proposed project in relation to proposed and existing developments in the surrounding area; and

- Recommend mitigation, management, and monitoring measures, to minimise impacts and/or optimise benefits associated with the proposed project.

1.4 Assumptions and Limitations

The following aspects were considered as limitations;

- Only the slopes affected by the proposed development have been assessed;
- It has been assumed that the extent of the development area provided by the responsible party is accurate;
- The GPS used for ground truthing is accurate to within five meters. Therefore, the soil and the observation site's delineation plotted digitally may be offset by up to five meters to either side; and
- No heavy metals have been assessed, nor fertility been analysed for the relevant classified soils.

1.5 Key Legislative Requirements

The report follows the protocols as stipulated for agricultural assessment in Government Notice 320 of 2020 (GNR 320). This Notice provides the procedures and minimum criteria for reporting in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (No. 107 of 1998) (NEMA).

The above-mentioned are supported by additional legislation that aims to manage the impact of development on the environment and the natural resource base of the country. Related legislation to this effect includes:

- Conservation of Agricultural Resources Act (Act 43 of 1983);
- National Environmental Management Act (Act 107 of 1998); and
- National Water Act (Act 36 of 1998).

1.6 Legislative Framework

In line with the protocol for the specialist assessment and minimum report content requirements for environmental impacts on soil and agricultural assessment as per the Government Notice 320 published in terms of NEMA, dated 20 March 2020: "Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation" – the following has been assumed:

An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of:

- o "Low & Medium sensitivity" for agriculture, must submit an Agricultural Compliance Statement; and

An Agricultural Compliance Statement must contain the information as presented in Table 1-1 below.

Table 1-1 Agricultural Compliance Statement information requirements as per the relevant protocol, including the location of the information within this report

Information to be Included (as per GN 320, 20 March 2020)	Report Section
Details and relevant expertise as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae	Page i, Appendix D
A signed statement of independence by the specialist	Appendix C
A map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool	Figure 3-8
Confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities	Section 4
A substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not, of the proposed development	Section 5.1
Any conditions to which this statement is subjected	Section 5.2
Where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr	Section 4.1
A description of the assumptions made and any uncertainties or gaps in knowledge or data	Section 1.4

A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

2 Fieldwork

Field assessment for the proposed project area was conducted on from the 29th to the 30th of April 2025 to determine the soil forms and current land uses within the assessed area. Seasonality has no bearing on the soil assessment and fieldwork is therefore deemed sufficient for the proposed development. Map illustrating the field work tracks (Figure 2-1).

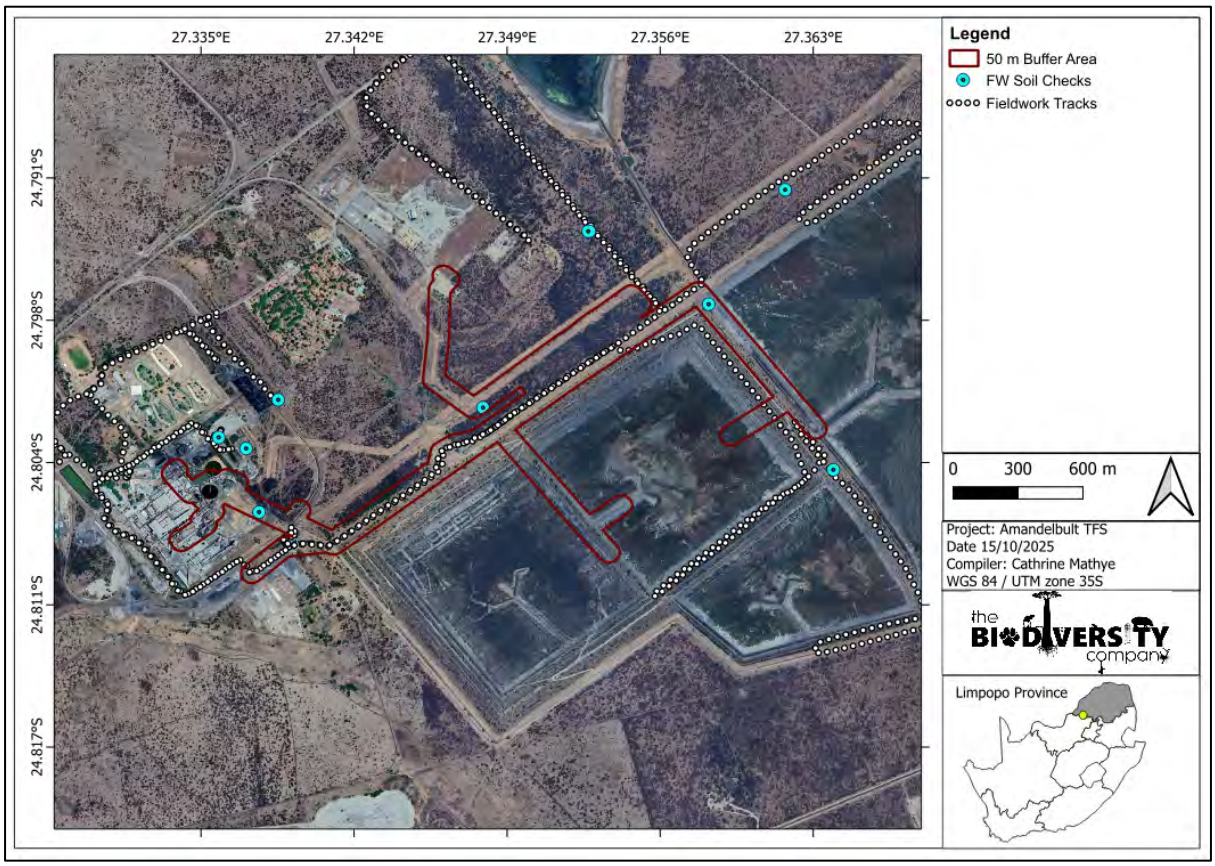


Figure 2-1 Map illustrating the field tracks and soil checks of the field survey

3 Results and Discussion

3.1 Desktop Information

3.1.1 Climate

The project area falls within the Dwaalboom Thornveld vegetation. The area is characterised with summer- rainfalls, dry winters and fairly request frost occurrence in winter. The overall mean average precipitation (MAP) of the proposed project area ranges from 500 mm to 600 mm. the project area has the highest mean annual potential evaporation of savanna vegetation units outside the two Kalahari bioregions (Mucina & Rutherford, 2006; Figure 3-1).

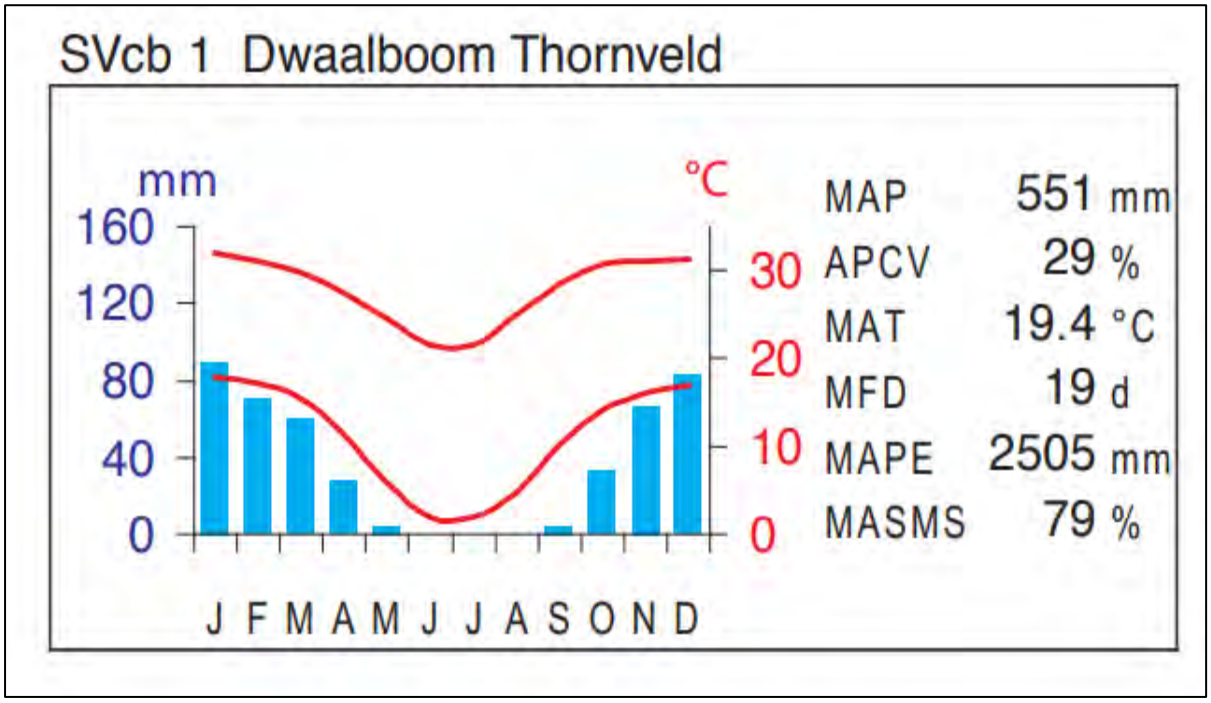


Figure 3-1 Summarised climate for the region (Mucina & Rutherford, 2006)

3.1.2 Geology & Soils

The geology of the area consists of an Archaean granite-gneiss terrane of the Swazian Erathem that is covered by the mainly clastic as well as chemical sediments and volcanics of the Rayton and Silverton Formation, both of the Pretoria Group (Transvaal Supergroup). Moreover, Mafic intrusive rocks of the Rustenburg Layered Suit, Bushveld Igneous Complex (Late Vaalian). The geology in turn supports vertic soils with ultramafic clays with high base status together with red eutrophic soils, typical of Ea and Ae land types.

According to the land type database (Land Type Survey Staff, 1972 - 2006) the assessment area to be focused on mainly falls within the Ea 70 land type (Figure 3-2). The Ea 70 land type mainly consists of Arcadia and Rensburg soil forms according to the Soil classification working group (1991), with the occurrence of other soils within the landscape. The Ea land types are also characterised by one or more of vertic, melanic, red-structured diagnostic horizons and undifferentiated soils. The land terrain units for the featured Ea 70 land type are illustrated in Figure 3-3 with the expected soils listed in Table 3-1.

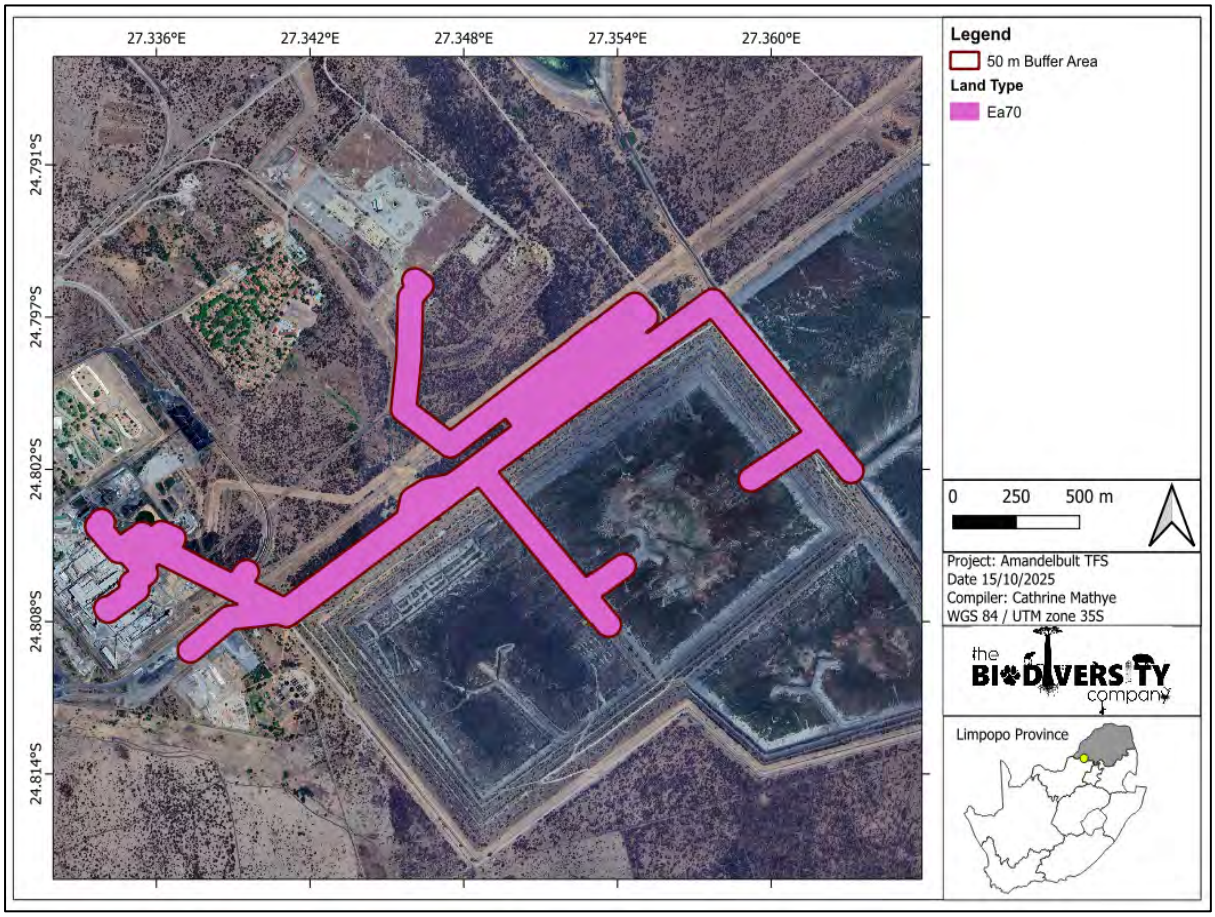


Figure 3-2 Land type associated with the proposed project area

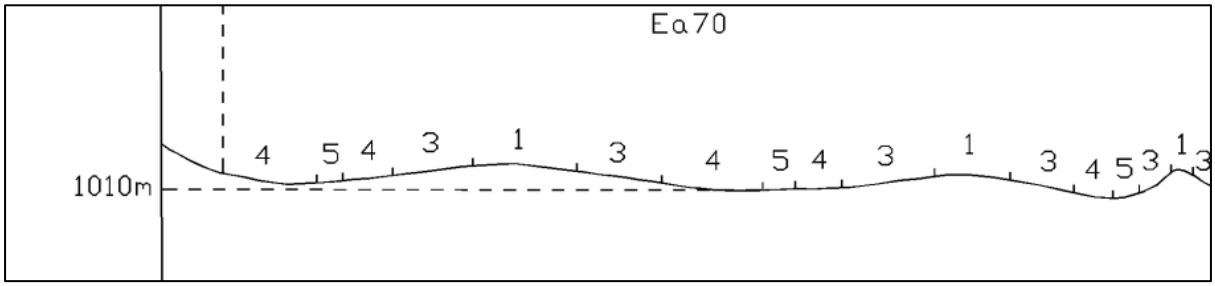


Figure 3-3 Illustration of land type Ea 70 terrain units (Land Type Survey Staff, 1972 – 2006)

Table 3-1 Soils expected at the respective terrain units within the Ea 70 land type (Land Type Survey Staff, 1972 - 2006)

Terrain Unit							
1 (20%)		**3 (40%)**		**4 (31%)**		**5 (9%)**	
Arcadia	60%	Arcadia	74%	Arcadia	76%	Rensburg	34%
Bare rock	13%	Shortlands	9%	Valsrivier, Swartland	11%	Arcadia	33%
Hutton	8%	Bare rocks	6%	Shortlands	6%	Oakleaf, Dundee	22%
Glenrosa	7%	Hutton	5%	Hutton	5%	Bonheim	6%
Shortlands	7%	Glenrosa	4%	Bonheim	2%	Valsrivier, Swartland	5%
Milkwood	5%	Milkwood	2%				

3.2 Baseline Findings

Two (2) representative soil forms were identified in the 50 m buffer of the proposed project area namely, Arcadia and Witbank soil forms (Figure 3-4). The proposed project area falls predominately on high clayey soils characterised with shrinking and swelling characteristics. The remaining extent of the project consists of disturbed areas because of human activities. The proposed project consists of soils with very low to low suitability for crop production.

The Arcadia soil form consists of a vertic topsoil horizon on top of a lithic horizon. This soil has a shrinking and swelling properties due to high clay contents which promote cracks on the surface and exhibit slickenside. The vertic soils are generally poorly drained when wet which leads to waterlogging conditions and this soil are usually suitable for wildlife practices.

Technosols identified within the proposed project area that contains anthropogenic materials because of human activities include the Witbank soils. The Witbank soil form is characterised as transported Technosols in which anthropogenic materials cover natural soil or other anthropogenic materials. This soil form is defined by extremely severe limitations and are not suitable for crop production, livestock grazing and afforestation. All the identified soil horizons within the proposed project area, as well as the current land uses are illustrated in Figure 3-5 and Figure 3-6, respectively.

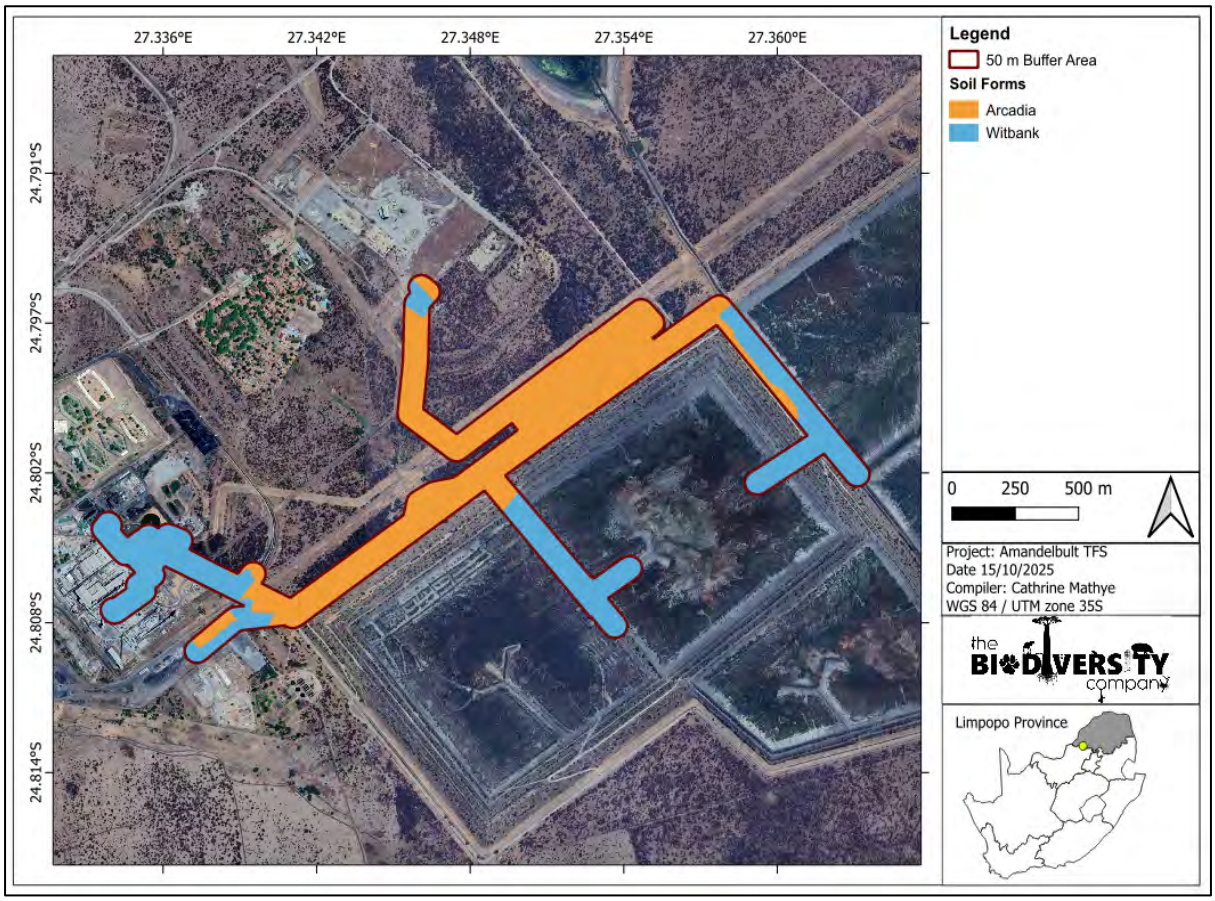


Figure 3-4 Soil forms found within the proposed project area

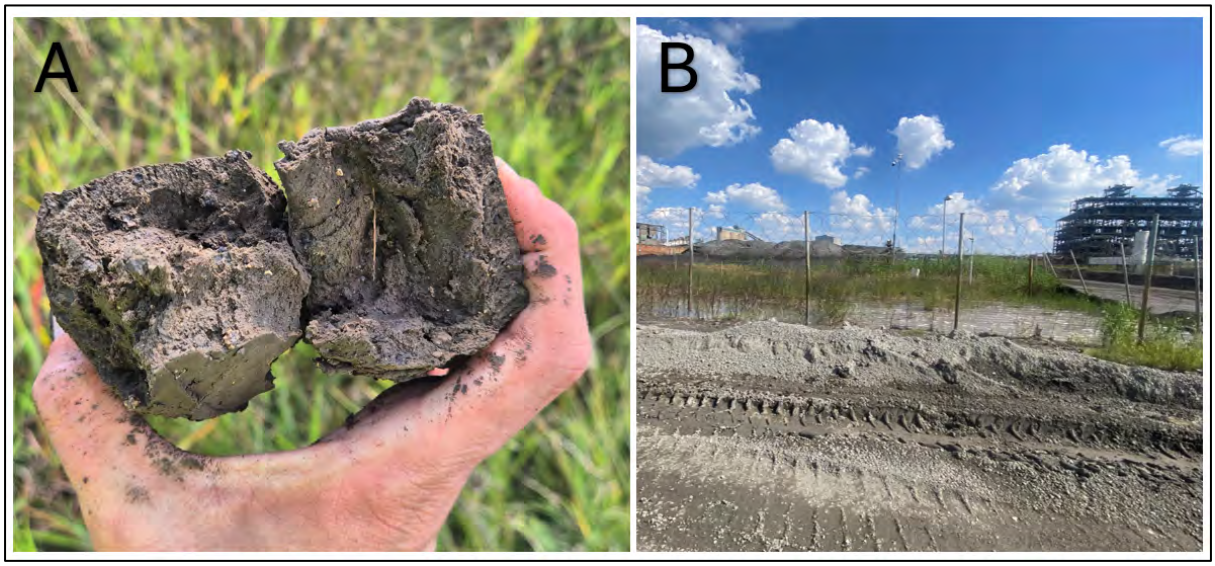


Figure 3-5 ***Diagnostic soil horizons identified on-site: A) Vertic horizon with weathering parent material (Arcadia soil form) and B) Witbank Technosols.***

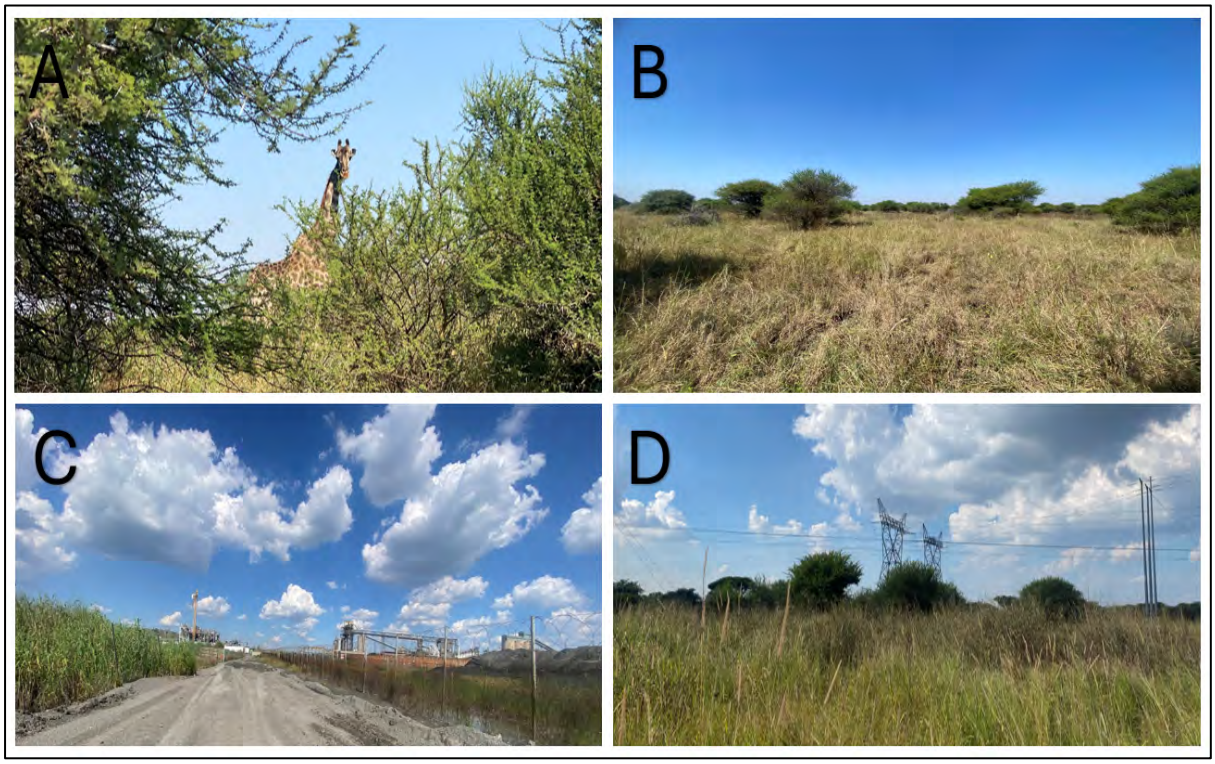


Figure 3-6 ***Different land uses found within the 50 m buffer of the proposed project area; A) Wildlife; B); Natural veld; C) Existing mining and D) Powerlines.***

Accordingly, following Smith, (2006) which the national DAFF, (2017) land capabilities protocols were further expanded from, the above-mentioned identified soil forms associated with the project area are restricted to land capability III (i.e. Arcadia soil form) categorised as LC 5 (Low), and land capability VIII (i.e. Witbank soil form) categorised as LC 4 (Very Low to Low). The baseline soil land capability was aligned and compared to the National Land Capability data (DAFF, 2017), respectively.

The land capability classes of the above-mentioned soils have been determined to be class “III”, and “VIII” according to Smith (2006). The land capability class “III” is characterised by moderate limitations with some erosion hazards and is suitable for rotation of crops and ley (50%). The land capability class

"VIII" is characterised by extremely severe limitations, requires total protection from agriculture and is only suitable for wildlife practices. A climate capability level 8 has been assigned to the area given the low Mean Annual Precipitation (MAP) and the high Mean Annual Potential Evapotranspiration (MAPE) rates. By using the determined land capability classes and the determined climate capability, land potential "L6" and "L8" were calculated. According to Smith (2006), the proposed project area is found to be non-arable.

The following land potential levels have been determined;

- Land potential level 6 (this land potential is characterised by very restricted potential. Regular and /or severe limitations due to soil, slope, temperatures or rainfall). Non-arable; and
- Land potential level 8 (this land potential level is characterized by very low potential). Very severe limitations due to soil, slope, temperatures or rainfall). Non-arable.

Land potential levels of the proposed area are illustrated in Figure 3-7.

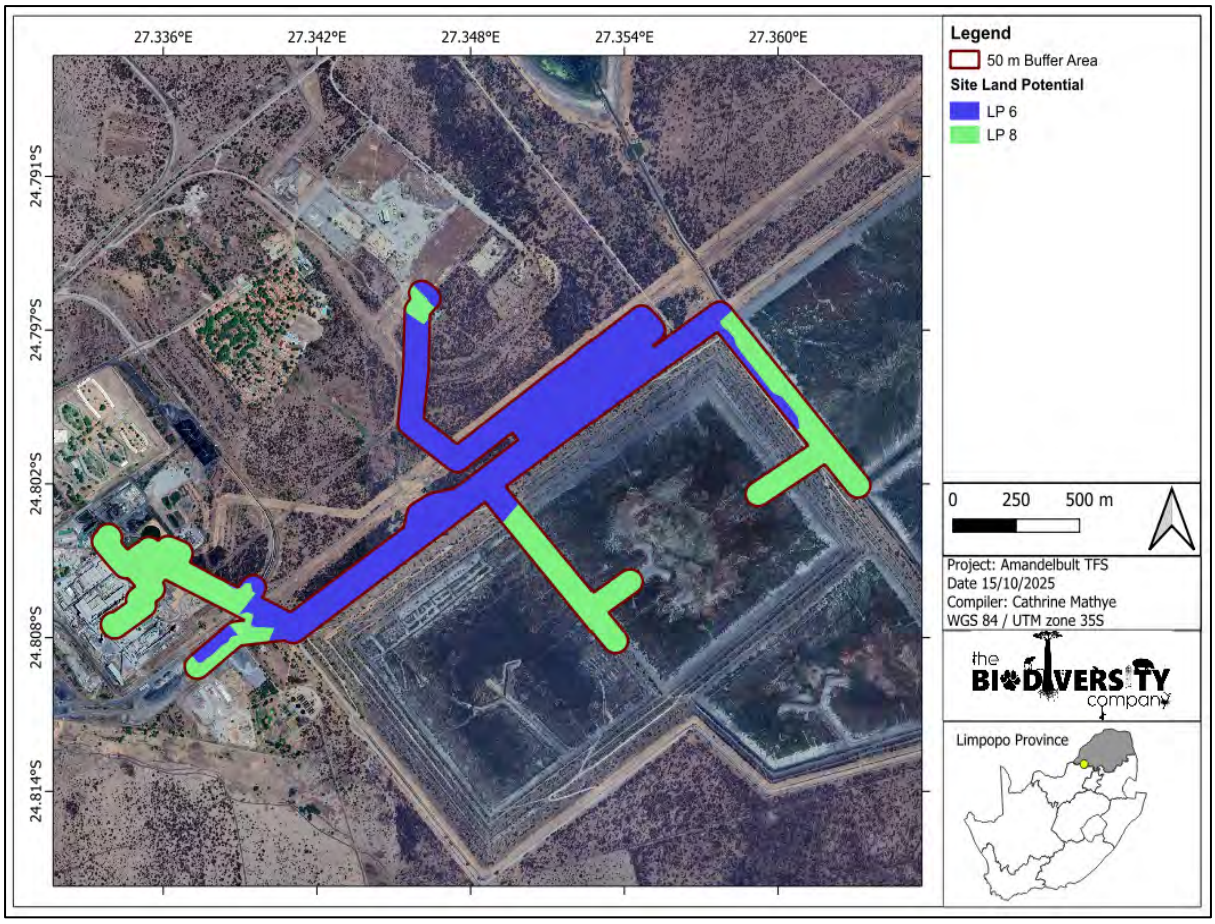


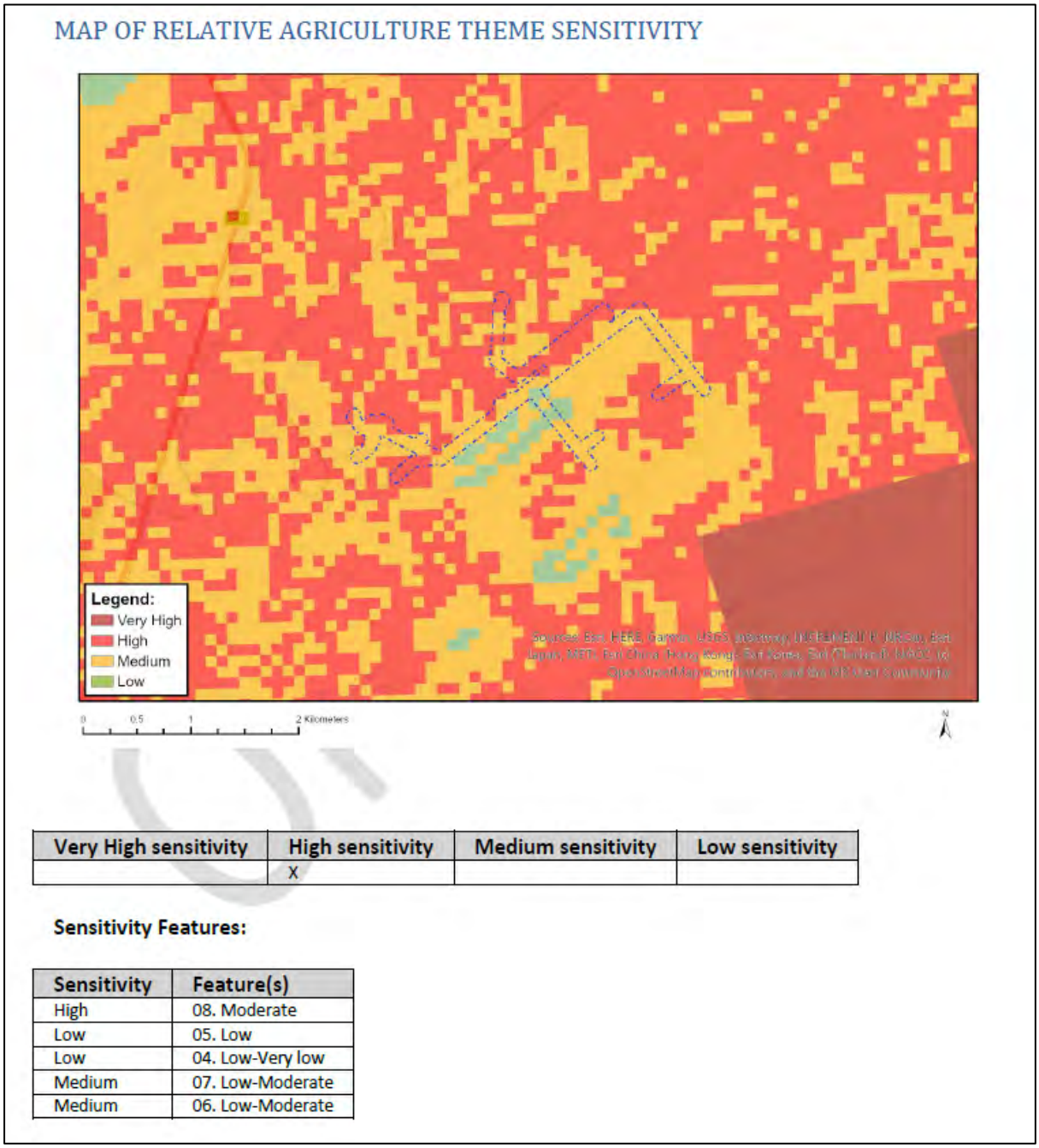
Figure 3-7 Land Potential of the proposed project area

3.3 Sensitivity Verification

3.3.1 Screening Report – Amandelbult TSF Project

The following is deduced from the National Web based Environmental Screening Tool Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended):

Agriculture Theme Sensitivity indicates that the 50 m buffer of the proposed project area falls within the 'Low to High' agricultural sensitivity (Figure 3-8).



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	08. Moderate
Low	05. Low
Low	04. Low-Very low
Medium	07. Low-Moderate
Medium	06. Low-Moderate

Figure 3-8 Map of Relative Agricultural Theme Sensitivity for the* Amandelbult TSF *generated by the Environmental Screening Tool Site Ecological Importance (SEI)

Fifteen land capabilities have been digitised by (DAFF, 2017) across South Africa, of which five potential land capability classes are located within the assessment area, including;

- Land Capability 4 to 5 (Very Low to Low Sensitivity);
- Land Capability 6 to 7 (Low-Moderate Sensitivity); and
- Land Capability 8 (Moderate Sensitivity).

The land capability dataset (DAFF, 2017) indicates that the proposed project area falls predominately within the “Low-Moderate” sensitivity (see Figure 3-8). The remaining areas have “Moderate” and “Very Low to Low” sensitivities. The baseline soil findings, current land uses and the calculated land potential

disputes the agricultural theme tool, in areas demarcated with “Low-Moderate” and “Moderate” land capability sensitivities and further concur to an extent with the agricultural theme tool on areas demarcated with “Very Low to Low” sensitivity. No high potential soils or active crop production were identified within the 50 m buffer of the proposed project area.

The current project area and associated activities of the proposed project will have acceptable expected changes to soil resources. As a result, based on the verified baseline findings, the proposed development will have a minimal impact on the soil resources.

Considering the soil properties, agricultural potential as well as the current land use of the proposed development area, the area has a predominate “Low” agricultural sensitivity (Figure 3-9). The allocated sensitivities for the theme are either disputed or validated in Table 3-2 below.

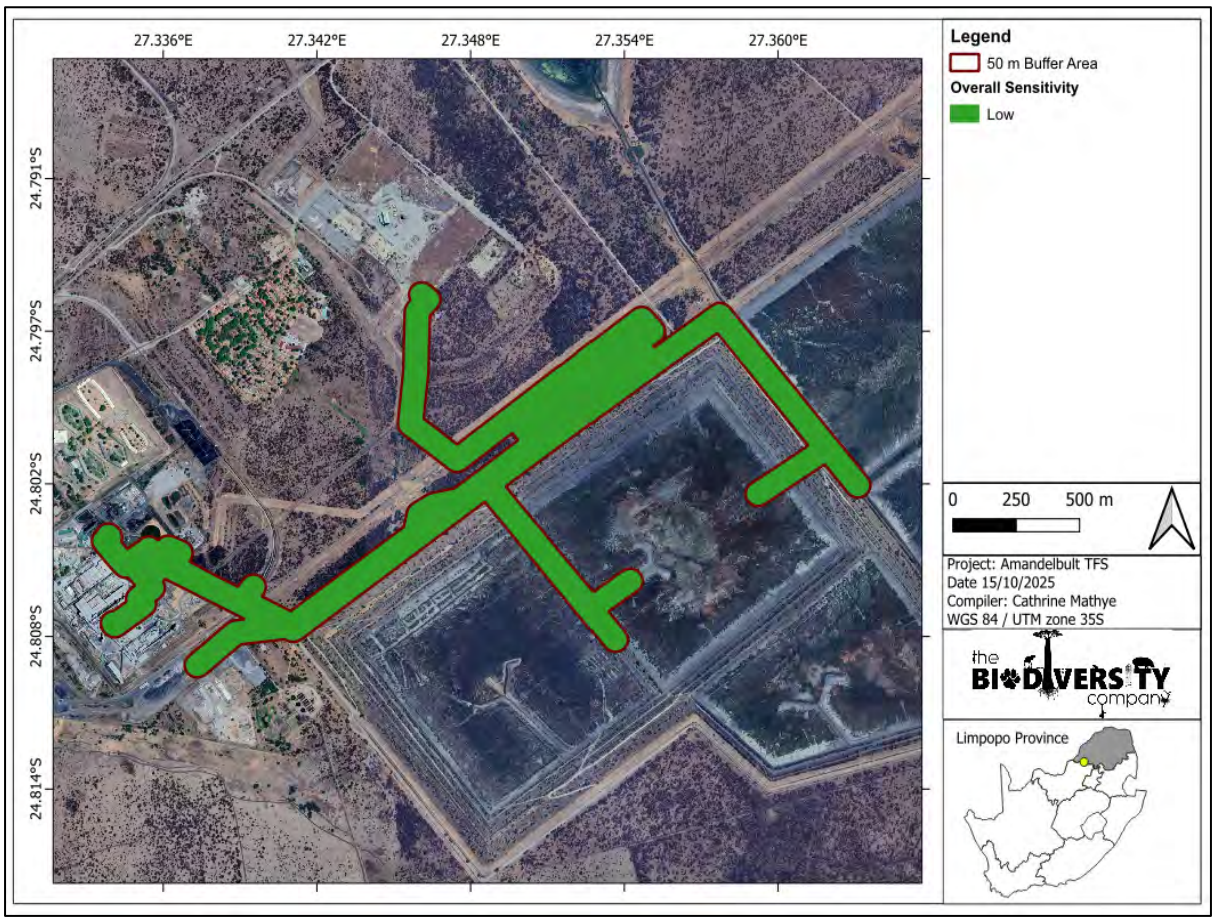


Figure 3-9 Overall site verified sensitivity of the project area

Table 3-2 Summary of the screening tool vs specialist assigned sensitivities

Screening Tool Theme	Feature	Screening Tool	Specialist	Tool Validated or Disputed by Specialist - Reasoning
Agricultural Theme	Moderate (LC 8)	High	Low	Disputed – Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia. Moreover, the occurrence of transported Technosols such as Witbank which is not suitable for crop production.
	Low-Moderate (LC 6-7)	Medium	Low	Disputed – Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia soil form. Moreover, the occurrence of transported Technosols such as Witbank which is not suitable for crop production.
	Low (LC 4-5)	Low	Low	Validated - Very Low to Low. The presence of low potential soil with high clay content which restricts drainage, aeration and root penetration such as Arcadia soil form. Moreover, the occurrence of transported

				Technosols such as Witbank which is not suitable for crop production.

4 Impact and Management Measures

4.1 Anticipated Impact Framework

An impact framework was considered for the impact assessment. The following list provides a framework for the identified major impacts associated with the project (Table 4-1).

Table 4-1 Anticipated impacts for the proposed Support infrastructure on agricultural resources

Main Impact	Project activities that can cause loss/impacts to Soils (especially regarding the proposed infrastructure areas)	Secondary impacts anticipated
Loss of land capability	• Construction, operation and decommissioning of roads; • Construction, operation and decommissioning of construction of pipelines, process water and other infrastructure; • Potential slurry pipelines leaks or spillage (i.e. hydrocarbons or untreated waste); • Mixing of soil for road upgrades; • Soil dust precipitation in surface or gravel access roads; • Dust precipitation; and • Removal of vegetation for the proposed support infrastructure	• Erosion; • Soil degradation; • Compaction; • Increase in salinity; • Land contamination; and • Loss of soil via aeolian processes.

4.2 Management Measures

The assessment of impact significance considers pre-mitigation as well as implemented post-mitigation scenarios. The aim of the management outcomes (below) is to present the mitigation measures in such a way that they can be incorporated into the Environmental Management Programme (EMPr) for the project, allowing for more successful implementation and auditing of the mitigations and monitoring guidelines. The project management measures for the soils and agriculture resources during the construction phase presents the prescribed mitigation measures for construction phase for the assessment are presented in Table 4-2. Table 4-3 presents the prescribed mitigation for operational phase for the assessment. Table 4-4 presents the prescribed mitigation measures for the decommissioning, rehabilitation and closure phases for the assessment.

Table 4-2 The project management measures for the soils and agriculture resources during the construction phase

Environmental Theme: Agriculture

Impact Management Outcome: Protection of soil resources
Phase: Construction

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas	Contractor/ Environmental Officer	Implement a rehabilitation plan	Construction Phase	Environmental Officer	Throughout phase	Rehabilitation implemented
Restrict the disturbance footprint and clearing of vegetation for the authorized area only.	Engineer/Contractor/ Environmental Officer	Design engineer to consider this for final layout	Construction Phase	Environmental Officer	Throughout phase	Disturbance minimised
Make use of existing access routes as much as possible before new routes are considered. Any selected "new" route must be authorized, minimizing disturbances to the soil resources	Contractor	Design engineer to consider this for final layout	Construction Phase	Environmental Officer	Throughout phase	All routes authorised
Promptly remove all alien and invasive plant species that may emerge during construction (i.e. weedy annuals and other alien forbs) must be removed	Environmental Officer	Implement an alien vegetation management plan	Construction Phase	Environmental Officer	Throughout phases	Implement alien vegetation management plan
Limit soil disturbance	Contractor/ Environmental Officer	Clear/disturb soil on a need basis only	Construction Phase	Environmental Officer	Throughout phase	Soil disturbance is reduced
Create terraces and contours to reduce water runoff and erosion on steep slope areas during the construction phase. Install silt fences and sediment basins if necessary to prevent sediments accumulating into water bodies or around water bodies.	Contractor/ Environmental Officer	Implement a rehabilitation plan	Construction Phase	Environmental Officer	Throughout phase	Soil erosion is reduced
Keep excavation and soil heaps clear of potential contaminates or waste	Contractor	Separate topsoil and sub-soil	Construction Phase	Environmental Officer	Throughout phase	Soil heaps are managed
Lightly till any disturbed soil around the development footprint to avoid compaction	Contractor/ Environmental Officer	Implement a rehabilitation plan	Construction Phase	Environmental Officer	Throughout phase	Plan is implemented
Ensure soil stockpiles are sufficiently safeguarded against rain wash	Contractor/ Environmental Officer	Implement soil management plan	Construction Phase	Environmental Officer	Throughout phase	Plan is implemented

The use of herbicides is not recommended (opt for mechanical removal).	Contractor/ Environmental Officer	Demarcate buffer area	Construction Phase	Environmental Officer	Throughout phase	Avoided buffer area
Make sure all excess consumables and waste are removed from site and deposited at an appropriate waste facility	Contractor/ Environmental Officer	Restrict to designated working/storage/service areas	Construction Phase	Environmental Officer	Throughout phase	Restricted to demarcated area
Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) or construction materials on site (e.g. concrete) in such a way as to prevent them leaking and contaminating soil resources.	Contractor/ Environmental Officer	Restrict to designated working/storage/service areas	Construction Phase	Environmental Officer	Throughout phase	Restricted to demarcated area
Provide appropriate sanitation facilities for workers during construction and service them regularly	Contractor	Provide service ablution for contractors/labour	Construction Phase	Environmental Officer	Throughout phase	Ablution facilities provided and serviced
The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected must be disposed of at a licensed disposal facility	Contractor	Implement waste management plan	Construction Phase	Environmental Officer	Throughout phase	Plan is implemented
The Contractor must be in possession of an emergency spill kit that must be complete and available at all times on site	Contractor	Implement spill response plan	Construction Phase	Environmental Officer	Throughout phase	Plan is implemented
Any possible contamination of topsoil by hydrocarbons must be avoided. Any contaminated soil must be treated in situ or be placed in containers and removed from the site for disposal in a licensed facility	Contractor	Implement spill response plan	Construction Phase	Environmental Officer	Throughout phase	Plan is implemented
A stormwater management plan must be development and implement for the purpose of this project to control runoff from the development site	Contractor	Implement stormwater management plan	Construction Phase	Environmental Officer	Throughout all the phases	Plan is implemented

Table 4-3 The project management measures for the soils and agriculture resources during the operational phase

Environmental Theme: Agriculture **Impact Management Outcome: Protection of soil resources** **Phase: Operational**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Ensure that the recommended erosion control methods like installation of terraces and contours are adhered to.	Environmental Officer	Implement an alien vegetation management plan	Operational Phase	Environmental Officer	Throughout phases	Implement alien vegetation management plan
Ensure successful rehabilitation of areas disturbed during operation and these areas are stabilized to avoid impacts on adjacent areas.	Contractor/ Environmental Officer	Implement spill rehabilitation plan	Operational Phase	Environmental Officer	Quarterly during first two years of operation.	Plan is implemented
Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) or construction materials on site (e.g. concrete) in such a way as to prevent them leaking and entering wetland buffer areas or the surrounding environment.	Contractor/ Environmental Officer	Restrict to designated working/storage/service areas	Operation Phase	Environmental Officer	Throughout phase	Restricted to demarcated area

Table 4-4 The project management measures for the soils and agriculture resources during the decommissioning, rehabilitation and closure phase

Environmental Theme: Agriculture **Impact Management Outcome: Protection of soil resources** **Phase: Decommissioning, Rehabilitation and Closure**						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

Rehabilitation of the Project area will be undertaken, including the ripping of the compacted soil surfaces and establishment of vegetation.	Contractor/Environmental Officer	Implement soil compaction rehabilitation	Rehabilitation and closure Phase	Environmental Officer	Throughout phases	Implement erosion control, revegetation and alien vegetation management plan on disturbed areas
Ensure successful rehabilitation of areas disturbed during construction to decommissioning and these areas are stabilized to avoid impacts to adjacent areas	Contractor/ Environmental Officer	Implement soil revegetation-vegetation, spillage or residual waste contamination rehabilitation plan	Rehabilitation and closure Phase	Environmental Officer	Should be assessed once a year for soil compaction and erosion.	Plan is implemented
Ensure rehabilitation of contaminated soil by removal of pollutants by implementing methods such as bioremediation and phytoremediation	Contractor/ Environmental Officer	Implement soil spillage or residual waste contamination rehabilitation plan	Rehabilitation and closure Phase	Environmental Officer	Should be assessed once a year for possible contaminants	Plan is implemented

4.3 Cumulative Impacts

The quantitative impact of the proposed project in isolation on agriculture is anticipated to be “Low” due to the presences of low agricultural potential soils. The cumulative impact of the proposed project is anticipated to be “Medium”. The proposed project area has undergone historic and current modification, like the developmental disturbances associated to the mining activities. Furthermore, the combined effect of the existing multiple mining activities, together with the proposed activities are expected to have a significant impact on the soil resources and the land capability of the area over time and space.

After implementation of the mitigation measures such as implementation of erosion control methods, preventing soil contamination and rehabilitating disturbed and bare surfaces as stipulated above the agricultural productivity of the area is not expected to deteriorate further because of the proposed development and no irreplaceable loss of resources is anticipated.

Table 4-5 Cumulative Impacts associated with the proposed project

Status	Cumulative Effect	Priority Factor	Post mitigation ER	Can impact be mitigated?	Is the impact acceptable?
Impact in isolation	1	1.0	Low	Yes	Yes
Cumulative impact	2	1.7	Medium		

5 Conclusion

The proposed project area is dominated by soils with low agricultural potential such as Arcadia, and Witbank. No high potential soils or active cropping practices were identified within the proposed project area. It should also be noted that the proposed project will be undertaken on an existing and operational mining footprint. Therefore, the overall site verified land capability of the proposed project area is predominately “Low” sensitive.

The land capability dataset (DAFF, 2017) indicates that the proposed project area falls predominately within the “Low-Moderate” sensitivity. The remaining areas have “Moderate” and “Very Low to Low” sensitivities. The baseline soil findings, current land uses and the calculated land potential disputes the agricultural theme tool, in areas demarcated with “Low-Moderate” and “Moderate” land capability sensitivities and further concur to an extent with the agricultural theme tool on areas demarcated with “Very Low to Low” sensitivity. The overall sensitivity of the proposed project area is Low.

It is the specialist’s opinion that the proposed Amandelbult TSF project will have an overall low residual impact on the agricultural production ability of the land. The proposed project and associate infrastructure may be favourably considered for development, provided mitigation measures are implemented.

5.1 Specialist Statement

The proposed development area will have an overall low residual impact on the agricultural production capability of the area. The proposed development can be favourably considered for authorisation. The following serves to substantiate this statement:

- The site verified land capability of the proposed project area is low;
- The agricultural potential of the area is low;
- There are no active crop farming areas within the 50 m buffer of the project area; and
- The overall agricultural sensitivity for the project area is low.

5.2 Statement Conditions

The project may be favourably considered for authorisation and is not subject to any conditions.

6 References

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7 Appendix Items

7.1 Appendix A: Methodology

7.1.1 Desktop Assessment

As part of the desktop assessment, baseline soil information was obtained using published South African Land Type Data. Land type data for the site was obtained from the Institute for Soil Climate and Water (ISCW) of the Agricultural Research Council (ARC) (Land Type Survey Staff, 1972 - 2006). The land type data is presented at a scale of 1:250 000 and comprises of the division of land into land types.

7.1.2 Field Survey

The site was traversed on foot. A soil auger was used to determine the soil form/family and depth. The soil was hand augured to the first restricting layer or 1.2 m. Soil survey positions were recorded as waypoints using a handheld GPS. Soils were identified to the soil family level as per the "Soil Classification: A Taxonomic System for South Africa" (Soil Classification Working Group, 2018). Landscape features such as existing open trenches were also helpful in determining soil types and depth.

7.1.3 Land Capability

Land capability and agricultural potential will be determined by a combination of soil, terrain, and climate features. Land capability is defined by the most intensive long-term sustainable use of land under rain-fed conditions. At the same time an indication is given about the permanent limitations associated with the different land use classes.

Land capability is divided into eight classes, and these may be divided into three capability groups. Table 7-1 shows how the land classes and groups are arranged in order of decreasing capability and ranges of use. The risk of use increases from class I to class VIII (Smith, 2006).

Table 7-1 Land capability class and intensity of use (Smith, 2006)

Land Capability Class	Increased Intensity of Use									Land Capability Groups
I	W	F	LG	MG	IG	LC	MC	IC	VIC	Arable Land
II	W	F	LG	MG	IG	LC	MC	IC		
III	W	F	LG	MG	IG	LC	MC			
IV	W	F	LG	MG	IG	LC				
V	W	F	LG	MG						Grazing Land
VI	W	F	LG	MG						
VII	W	F	LG							
VIII	W									Wildlife
W - Wildlife		MG - Moderate Grazing			MC - Moderate Cultivation					
F- Forestry		IG - Intensive Grazing			IC - Intensive Cultivation					
LG - Light Grazing		LC - Light Cultivation			VIC - Very Intensive Cultivation					

The land potential classes are determined by combining the land capability results and the climate capability of a region as shown in the table below. The final land potential results are then described in the subsequent table.

Table 7-2 The combination table for land potential classification

Land capability class	Climate capability class							
	C1	C2	C3	C4	C5	C6	C7	C8
I	L1	L1	L2	L2	L3	L3	L4	L4
II	L1	L2	L2	L3	L3	L4	L4	L5
III	L2	L2	L3	L3	L4	L4	L5	L6
IV	L2	L3	L3	L4	L4	L5	L5	L6
V	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei	Vlei
VI	L4	L4	L5	L5	L5	L6	L6	L7
VII	L5	L5	L6	L6	L7	L7	L7	L8
VIII	L6	L6	L7	L7	L8	L8	L8	L8

Table 7-3 The Land Potential Classes

Land potential	Description of land potential class
L1	Very high potential: No limitations. Appropriate contour protection must be implemented and inspected.
L2	High potential: Very infrequent and/or minor limitations due to soil, slope, temperatures, or rainfall. Appropriate contour protection must be implemented and inspected.
L3	Good potential: Infrequent and/or moderate limitations due to soil, slope, temperatures, or rainfall. Appropriate contour protection must be implemented and inspected.
L4	Moderate potential: Moderately regular and/or severe to moderate limitations due to soil, slope, temperatures, or rainfall. Appropriate permission is required before ploughing virgin land.
L5	Restricted potential: Regular and/or severe to moderate limitations due to soil, slope, temperatures, or rainfall.
L6	Very restricted potential: Regular and/or severe limitations due to soil, slope, temperatures, or rainfall. Non-arable
L7	Low potential: Severe limitations due to soil, slope, temperatures, or rainfall. Non-arable
L8	Very low potential: Very severe limitations due to soil, slope, temperatures, or rainfall. Non-arable

The land capability of the proposed footprint will be compared to the National Land Capability which was refined in 2014- 2016. The National Land Capability methodology is based on a spatial evaluation modelling approach and a raster spatial data layer consisting of fifteen (15) land capability evaluation values (Table 7-4), usable on a scale of 1:50 000 – 1:100 000 (DAFF, 2017). The previous system is based on a classification approach, with 8 classes (Table 7-1). Land capability and land potential will also be determined in consideration of the screening tool to ultimately establish the accuracy of the land capability sensitivity from (DAFF, 2017).

Table 7-4 National Land Capability Values (DAFF,2017)

Land Capability Evaluation Value	Land Capability Description
1	Very low
2	
3	Very Low to Low
4	
5	Low
6	Low to Moderate
7	
8	Moderate
9	Moderate to High
10	
11	High
12	High to Very High
13	

14 15	Very High

7.2 Appendix C: Specialist Declarations

DECLARATION

I, Masilabela Seepamore, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of Section 24F of the Act.

Masilabela Seepamore

Soil & Agricultural Scientist

The Biodiversity Company

October 2025

DECLARATION

I, Mattew Mamera, declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of Section 24F of the Act.

Dr Mattew Mamera

Soil Scientist

The Biodiversity Company

October 2025

7.3 Appendix D: Curriculum Vitae

Masilabela Klaas Seepamore

MSc Soil Science *Cum Laude* (*Pr Sci Nat*)

Cell: +27 788151878

Email: masilabela@thebiodiversitycompany.com

Identity Number: 8806085781088

Date of birth: 08 June 1988

Profile Summary

Working experience in South Africa

Specialist experience with soil science, agronomy and agrometeorology.

Specialist expertise include production agronomy, Soil classification, fertilizer recommendation, Input planning, trial management, data analysis and crop modelling.

Areas of Interest

Farming, resource use efficiency production agronomy, soil classification, soil and crop research, climate change adaptation and mitigation strategies,

Key Experience

- Land suitability studies and report writing
- Soil taxonomic classification SA forms
- Fertilizer recommendation
- Crop research
- Data analysis
- Environmental Impact Assessment (EIA)
- Environmental Management Programme (EMP)
- Agricultural potential assessment

Country Experience

South Africa

Nationality

South African

Languages

English – Proficient

Setswana, Sesotho – Proficient

Qualifications

- BASOS-FACTS Course (FERTASA)
- MSc Agriculture *Cum laude* (University of the Free State) – Soil Science (soil science, agronomy, and production agronomy)
- BSc Agriculture Honours (University of the Free State) – Soil Science (soil science, agronomy, crop nutrition)
- BSc Agricultural Agronomy and Soil Science
- Pr Sci Nat 113907

Matthew Mamera

PhD Soil Science (*Pri Nat Sci*)

Cell: +27 785 772 668

Email: matthew@thebiodiversitycompany.com

Identity Number: 8810315983183

Date of birth: 31 October 1988

Profile Summary

Working experience throughout South Africa

Specialist experience with pedology and agriculture.

Specialist expertise include hydropedology, pedology, land contamination, agricultural potential, land rehabilitation, rehabilitation management and wetlands resources.

Experience hydropedological modelling

Areas of Interest

Mining, Farming, Soil and Water quality contamination, Soil Sanitation management, Soil Carbon, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations
- Rehabilitation Plans
- Soil taxonomic classification (SA forms and WRB groups)
- Soil Hydropedology assessments
- Agriculture potential assessments
- Land contamination assessments

Country Experience

South Africa: All Provinces

Zambia - Kitwe and Mufulira

Angola- Zenza – Cacuso; Luena – Saurimo

Namibia

Nationality

South African Permanent Residence

Languages

English – Proficient

Ndebele, Xhosa, Shona – Proficient

Qualifications

- PhD (University of the Free States)- Soil Science (Hydropedology, Sanitation and Water quality management)
- MSc (University of Fort Hare) – Soil Science (Hydropedology, Sanitation and Water quality management)
- BSc Honours *Cum laude* (University of Fort Hare) – Soil Science (Hydropedology, wetlands delineation and rehabilitation)
- BSc Agricultural Soil Science
- Pri Nat Sci 116356
- SSSSA- SSSSA 201

8 Appendix

Table 8-1 Impact assessment related to the land capability during the construction, operation and decommissioning phases

Affected Environment	Activity	Impact Description	BEFORE MITIGATION						Cumulative Impact	Mitigation measures / Recommendations	AFTER MITIGATION					
			Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE			Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE
Construction																
	TSF remining, Construction of other associated infrastructure	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of soil Fertility	*Moderate -*	*Short Term < 18 months*	*Site or Local*	Low	*Definite*	Medium	Yes	Table 4-2 on the report	*Minor -*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Unlikely*	Low
Operation																
	Operation of TSF and other associated infrastructure	Loss Land Capability	*Minor -*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium	Yes	Table 4-3 on the report	*Minor -*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Unlikely*	Low
Decomissioning and Closure																
	Decommissioning of TSF and other associated infrastructure	Loss Land Capability	*Minor -*	*Short Term < 18 months*	*Site or Local*	Low	*Possible*	Low	Yes	Table 4-4 on the report	*Minor -*	*Short Term < 18 months*	*Site or Local*	Low	*Unlikely*	Low

Appendix D2
Surface Water Impact Assessment

Hydrological Study for the Proposed Reclamation of the Rustenburg Platinum Mine Limited Amandelbult Tailings Storage Facility Dam 2

Project Number:

KON040

Prepared for:

Kongiwe Environmental (Pty) Ltd

150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa

Email: info@kongiwe.co.za

Tel: +27 (10) 140 6508

Fax: 083 476 6438

Compiled by:

Hydrospatial (Pty) Ltd

28 Village Street, Tzaneen, 0850

Email: andy@hydrospatial.co.za

Tel: +27 84 441 9539

October 2025

DOCUMENT CONTROL

Project Name	Hydrological Study for the Proposed Reclamation of the Rustenburg Platinum Mine Limited Amandelbult Tailings Storage Facility Dam 2
Report Type	Hydrological Study
Client	Kongiwe Environmental (Pty) Ltd
Project Number	KON040
Report Number	04
Report Status	Final
Submission Date	October 2025
Author	Andy Pirie (Senior Hydrologist, M.Sc., *Pr.Sci.Nat.114988*)
Author Signature	

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DECLARATION OF INDEPENDENCE

I, Andy Pirie declare that:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the expertise in conducting the specialist study relevant to this application, including knowledge of the various Acts, regulations and any guidelines that have relevance to the proposed project;
- I will comply with the Acts, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of Section 24F of the Act.

Andy Pirie
Senior Hydrologist
Pr.Sci.Nat (reg no. 114988)

ACRONYMS, ABBREVIATIONS & UNITS

AMB	Amandelbult Mine
A-Pan	Class A Pan
BPG	Best Practice Guideline
CV	Curriculum Vitae
DTM	Digital Terrain Model
DWS	Department of Water and Sanitation
EO	Environmental Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme
GIS	Geographical Information Systems
GN R704	Government Notice No. 704
ha	Hectares
km	Kilometres
km^2	Square kilometres
L	Litres
LOO	Life of Operation
m^2	Square metres
m^3	Cubic metres
MAP	Mean Annual Precipitation
MAR	Mean Annual Runoff
mamsl	metres above mean sea level
mbgl	Metres below ground level
m^3/day	Cubic metres per day
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
m^3/h	Cubic metres per an hour
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PCD	Pollution Control Dam
Pr.Sci.Nat.	Professional Natural Scientist
PWT	Process Water Tank
RWD	Return Water Dam
SANRAL	South African National Roads Agency Limited
SWMP	Stormwater Management Plan
SANS	South African National Standards
SACNASP	South African Council for Natural Scientific Professions
SCS	Soil Conservation Service
Tc	Time of concentration
TSF	Tailings Storage Facility

WR2012	Water Resources of South Africa, 2012 Study
WUL	Water Use Licence
WULA	Water Use Licence Application
WMA	Water Management Area
WRC	Water Research Commission

EXECUTIVE SUMMARY

Introduction and Background

Hydrospatial (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd, to conduct a hydrological study for the proposed reclamation and reprocessing of the Tailings Storage Facilities (TSF) Dam 2 and associated infrastructure (hereafter referred to as the "project" or the "site"), at the Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB). This report provides the hydrological study for the Environmental Impact Assessment (EIA) and Water Use Licence Application (WULA) processes.

The project is located in the north-western limb of the geological Bushveld Igneous Complex, 23 kilometres (km) south-west of Thabazimbi and 20 km north-east of Northam in the Limpopo Province. The project falls within quaternary catchments A24C and A24F, which form part of the Limpopo Water Management Areas (WMA).

The proposed project seeks to recover chrome and Platinum Group Metals (PGMs) from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of PGMs and Chrome. The reclamation will also potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed. Hydraulic reclamation uses water monitors (or hydroguns) to deliver

a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content that gravitates to a barge pump. The barge pump transfers the slurry a short distance to the scrubber plant, whereby vegetation and oversized material are removed. From there the slurry will be pumped via a new pipeline that will be laid within an existing pipeline route, to a new processing plant located near the AMB Concentrator.

The following provides a description of the technical details of the project:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m^2 (1.2 ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen;
- Set of cyclones;
- Process water tank;
- Gland service water tank;
- Compressor;
- MCC;
- Transformers;
- Substations;
- Overhead Crane;
- Mini workshop;
- Firewater tank;

- Ablution facilities;
- Offices;
- Control room;
- Surge tank;
- Concrete and Steel structures;
- Pumps;
- Piping; and
- Instrumentation.

TSF No.2 Laydown area: The laydown area will be located next to the TSF No. 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000 m^2 (0.8 ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000 L);
- Fuel dispensing system;
- Fuel filtration and Conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction.

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1.2 km and widened by approximately 8-9 m. The area of the road will be approximately 1.1 ha (11 000 m^2)

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the

thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.
- TSF Chrome Recovery Plant – Current plant to be used – This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.
- TSF Tailings Thickening Plant – Current thickening plant to be used – A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m^2 (1.5 ha). Topsoil will be stockpiled to a height of 3 m. The proposed site will have a total available volume of 45 000 m^3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

Scope of Work

The scope of work included the following:

- Description of the baseline (current) surface water hydrology in terms of water quality and quantity. The purpose of the baseline is to ensure that a thorough understanding of the pre-mining surface water conditions is provided;
- Development of a conceptual Stormwater Management Plan (SWMP) in accordance with the DWS Best Practice Guideline G1: Storm Water Management and GN R704 regulations. The primary purpose of the SWMP is to ensure that clean (non-impacted water) and dirty water (mine impacted water) are clearly separated in accordance with the above-mentioned guideline and regulations;
- An assessment of the potential surface water impacts and recommended mitigation measures; and
- Development of monitoring plans that can be used to monitor potential impacts resulting from the proposed project.

Baseline Hydrology

Monthly rainfall and Class A Pan (A-Pan) evaporation measured at the AMB site was obtained from the Amandelbult Mine Water Balance Calibration Report (WSP, 2024a). Rainfall was measured between 2000 – 2024, whilst A-Pan evaporation was measured from 2010 to 2021.

Rainfall is highest between October to April, with January generally being the wettest month. Very little rainfall occurs between May to September. The Mean Annual Precipitation (MAP) for AMB is 593 mm (WSP, 2024a).

Evaporation is highest over the warmer months of September to March, with the remaining cooler months having lower evaporation. The A-Pan Mean Annual Evaporation (MAE) for the site is 1 598 mm (WSP, 2024a). Evaporation exceeds rainfall in all months of the year.

The elevation of the site varies from approximately 1 000 metres above mean sea level (mamsl) at the top of Dam 2, to 949 mamsl at Booster Station Option 2 at the Holding Dam. The general slope of the area is less than 3 % and is flat, except along the side slopes of Dam 2 where steeper slopes of 30 % occur.

The TSF 2 Laydown Area, Slurry Transfer Station, Vegetation Handling Area, Topsoil Stockpile and Dam 2 drain to the RWD, whilst the remaining proposed infrastructure drains in a westerly direction towards non-perennial tributaries of the Bierspruit. The Bierspruit is a tributary of the Crocodile River, which flows into the Limpopo River 83 km north-west of the project area.

The 1:50 and 1:100 year floodlines for the Bierspruit and Crocodile Rivers near AMB are presented in SRK (2023). The proposed project infrastructure is located well outside of the floodlines.

All proposed infrastructure is located on disturbed land except for the TSF 2 Laydown Area, Slurry Transfer Station, Vegetation Handling Area and Topsoil Stockpile, which are located in Dwaalboom Thornveld vegetation.

The Land Type data for South Africa was used to obtain the generalized soil patterns for the project area. Land Type data consists of published 1:250 000 maps indicating delineated areas of similar terrain types, pedo-systems (uniform terrain and soil pattern) and climate (Land Type Survey Staff, 1972 - 2006). All of the proposed infrastructure is located within Land Type Ea70, which according to the Land Type database, is largely dominated by Arcadia soil that has moderately high to high runoff potential.

Surface water quality at the AMB Concentrator containment facilities is monitored on a monthly basis. The water quality between March 2024 and February 2025 was obtained from the report: Amandelbult Concentrator Water Quality Monitoring Report (Shanko Projects, 2025) and was used to describe the surface water quality in the vicinity of the project. It should be noted that the tributaries surrounding the AMB Concentrator that flow into the Bierspruit and Crocodile River are non-perennial, flowing only briefly after receiving sufficient rainfall. These non-perennial streams were not flowing at the time of the site visit and could therefore not be sampled. The following provides a summary of the water quality:

- pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
- Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
- Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
- Sodium and chloride exceeded the limits at all of the monitoring points during most months;
- Elevated levels of nitrate were recorded at most of the monitoring points;
- Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
- *E.coli* was elevated at all monitoring points.

In summary, the water quality of the dirty water circuit at AMB can be described as having a neutral to alkaline pH, being very saline and hard, as well as having elevated nitrate, heavy metals and *E.coli*.

Stormwater Management Plan

A conceptual SWMP was designed to ensure that clean and dirty water are adequately separated, in accordance with GN R704 regulations. The SWMP was designed to ensure that clean water is diverted away from dirty areas, and that dirty water from the operation is captured, contained and managed accordingly. More details on the proposed SWMP can be found under section 4.

Water Balance

The water balance for the proposed project was prepared by ADP and Fraser Alexander in consultation with Valterra Platinum. The water balance can be found under section 5.

Surface Water Impact Assessment

The impact assessment indicated that all impacts can be mitigated to low impacts. A summary of the impact assessment can be found under Table 6-12.

Monitoring Plans

Monitoring plans for surface water quality and stormwater infrastructure are provided under section 7.

Conclusions and Recommendations

In conclusion, the most important aspect to prevent negative impacts from a surface water perspective, is to ensure that a sound SWMP is implemented prior to the commencement of reclamation activities, in accordance with the conditions stipulated in GN R704. Monitoring and maintenance of stormwater measures is of utmost importance and should be conducted as outlined in this report.

The following is recommended:

- The proposed SWMP under section 4 is implemented;
- The impact mitigation measures under section 6 are implemented; and
- The monitoring plans under section 7 implemented.

Should the above be implemented then from a surface water perspective the proposed project can commence.

1 INTRODUCTION AND BACKGROUND

Hydrospatial (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd, to conduct a hydrological study for the proposed reclamation and reprocessing of the Tailings Storage Facilities (TSF) Dam No. 2 and associated infrastructure (hereafter referred to as the "project" or the "site"), at the Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB). This report provides the hydrological study for the Environmental Impact Assessment (EIA) and Water Use Licence Application (WULA) processes.

1.1 Project Location

The project is located in the north-western limb of the geological Bushveld Igneous Complex, 23 kilometres (km) south-west of Thabazimbi and 20 km north-east of Northam in the Limpopo Province. Figure 1-1 indicates the location of the proposed project.

1.2 Project Description

1.2.1 Background

AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as "wet dams" with tailings being deposited mainly on 3B, but also on 3A from time to time.

Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021.

The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000.

The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

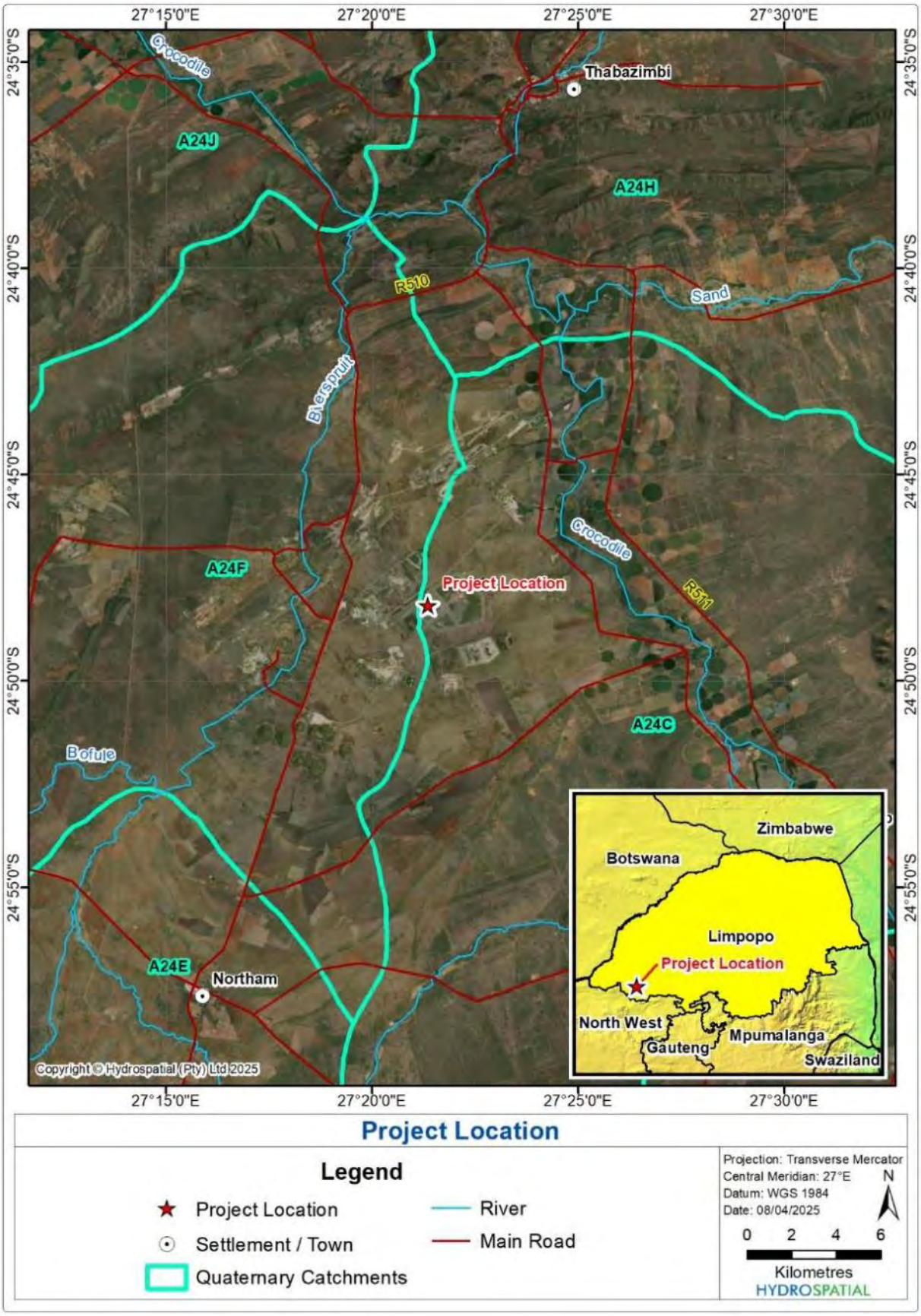

Figure 1-1: Location of the project

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of Platinum Group Metals (PGMs) and Chrome. The reclamation will also potentially open additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

1.2.2 Project Activities

The proposed infrastructure layout plan is indicated on Figure 1-2.

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF No.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF 1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1.2 km and widened by approximately 8-9 m.

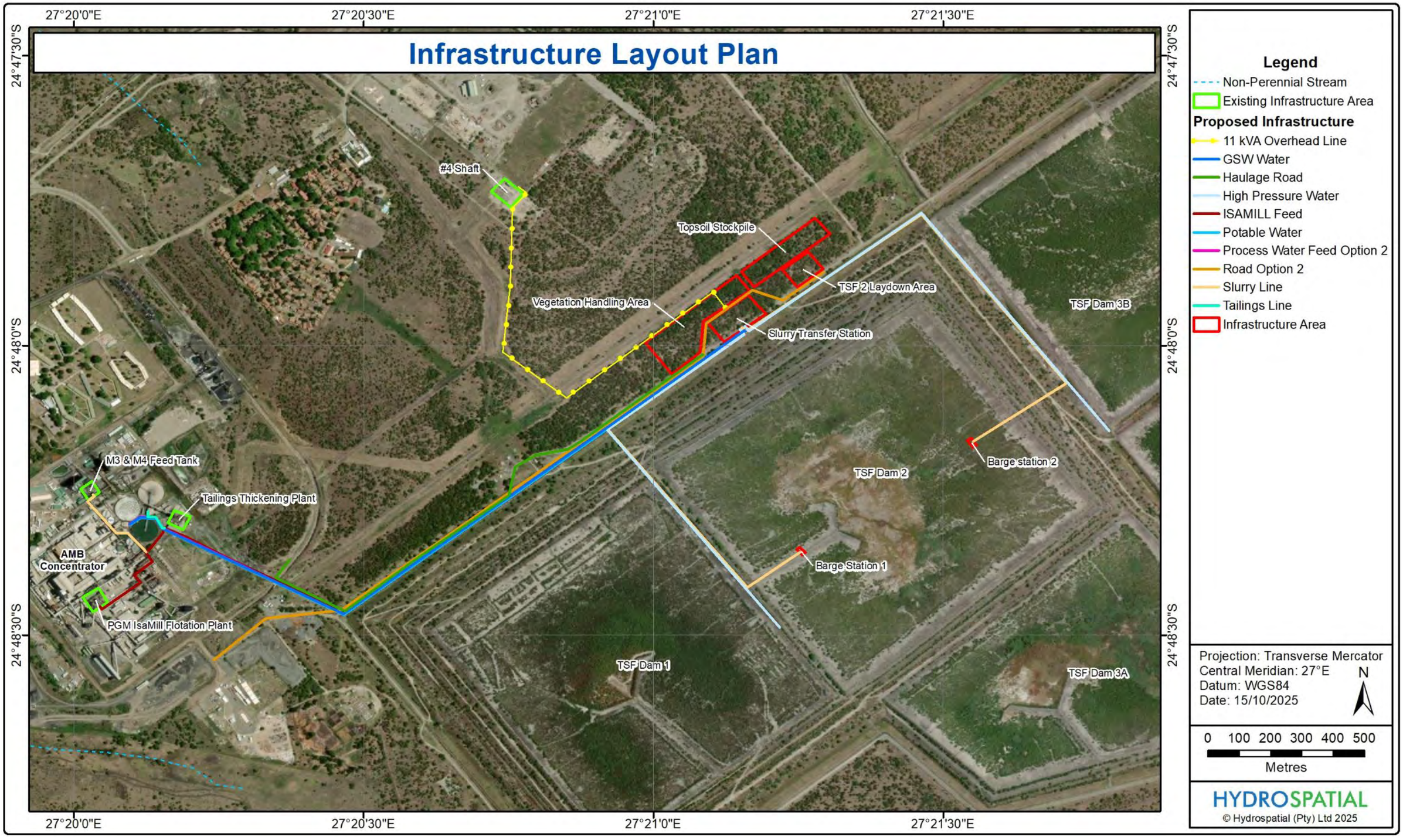

Figure 1-2: Infrastructure layout plan

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11 kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0.34 km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

1.2.3 Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

1.2.4 Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm.

Process water, Gland Service Water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

1.2.5 Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road adjacent to the TSF, will be lengthened by approximately 1.2 km and widened by approximately 8-9 m.

1.2.6 Power Supply, Sewage, Process Water and Other Requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11 kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for

final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000 m^3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000 L);
- Fuel dispensing system;
- Fuel filtration and conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

1.2.7 Work Schedule

The anticipated life span of the project is approximately 20 years. It is expected that there will be a 2-year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan.

1.2.8 Technical Details

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam No. 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to

Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m^2 (1.2 ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen;
- Set of cyclones;
- Process water tank;
- Gland service water tank;
- Compressor;
- MCC;
- Transformers;
- Substations;
- Overhead Crane;
- Mini workshop;
- Firewater tank;
- Ablution facilities;
- Offices;
- Control room;
- Surge tank;
- Concrete and Steel structures;
- Pumps;
- Piping; and
- Instrumentation.

TSF No.2 Laydown area: The laydown area will be located next to the TSF No. 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000 m^2 (0.8 ha). The diesel storage will have the following specifications:

- Storage tanks (approximately 23 000 L);
- Fuel dispensing system;
- Fuel filtration and Conditioning system;
- Fuel monitoring devices; and

- Refuelling bays.

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction.

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1 or used elsewhere on site as required.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1.2 km and widened by approximately 8-9 m. The area of the road will be approximately 1.1 ha (11 000 m^2)

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.
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The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.

- TSF Tailings Thickening Plant – Current thickening plant to be used – A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m^2 (1.5 ha). Topsoil will be stockpiled to a height of 3 m. The proposed site will have a total available volume of 45 000 m^3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

1.3 Legal Requirements and Guidelines

The following key legislative requirements and guidelines are relevant to this study:

- National Water Act, 1998 (Act No. 36 of 1998) (NWA);
- Regulations on the Use of Water for Mining and Related Activities aimed at the Protection of Water Resources (published under Government Notice 704 (GN R704) in Government Gazette 20119, 4 June 1999);
- National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and associated Environmental Impact Assessment (EIA) 2014 regulations;
- Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA); and
- Department of Water and Sanitation (DWS) Best Practice Guideline (BPG) documents, particularly:
  - BPG G1: Storm Water Management;
  - BPG G2: Water and Salt Balances; and
  - BPG A5: Water Management for Surface Mines.

1.4 Site Investigation

A site investigation of the project area was undertaken on 2 April 2025. The purpose of the site investigation was to assess the hydrological characteristics of the area.

1.5 Details of the Specialist

The study was undertaken by Andy Pirie who is a senior hydrologist at Hydrospatial (Pty) Ltd. Andy graduated with a Master of Science (M.Sc.) in Water Resource Management (cum laude). He is registered as a Professional Natural Scientist (Pr.Sci.Nat) (registration number: 114988) in Water Resources Science with the South African Council for Natural Scientific Professions (SACNASP). Work experience includes rainfall – runoff modelling, floodline determinations, development of stormwater management plans, water and salt balance modelling, setup of water monitoring networks and programmes, analysis of surface water quality and quantity, and surface water specialist studies for EIAs and WULAs. Andy has more than 10 years' experience and has worked on projects in South Africa, Cameroon, Senegal, Mali, Democratic Republic of Congo, Botswana, Zambia and Namibia. His curriculum vitae is provided in Appendix A.

2 SCOPE OF WORK

The scope of work included the following:

- Description of the baseline (current) surface water hydrology in terms of water quality and quantity. The purpose of the baseline is to ensure that a thorough understanding of the pre-mining surface water conditions is provided;
- Development of a conceptual Stormwater Management Plan (SWMP) in accordance with the DWS Best Practice Guideline G1: Storm Water Management and GN R704 regulations. The primary purpose of the SWMP is to ensure that clean (non-impacted water) and dirty water (mine impacted water) are clearly separated in accordance with the above-mentioned guideline and regulations;
- An assessment of the potential surface water impacts and recommended mitigation measures; and
- Development of monitoring plans that can be used to monitor potential impacts resulting from the proposed project.

3 BASELINE HYDROLOGY

3.1 Climate

Monthly rainfall and Class A Pan (A-Pan) evaporation measured at the AMB site was obtained from the Amandelbult Mine Water Balance Calibration Report (WSP, 2024a) and is indicated in Figure 3-1. Rainfall was measured between 2000 – 2024, whilst A-Pan evaporation was measured from 2010 to 2021.

Rainfall is highest between October to April, with January generally being the wettest month. Very little rainfall occurs between May to September. The Mean Annual Precipitation (MAP) for AMB is 593 mm (WSP, 2024a).

Evaporation is highest over the warmer months of September to March, with the remaining cooler months having lower evaporation. The A-Pan Mean Annual Evaporation (MAE) for the site is 1 598 mm (WSP, 2024a). Evaporation exceeds rainfall in all months of the year.

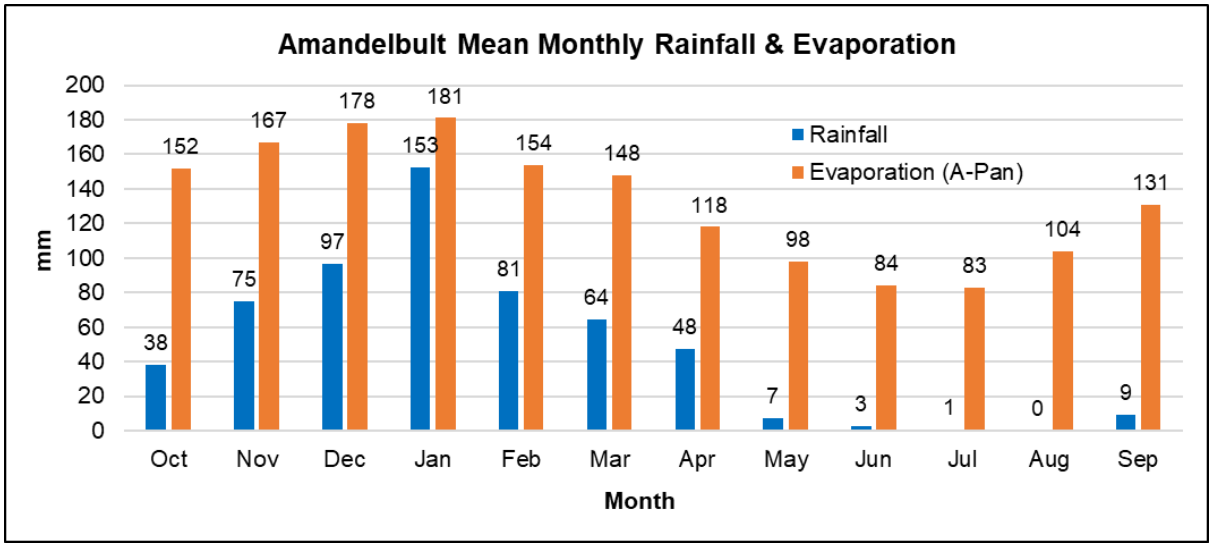

Figure 3-1: Mean monthly rainfall and evaporation measured at the Amandelbult Mine Complex

The storm rainfall depths for the centre position of the project (24°48'S, 27°21'E) were extracted from the Design Rainfall Estimation in South Africa software programme (Smithers and Schulze, 2002). The programme uses the six closest rainfall stations to a user specified position, to calculate the storm rainfall depths. The extracted storm rainfall depths for the project are indicated in Table 3-1.

Table 3-1: Storm rainfall depths for the project

Storm Duration	Storm Rainfall Depth (mm)						
	1:2 yr	1:5 yr	1:10 yr	1:20 yr	1:50 yr	1:100 yr	1:200 yr
5 min	10	13	16	18	22	24	27
10 min	14	19	23	27	32	36	41
15 min	18	24	29	34	40	46	51
30 min	23	31	37	43	51	58	65
45 min	26	35	42	49	59	66	75
1 hr	29	39	47	54	65	73	82
1.5 hr	33	45	53	62	74	84	94
2 hr	36	50	59	68	82	93	104
4 hr	43	58	69	80	96	109	122
6 hr	47	64	76	88	106	120	135
8 hr	50	68	81	95	113	128	144
10 hr	53	72	86	100	119	135	152

Storm Duration	Storm Rainfall Depth (mm)						
	1:2 yr	1:5 yr	1:10 yr	1:20 yr	1:50 yr	1:100 yr	1:200 yr
12 hr	55	75	89	104	124	141	158
16 hr	59	80	96	111	133	151	169
20 hr	62	85	101	117	140	159	178
24 hr	65	88	105	122	146	166	186
1 day	54	74	87	102	122	138	155
2 day	67	91	108	125	150	169	190
3 day	75	102	122	141	169	191	215
4 day	82	111	132	154	184	208	234
5 day	87	119	141	164	196	222	250
6 day	92	125	149	173	207	234	263
7 day	96	131	156	181	217	245	275

3.2 Hydrological Setting

3.2.1 Regional Catchments

The DWS has divided South Africa into primary, secondary, tertiary and quaternary catchments. Primary catchments are the largest defined catchments for South Africa, of which there are 22, and are assigned a letter ranging from A – X (excluding O). Secondary catchments are subdivisions of the primary catchments, and are the second largest catchments in South Africa, assigned the primary catchment letter within which they are located and a number e.g. A5 (secondary catchment 5 located within primary catchment A). Similarly, tertiary catchments are subdivisions of secondary catchments, represented for example by A53 (tertiary catchment 3 located within secondary catchment A5). Lastly, quaternary catchments are the smallest defined catchments and are assigned the tertiary catchment number, along with a quaternary catchment letter e.g. A53D (quaternary catchment D located within tertiary catchment A53).

Further to the above, the DWS has divided South Africa into 9 Water Management Areas (WMAs). The 9 WMAs consist of the Limpopo, Olifants, Inkomati-Usuthu, Pongola-Mtamvuna, Vaal, Orange, Mzimvubu-Tsitsikamma, Breede-Gouritz and Berg-Olifants.

The project is located within quaternary catchments A24C and A24F, which form part of the Limpopo WMA (Figure 1-1).

3.2.2 Topography and Drainage

Figure 3-2 shows the topography and drainage of the site. The elevation of the site varies from approximately 1 000 metres above mean sea level (mamsl) at the top of Dam 2, to 949 mamsl at Booster Station Option 2 at the Holding Dam. The general slope of the area is less than 3 % and is flat, except along the side slopes of Dam 2 where steeper slopes of 30 % occur.

The TSF 2 Laydown Area, Slurry Transfer Station, Vegetation Handling Area, Topsoil Stockpile and Dam 2 drain to the RWD, whilst the remaining proposed infrastructure drains in a westerly direction towards non-perennial tributaries of the Bierspruit. The Bierspruit is a

tributary of the Crocodile River, which flows into the Limpopo River 83 km north-west of the project area.

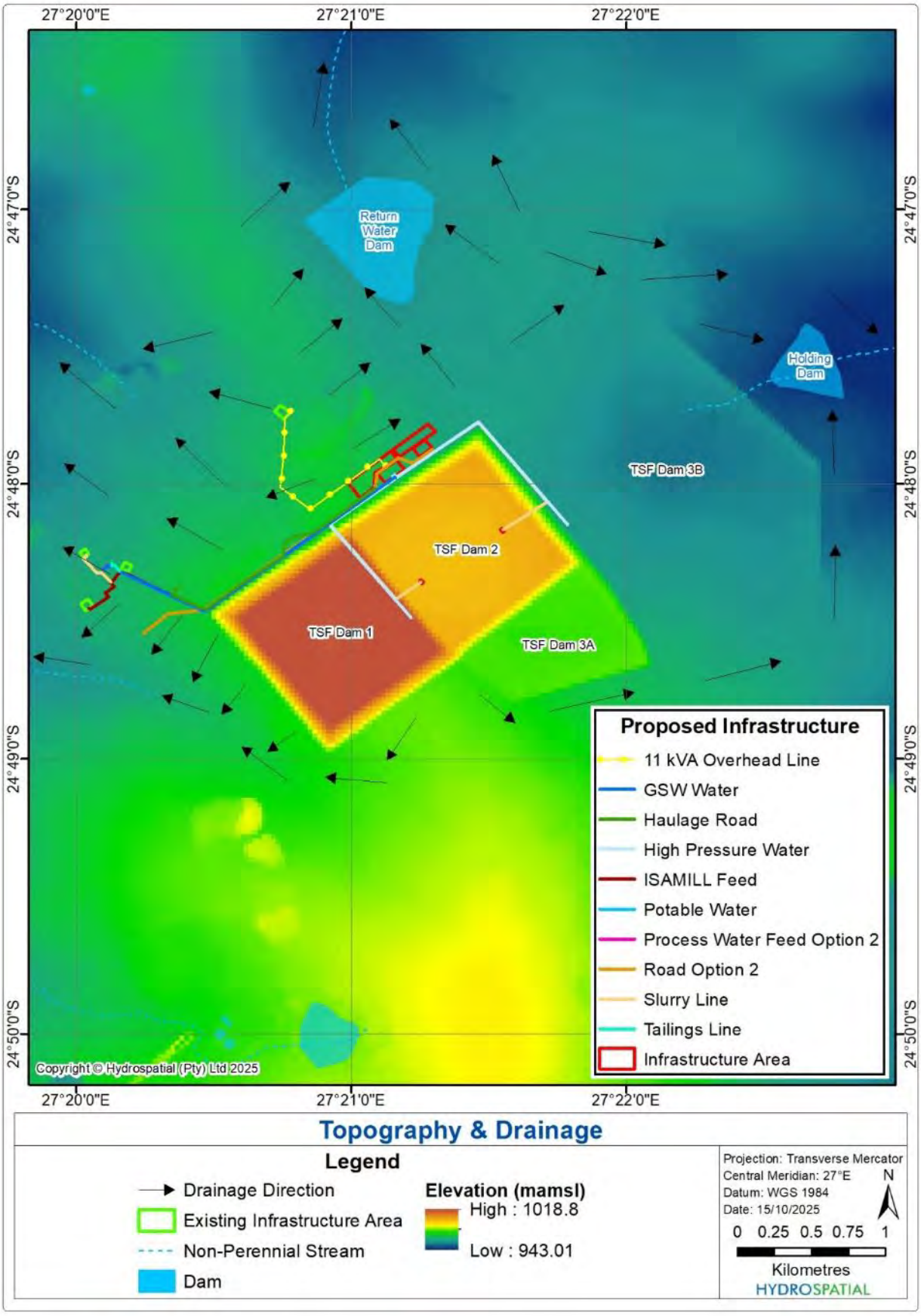

Figure 3-2: Topography and drainage

3.2.3 Floodlines

The 1:50 and 1:100 year floodlines for the Bierspruit and Crocodile Rivers near AMB are presented in SRK (2023). The proposed project infrastructure is located well outside of the floodlines.

3.2.4 Land Cover/Use

All proposed infrastructure is located on disturbed land except for the TSF 2 Laydown Area, Slurry Transfer Station, Vegetation Handling Area and Topsoil Stockpile, which are located in Dwaalboom Thornveld vegetation.

3.2.5 Soils

The Land Type data for South Africa was used to obtain the generalized soil patterns for the project area. Land Type data consists of published 1:250 000 maps indicating delineated areas of similar terrain types, pedo-systems (uniform terrain and soil pattern) and climate (Land Type Survey Staff, 1972 - 2006). All of the proposed infrastructure is located within Land Type Ea70, which according to the Land Type database, is largely dominated by Arcadia soil that has moderately high to high runoff potential.

3.2.6 Geology

According to WSP (2024b), AMB is located within the Rustenburg Layered Suite (RLS) of the Western Limb of the Bushveld Igneous Complex, the largest layered mafic and ultramafic intrusion in the world. The RLS has the following zones and main lithological units:

- Upper Zone: diorite and gabbronorite
- Main Zone: gabbronorite and norite
- Critical Zone: norite, anorthosite, and pyroxenite. The zone is characterised by prominent layering
- Lower Zone: pyroxenite and harzburgite
- Marginal Zone: norite

3.2.7 Groundwater

The following was obtained from WSP (2024b):

Shallow and deep aquifers occur at AMB. The shallow aquifer occurs as unconfined in the weathered rocks of the Bushveld Igneous Complex whilst the deep aquifer water occurrences are controlled by geological structures including faults, joints, secondary calcite mineralisation, and dykes. Low groundwater occurrences are associated with areas where faults, joints, and fractures are filled with calcite. Groundwater flow into the mine is at a rate of approximately 21 300 m^3/day and is expected to increase 36 600 m^3/day during mining of the proposed areas.

Groundwater quality monitoring data for the period from August 2021 to August 2022 showed that the water was near neutral to slightly alkaline (6.9 ≤ pH ≤ 12, median pH = 7.7). The electrical conductivity (44 - 632 mS/m, median = 205 mS/m) and concentrations of total dissolved solids (256 - 4 172 mg/L, median = 1 159 mg/L), chloride (17-1 872 mg/L, median = 256 mg/L), sulfate (<0.5-968 mg/L), sodium (21 - 634 mg/L, median = 158 mg/L), magnesium

(0.42 - 442 mg/L, median = 100 mg/L) and calcium (1.3 - 662 mg/L, median = 73 mg/L) were highly variable and were the main constituents of concern in some boreholes at AMB.

3.3 Surface Water Quality

Surface water quality in and around the AMB Concentrator is monitored on a monthly basis. The water quality between March 2024 and February 2025 was obtained from the report: Amandelbult Concentrator Water Quality Monitoring Report (Shanko Projects, 2025) and was used to describe the surface water quality in the vicinity of the project for containment facilities. It should be noted that the tributaries surrounding the AMB Concentrator that flow into the Bierspruit and Crocodile River are non-perennial, flowing only briefly after receiving sufficient rainfall. These non-perennial streams were not flowing at the time of the site visit and could therefore not be sampled.

3.3.1 Monitoring Locations

The sampling locations are indicated on Figure 3-3 and are summarised in Table 3-2.

Table 3-2: Description of the locations of the surface water quality monitoring points

Monitoring Location	Description of Location	Latitude*	Longitude*
AMD J (AMC 02)	Return Water Dam	-24.78177	27.35029
AMD U (AMC 01)	Holding Dam	-24.79265	27.37930
AMD T1 (AMC t1)	Holdings trench	-24.79565	27.35788
AMD T2 (AMC 03)	Trench from plant to Stormwater Dam	-24.80627	27.33068
CRP Stormwater Dam	CRP Stormwater Dam	-24.80382	27.33265
Kilken Turf Dam	Kilken Turf Dam	-24.80348	27.33614

*Coordinates in decimal degrees, geographic coordinate system, WGS84 datum

3.3.2 Guideline Limits

The water quality is compared to the following guideline limits (Shanko Projects, 2025):

- Domestic Water in line with SANS 241-1: 2015;
- Water Use License (WUL) limits (03/A24F/ABCEGIJ/3684);
- General limit for irrigation with wastewater (General Standards Gazette: 36820); and
- Resource Water Quality Objectives.

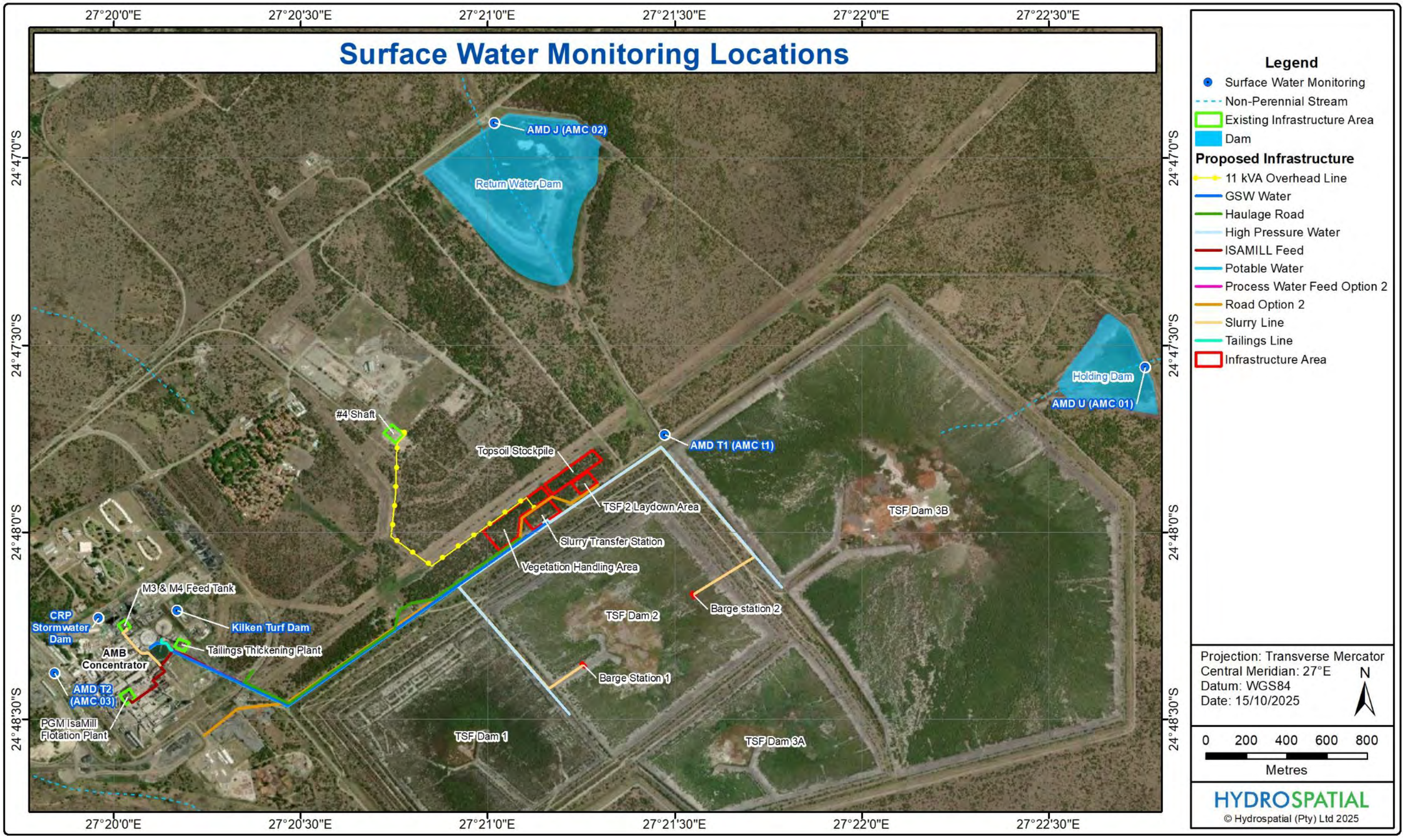

Figure 3-3: Surface water quality monitoring locations

3.3.3 Results and Discussion

The water quality results for February 2025 are provided in Table 3-3, whilst Table 3-4 summarises the average water qualities at water containment facilities at the operations between March 2024 – February 2025. Variables exceeding limits are highlighted in red in the tables. Trends in water quality for pH, Total Dissolved Solids (TDS), sulphate, nitrate, *E.coli*, Sodium Absorption Ratio (SAR), chloride and sodium are shown in Figure 3-4 to Figure 3-11. It should be noted that the surrounding non-perennial streams are generally dry, and therefore, the monitoring points only monitor the dirty water dams and channels. The following provides a summary of the water quality:

- pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
- Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
- Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
- Sodium and chloride exceeded the limits at all of the monitoring points during most months;
- Elevated levels of nitrate were recorded at most of the monitoring points;
- Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
- *E.coli* was elevated at all monitoring points.

In summary, the water quality of the dirty water circuit at AMB can be described as having a neutral to alkaline pH, being very saline and hard, as well as having elevated nitrate, heavy metals and *E.coli*.

Table 3-3: Surface water quality for February 2025 (Shanko Projects, 2025)

PROJECT NAME	CONCENTRATOR					MONITORING DATE	2025/02/04				
LOCALITY TYPE	CONCENTRATOR MINE WATER					REPORTING PERIOD	February 2025				
		LIMITS				SAMPLE IDENTIFICATION					
VARIABLES	UNITS	WUL		GENERAL		AMD J	AMD T1	AMD T2	AMD U	CRP SWD	Kilken TD
pH - Value @ 25 ℃	pH	5.5	9.5	5.5	9.5	8.8	8.1	7.6	7.6	8.9	7.4
Electrical Conductivity in mS/m @ 25°C	mS/m	170	-	150	-	232	368	189	252	94.4	209
Total Dissolved Solids @ 180°C	mg/l	-	-	-	-	1586	2620	1236	1684	642	1394
Suspended Solids at 105°C	mg/l	-	-	25	-	99	41	16.7	59	70	55
Total Alkalinity as $CaCO_3$	mg CaCO3/l	-	-	-	-	232	588	104	132	92	148
Total Hardness as $CaCO_3$	mg CaCO3/l	-	-	-	-	616	1269	449	580	212	550
Sodium Adsorption Ratio (SAR)	SAR	6	-	-	-	5.3	4.8	4.6	5.2	2.7	5
Chloride as Cl	mg/l	300	-	-	-	390	539	290	412	151	325
Sulphate as SO_4	mg/l	500	-	-	-	329	660	267	362	107	292
Fluoride as F	mg/l	1.5	-	1	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate as N	mg/l	12	-	15	-	<0.1	1.7	18	18	1.4	15
Ortho Phosphate as P	mg/l	10	-	10	-	<0.1	0.6	<0.1	<0.1	<0.1	<0.1
Chemical Oxygen Demand as O_2 (Total)	mg/l	-	-	75	-	63	48	20	40	28	56
Total Coliform Bacteria	CFU/100ml	-	-	1000	-	3100	46000	5100	2400	76	58000
E. coli	CFU/100ml	0	-	0	-	28	110	4	160	2	310
Free and Saline Ammonia as N	mg/l	6	-	3	-	0.3	1.4	2.3	1.4	0.2	2.3
Sodium as Na	mg/l	200	-	-	-	304	390	223	289	92	270
Potassium as K	mg/l	50	-	-	-	30	47	18.4	28	9.7	22
Calcium as Ca	mg/l	-	-	-	-	60	45	95	96	40	105
Magnesium as Mg	mg/l	-	-	-	-	114	281	51	83	27	70
Aluminium as Al	mg/l	0.5	-	-	-	0.184	<0.100	0.142	<0.100	0.18	0.132
Cadmium as Cd	mg/l	0.01	-	0.01	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Chromium as Cr	mg/l	0.05	-	0.05	-	<0.025	<0.025	0.046	<0.025	<0.025	<0.025
Trivalent Chromium as Cr	mg/l	-	-	-	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Hexavalent Chromium as Cr	mg/l	-	-	-	-	0.01	0.011	0.026	0.031	0.01	0.017
Cobalt as Co	mg/l	-	-	-	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Copper as Cu	mg/l	0.01	-	0.01	-	0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Iron as Fe	mg/l	0.3	-	0.3	-	0.114	0.437	0.134	<0.025	0.205	0.076
Lead as Pb	mg/l	0.05	-	0.01	-	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
Manganese as Mn	mg/l	0.1	-	0.1	-	0.04	0.168	<0.025	<0.025	<0.025	0.21
Nickel as Ni	mg/l	1	-	-	-	0.039	<0.025	<0.025	0.041	0.026	<0.025
Zinc as Zn	mg/l	0.1	-	0.1	-	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Table 3-4: Average surface water quality between March 2024 – February 2025 (Shanko Projects, 2025)

PROJECT NAME	CONCENTRATOR					MONITORING DATE	MARCH 2024 TO FEBRUARY 2025				
LOCALITY TYPE	CONCENTRATOR MINE WATER					REPORTING PERIOD	FEBRUARY 2025				
		LIMITS				SAMPLE IDENTIFICATION					
VARIABLES	UNITS	WUL		GENERAL		AMD J	AMD T1	AMD T2	AMD U	CRP SWD	Kilken TD
pH - Value @ 25 ℃	pH	5.5	9.5	5.5	9.5	8.75	8.11	8.40	8.12	8.73	8.66
Electrical Conductivity in mS/m @ 25°C	mS/m	170	-	150	-	311.96	349.80	248.13	306.83	243.93	194.60
Total Dissolved Solids @ 180°C	mg/l	-	-	-	-	2101.33	2462.73	1623.63	2065.80	1559.50	1254.83
Total Hardness as $CaCO_3$	mg CaCO3/l	-	-	-	-	818.46	1263.25	691.75	787.41	617.64	494.75
Calcium as Ca	mg/l	-	-	-	-	72.36	61.31	88.86	106.45	95.13	58.97
Magnesium as Mg	mg/l	-	-	-	-	155.60	271.05	114.26	126.28	84.05	84.41
Sodium as Na	mg/l	200	-	-	-	409.71	374.24	274.11	385.15	302.79	234.32
Potassium as K	mg/l	50	-	-	-	40.07	53.93	28.41	37.39	30.05	23.64
Total Alkalinity as $CaCO_3$	mg CaCO3/l	-	-	-	-	188.91	491.45	214.29	178.38	116.90	173.58
Chloride as Cl	mg/l	300	-	-	-	551.48	551.50	389.86	516.34	418.88	323.58
Sulphate as SO_4	mg/l	500	-	-	-	601.75	693.55	454.13	585.82	410.78	339.43
Nitrate as N	mg/l	12	-	15	-	10.19	10.90	10.61	22.36	17.60	3.27
Free and Saline Ammonia as N	mg/l	6	-	3	-	0.75	1.83	1.08	1.74	1.18	0.47
Ortho Phosphate as P	mg/l	10	-	10	-	0.16	0.51	0.82	0.19	0.20	0.13
Fluoride as F	mg/l	1.5	-	1	-	0.30	0.50	0.40	0.36	0.49	0.42
Aluminium as Al	mg/l	0.5	-	-	-	3.93	3.21	0.22	18.82	2.94	3.04
Iron as Fe	mg/l	0.3	-	0.3	-	0.37	0.75	0.19	5.92	0.90	3.83
Manganese as Mn	mg/l	0.1	-	0.1	-	8.46	10.45	0.08	1.13	0.46	15.84
Total Chromium as Cr	mg/l	0.05	-	0.05	-	1.37	1.06	0.05	0.46	0.37	5.11
Copper as Cu	mg/l	0.01	-	0.01	-	1.59	0.04	0.15	0.66	2.35	0.17
Cobalt as Co	mg/l	-	-	-	-	4.12	4.23	1.35	0.69	2.79	1.74
Cadmium as Cd	mg/l	0.005	-	0.01	-	1.85	0.03	1.92	1.86	1.94	2.02
Nickel as Ni	mg/l	1	-	-	-	2.34	1.43	0.10	2.39	2.62	1.01
Lead as Pb	mg/l	0.05	-	0.01	-	2.06	4.67	0.53	1.16	1.08	0.51
Zinc as Zn	mg/l	0.1	-	0.1	-	5.00	4.04	1.51	5.15	17.20	17.53
Sodium Adsorption Ratio (SAR)	mg/l	6	-	-	-	6.03	4.49	4.70	5.65	5.03	4.33
Suspended Solids at 105°C	SAR	-	-	25	-	19.17	322.73	3960.74	37.42	195.25	149.48
E. coli	CFU/100ml	0	-	0	-	43.56	318.64	149.40	43.36	121.36	142.00
Total Coliform Bacteria	CFU/100ml	-	-	1000	-	13524.91	11494.00	6325.38	3378.38	383.70	11579.38
Chemical Oxygen Demand as O_2 (Total)	mg/l	-	-	75	-	73.88	44.00	5070.57	81.71	54.40	67.00
Trivalent Chromium as Cr	mg/l	-	-	-	-			0.04			0.10
Hexavalent Chromium as Cr	°C	0.05	-	-	-	0.01	0.01	0.03	0.03	0.01	0.01

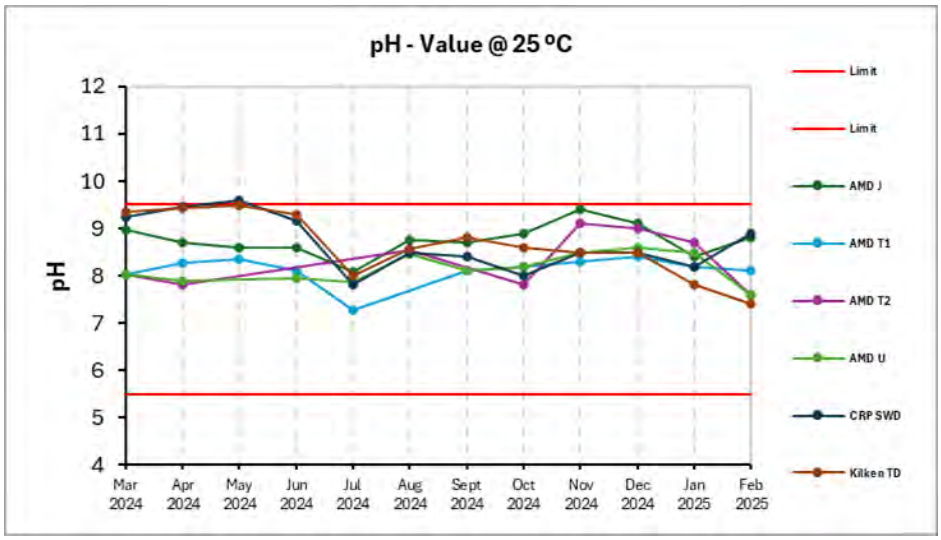

Figure 3-4: Trends in pH (Shanko Projects, 2025)

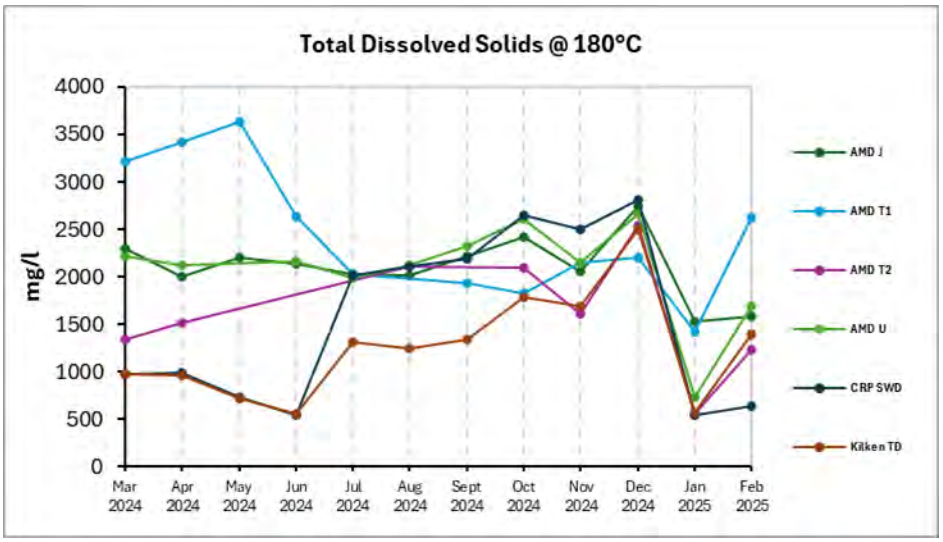

Figure 3-5: Trends in total dissolved solids (Shanko Projects, 2025)

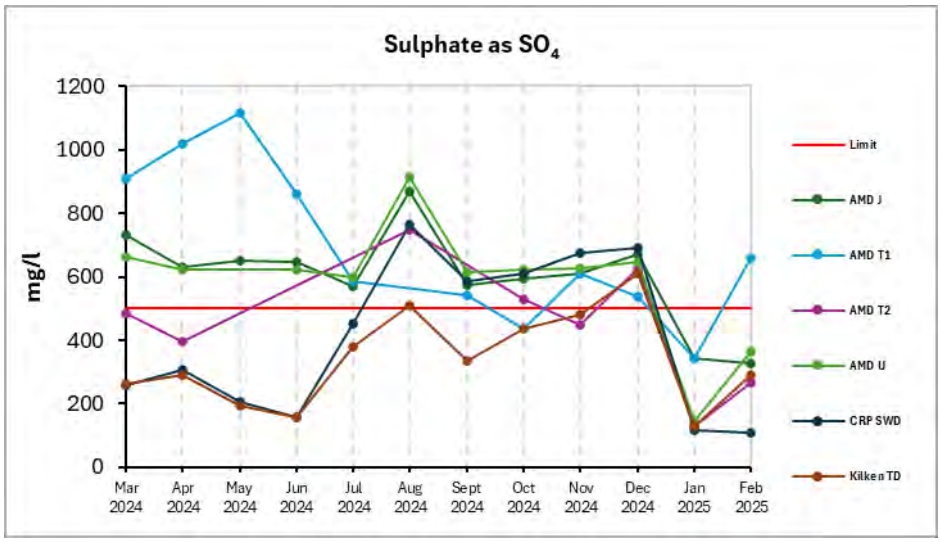

Figure 3-6: Trends in sulphate (Shanko Projects, 2025)

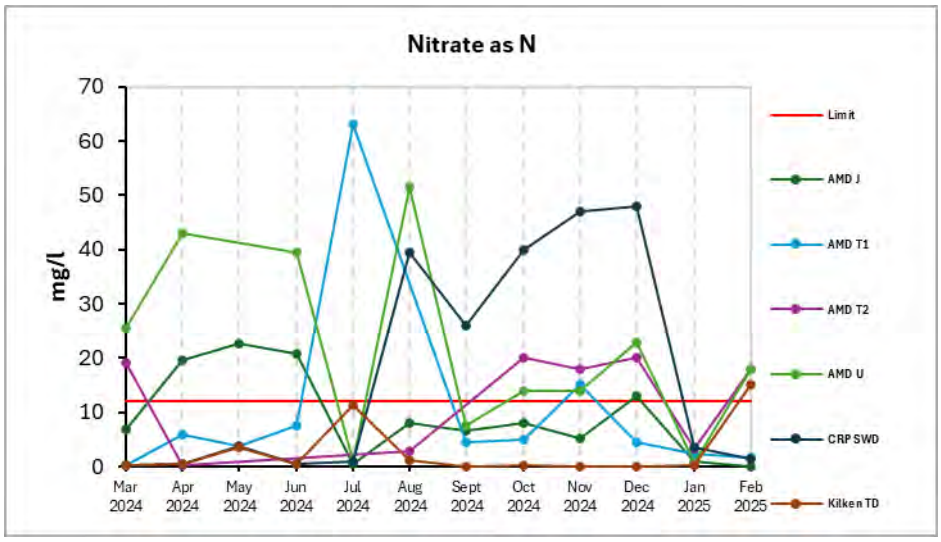

Figure 3-7: Trends in nitrate (Shanko Projects, 2025)

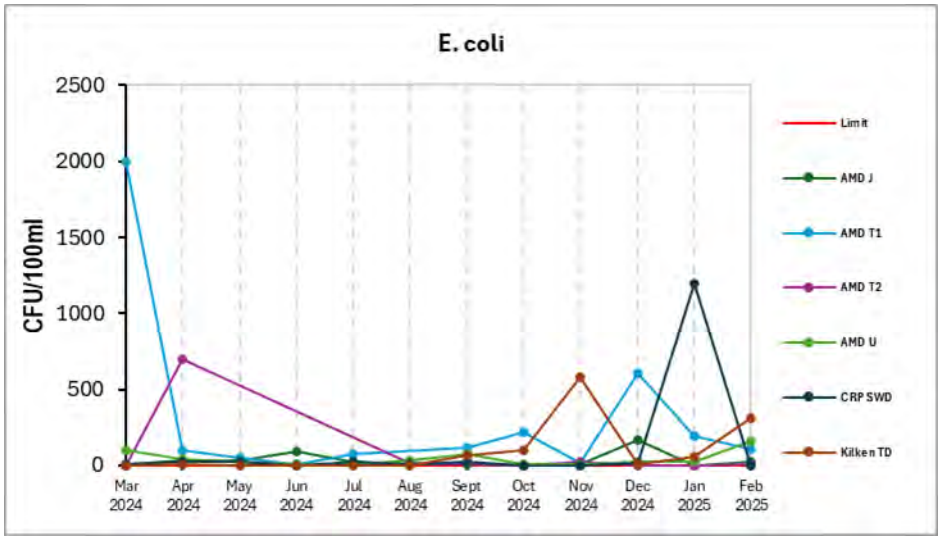

Figure 3-8: Trends in *E.coli* (Shanko Projects, 2025)

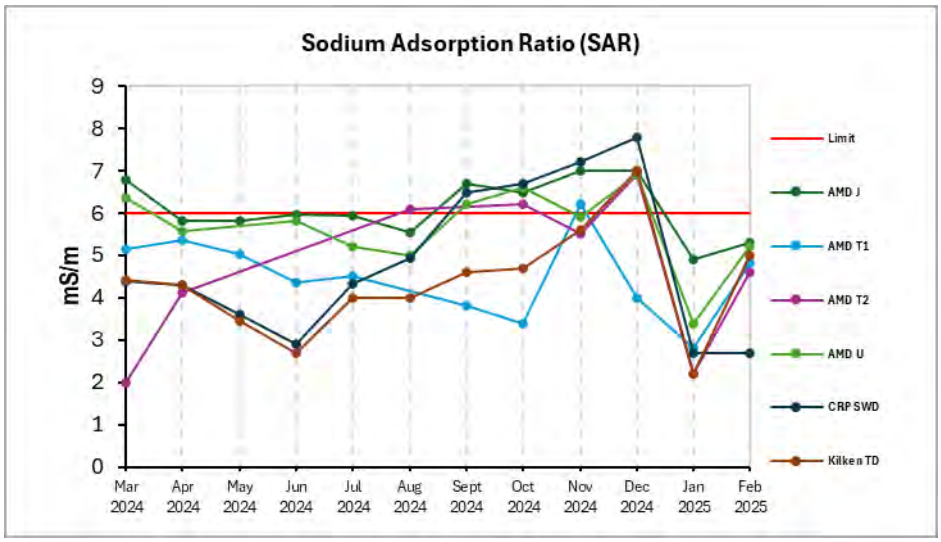

Figure 3-9: Trends in sodium adsorption ratio (Shanko Projects, 2025)

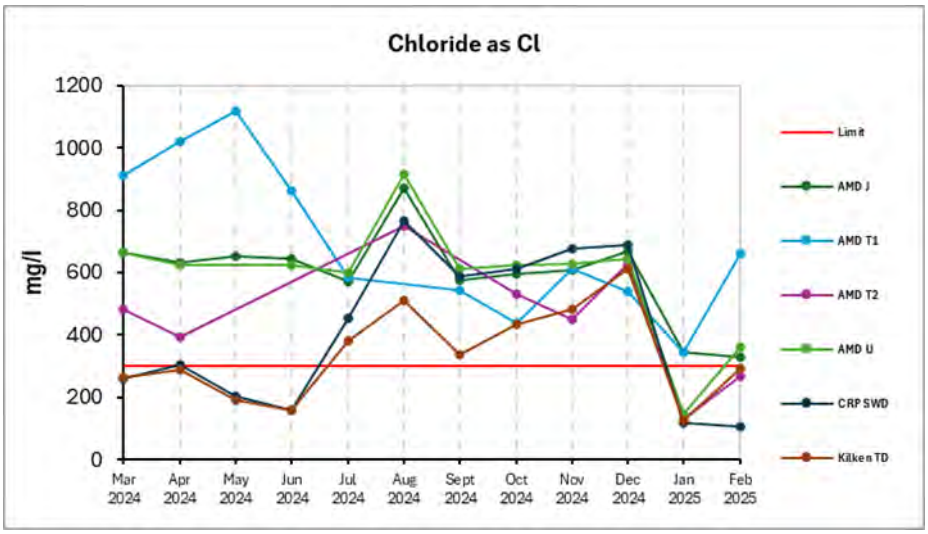

Figure 3-10: Trends in chloride (Shanko Projects, 2025)

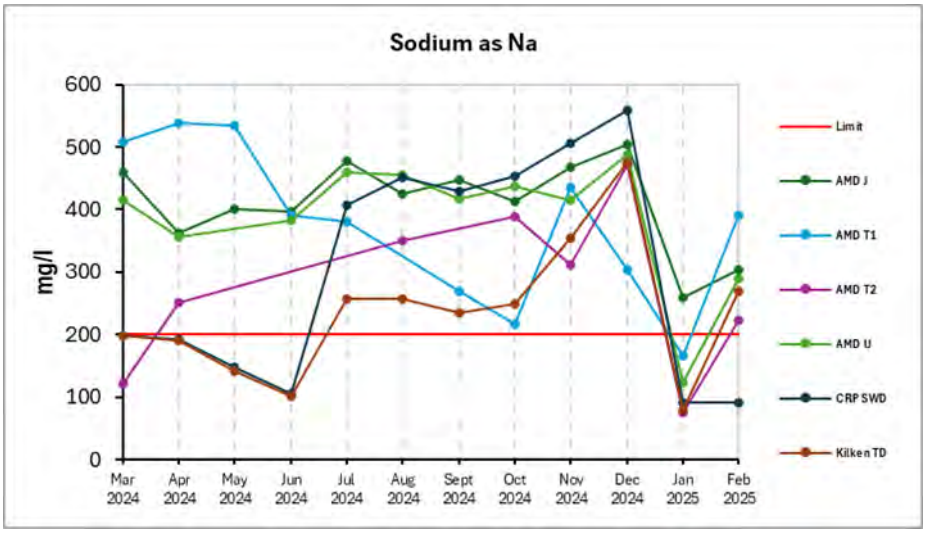

Figure 3-11: Trends in sodium (Shanko Projects, 2025)

4 CONCEPTUAL STORMWATER MANAGEMENT PLAN

The purpose of the conceptual Stormwater Management Plan (SWMP) is to ensure that clean and dirty water are adequately separated, by diverting clean water away from dirty areas, and ensuring that dirty water from the operation is captured, contained and managed appropriately in accordance with GN R704 regulations and DWS best practice guidelines.

4.1 Terminology

The following definitions are relevant to the SWMP:

- **Activity:** Any mining related process on the mine including the operation of washing plants, mineral processing facilities, mineral refineries and extraction plants; the operation and the use of mineral loading and off-loading zones, transport facilities and mineral storage yards, whether situated at the mine or not;

in which any substance is stockpiled, stored, accumulated, dumped, disposed of or transported;

- **Clean area:** This refers to any area at or near a mine or activity, which produces clean uncontaminated runoff;
- **Clean water system:** This includes any dam, other form of impoundment, canal, works, pipeline and any other structure or facility constructed for the retention or conveyance of clean unpolluted water;
- **Dam:** This includes any return water dam, settling dam, tailings dam, evaporation dam, catchment or barrier dam and any other form of impoundment used for the storage of unpolluted water or water containing waste (i.e. contain polluted water);
- **Dirty area:** This refers to any area at a mine or activity which causes, has caused or is likely to cause pollution of a water resource (i.e. generate polluted water);
- **Dirty water system:** This includes any dam, other form of impoundment, canal, works, pipeline, residue deposit and any other structure or facility constructed for the retention or conveyance of water containing waste; and
- **Watercourse:** This is defined in the NWA as -
  - A river or spring;
  - A natural channel in which water flows regularly or intermittently;
  - A wetland, lake or dam into which, or from which, water flows; and
  - Any collection of water which the Minister may, by notice in the *Gazette,* declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

4.2 Methodology and Data

4.2.1 Elevation Data

Light Detection and Ranging (LiDAR) data covering the proposed project area was provided by AMB. The LiDAR data was converted into a Digital Terrain Model (DTM) and was used in the development of the SWMP, to perform calculations and to delineate clean and dirty areas. For areas extending beyond the project area, a 30 m resolution Forest And Buildings removed Copernicus DEM (FABDEM) was used, as it provided more accurate elevation data than the 5 m topographical contours for South Africa, when compared to areas overlapping with the LiDAR data.

4.2.2 Design Rainfall

The storm rainfall depths presented in Table 3-1 was used in the stormwater calculations.

4.2.3 Design Philosophy

The following design philosophy was adopted to guide the development of the SWMP, and is based on GN R704 and the DWS Best Practice Guideline (BPG) G1: Storm Water Management:

- Confine or divert any unpolluted water to a clean water system, away from a dirty area;
- Runoff from dirty areas must be captured, contained and managed appropriately;
- Clean and dirty water systems must be designed and constructed to prevent cross contamination;
- Dirty water must, as far as possible, be recycled and reused;
- Clean and dirty water systems must convey/contain runoff from the 50 year storm event, and should preferably not lie within the 100 year floodline or within a horizontal distance of 100 m from any watercourse, whichever is the greater of the two; and
- Appropriate maintenance and management of stormwater related infrastructure should be ensured at all times.

4.2.4 Sizing of Stormwater Measures

4.2.4.1 Peak Flows and Volumes

GN R704 regulations require that clean and dirty water systems are sized so that they do not spill more than once in 50 years. The 1:50 year peak flows and volumes for the 1 day storm event, were calculated using the Soil Conservation Service (SCS) method (Schmidt and Schulze, 1987). The SCS method uses a Curve Number (CN) which is determined from the physical characteristics of the contributing catchment area. CN values range from 0 to 100. Low CN values are assigned to permeable catchments, while impermeable catchments are assigned higher CN values. The SCS method is based on the following equation:

$$Q = \frac{(P\text{-}Ia)^2}{P\text{-}Ia+S} \; for P > Ia$$

Where:

Q = Stormflow depth (mm);

P = Design storm rainfall depth (mm);

S = Potential maximum soil water retention (mm); and

Ia = Initial losses (abstractions) prior to the commencement of stormflow, comprising of depression storage, interception and initial infiltration (mm). In South Africa, it is recommended that Ia = 0.1S be used for the estimation of design stormflow.

The potential maximum soil water retention (S), which relates to the hydrological soil properties, land cover and management conditions, as well as to the soil moisture status of the catchment prior to a storm event, was calculated using the following equation:

$$S = \frac{25400}{CN} - 254$$

The stormflow depth is converted to runoff volume by multiplying by the contributing catchment area. The Visual SCS-SA software (Schulze et al., 2004) was used to perform the calculations.

More details on the SCS method can be obtained from Schmidt and Schulze (1987) or SANRAL (2013).

4.2.4.2 Channel and Berm Sizing's

The Manning's equation was used to calculate the channel and berm sizes required for the 1:50 year peak flows. The Manning's equation is provided below:

$$Q = A\frac{1}{n}R^{2/3}S^{1/2}$$

Where:

Q = Peak flow (m³/s)

A = Cross sectional area of the channel (m²)

R = Hydraulic radius (m)

S = Longitudinal slope of channel (m/m)

n = Manning's roughness coefficient 'n'

Calculations were undertaken using a Microsoft Excel spreadsheet. The typical proposed design for clean and dirty water channels and berms is shown in Figure 4-1.

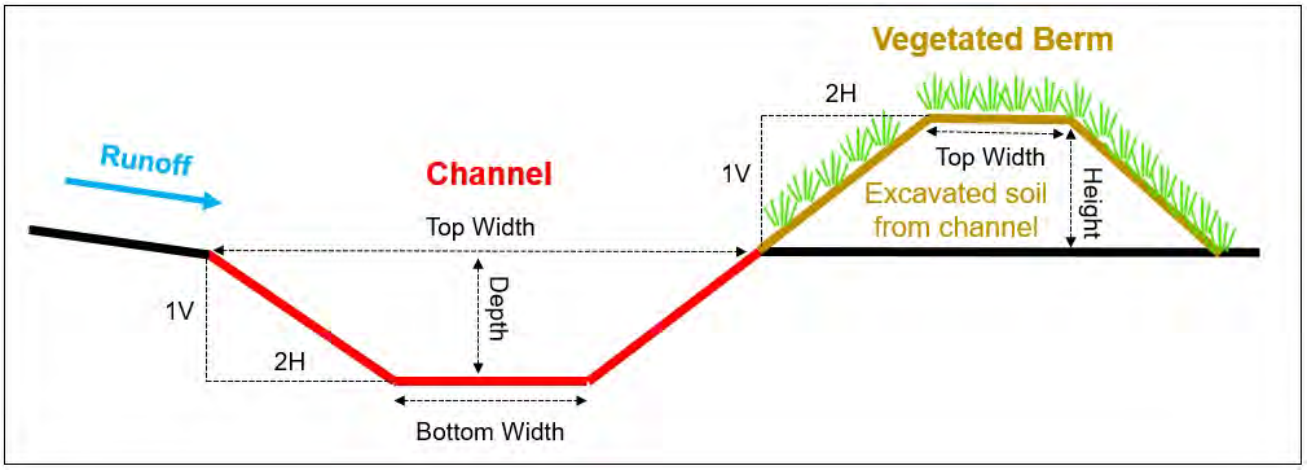

Figure 4-1: Typical proposed design for channels and berms

4.3 Assumptions and Limitations

The following are assumptions and limitations for the conceptual SWMP:

- The SWMP is conceptual. A detailed SWMP should be designed based on the concept design prior to construction taking place.

4.4 Clean and Dirty Areas

The clean and dirty areas are shown Figure 4-2. Dirty areas include all proposed infrastructure areas except for the topsoil stockpile. The areas surrounding dirty areas will be managed as clean areas.

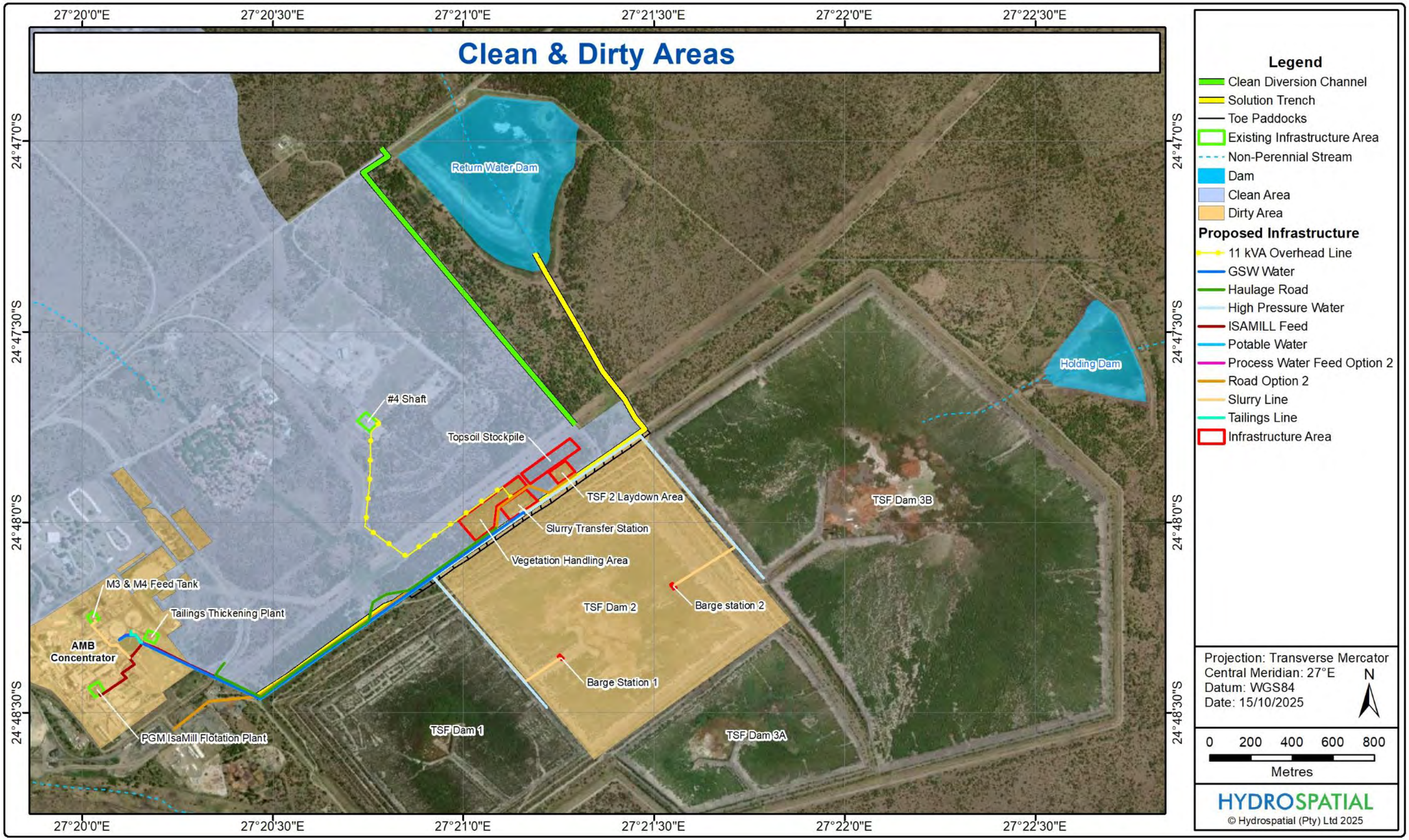

Figure 4-2: Clean and dirty areas

4.5 Proposed Stormwater Measures

The proposed SWMP for the project is indicated on Figure 4-3 and is discussed in the sections below. The SWMP has been designed as closed system (i.e. no discharge of dirty water to the surrounding environment).

4.5.1 TSF Dam 2

The top of the TSF is proposed to be divided into paddock compartments. The purpose of the paddock compartments is to ensure that stormwater is contained and managed on the TSF footprint, and also to ensure that the barge pump and associated infrastructure is not overwhelmed and flooded during periods of high rainfall. Only the paddock compartment being mined will drain to the barge pump. Stormwater accumulation within the paddock compartments will evaporate, and if excessive, can be released slowly to the barge pump by carefully creating opening/s in the paddock walls. Once the water is released, the paddock wall will be repaired. It is proposed that the compartment paddock walls are constructed to be 1.5 m high, which is higher than the 1:50 year storm event depth, including the depth of an average year of rainfall.

The existing toe paddocks should be left in place until mining progresses to ground level, to capture runoff from the side slopes of the TSF.

4.5.2 Vegetation Handling Area

This area will be used to stockpile vegetation and oversize material screened out from the hydraulically reclaimed material. All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF 1 to be added to the composting process.

It proposed that an earth berm is constructed around the perimeter of this area. The purpose of the berm will be to deflect clean runoff away and to contain any dirty water runoff. If need be, dirty water from this area can drain to the existing solution trench via a channel.

4.5.3 Slurry Transfer Station

At the Slurry Transfer Station, vegetation and oversize material will be screened out and stockpiled at the adjacent Vegetation Handling Area. The slurry processed from this area will be pumped to the AMB Concentrator. An earth berm is proposed to be constructed around the perimeter of this area to contain dirty runoff and to divert external clean runoff away. No detailed layout drawings were available at the time of this study, however, it is anticipated that slurry leaks and spills will be captured in lined sumps or containment facilities and will be pumped back into the processing system.

4.5.4 TSF 2 Laydown Area

The laydown area will be used to store diesel and to refuel heavy machinery. The diesel storage tanks should be placed in a concrete lined bunded area. The bunded area should be

sized to contain at least 110 % of the volume of diesel that is proposed to be stored there. Refuelling of machinery should take place over a concrete lined area that drains to a sump which will capture and contain any spills. The levels in the sump should be inspected routinely.

4.5.5 Topsoil Stockpile Area

Topsoil will be stripped from the areas where construction will be undertaken and will be placed at the topsoil stockpile area. In order to contain silt, it is proposed that an earth berm is placed around the perimeter of this area.

4.5.6 PGM IsaMill Flotation Plant and M3 & M4 Feed Tank

The PGM IsaMill Flotation Plant and M3 & M4 Feed Tank will utilise existing infrastructure which will be upgraded and will be located within the existing AMB Concentrator dirty water footprint area.

No detailed designs were available at the time of this study, however, it is likely that these areas will be concrete lined and bunded, to capture any spills. The bunded areas will most likely report to sumps that will pump water back into the process for reuse.

4.5.7 Contractors Laydown Area

It is likely that tools, materials, equipment and vehicles will be stored or parked at the contractor's laydown area. It is proposed that an earth berm is constructed around the perimeter of this area. Any hazardous or dangerous materials should be stored within designated lined bunded areas. Washing of vehicles and other equipment should take place on a concrete lined area that reports to a sump that should be fitted with an oil water separator. Water from the oil water separator can be reused for washing purposes, whilst the separated hydrocarbons should be appropriately stored until removed offsite.

4.5.8 Tailings Thickening Plant

The Tailings Thickening Plant is an existing facility located within the AMB Concentrators dirty water footprint area. The area is concrete lined and bunded.

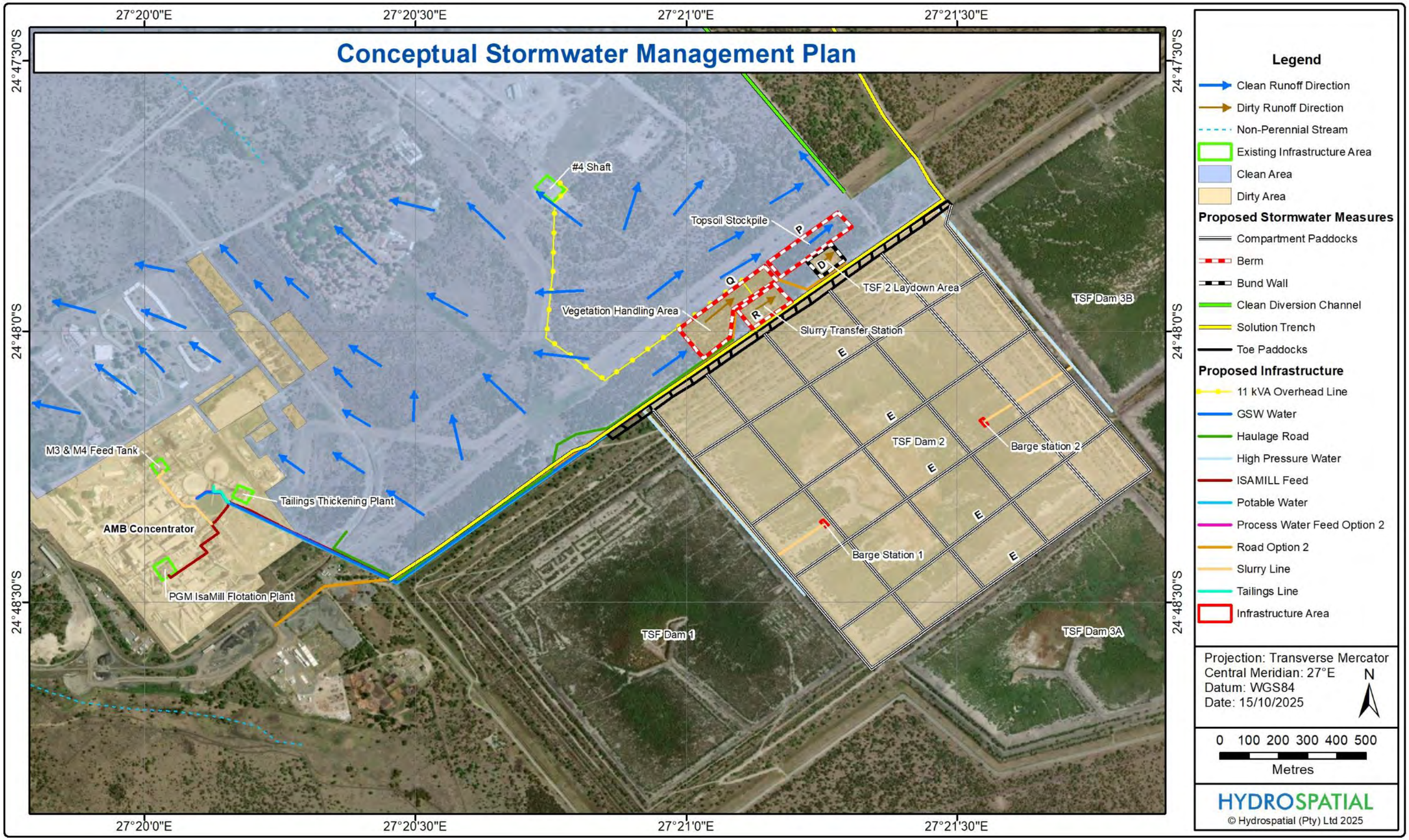

Figure 4-3: Conceptual stormwater management plan

4.6 Proposed Stormwater Measure Sizing's

It is proposed that earth berms P, Q and R are constructed to be 0.5 m in height with side slopes of 1V:2H. The berms should be vegetated with natural occurring grass to prevent erosion.

Concrete bund wall D around the TSF 2 Laydown area should be constructed to contain at least 110 % of the diesel proposed to be stored there.

The compartment paddock walls E are proposed to be 1.5 m in height with side slopes of 1V:2H.

5 WATER BALANCE

The water balance for the proposed project was prepared by ADP and Fraser Alexander in consultation with Valterra Platinum and is summarised below.

5.1 Reprocessing Tonnages

The tonnages planned to be mined are 325 000 tonnes per month over 16 years (average of 10 684 tonnes per day). The mining is planned to start in July 2026.

5.2 Parameters

The water balance input parameters are provided in Table 5-1.

Table 5-1: Water balance input parameters

Input Parameter	Value	Comment
Hydraulic Mining of TSF 2		
Target percent solids	47.5%	Percent solids targeted in slurry to barge pumps. The low percentage solids has been used as it gives a larger water volume required as is therefore more conservative
Percent solids in in-situ tailings to be mined	90%	The in-situ moisture was not included in the remining water balance as the exposed tailings area being mined dries out due to evaporation. The moisture is not available for the water balance
Percent utilization	90%	The percentage of the day that the remining operates
Design factor	10%	Factor of safety on the throughput

Input Parameter	Value	Comment
Losses	5%	Calculated as 5% of water required to produce the target SG of 1.525 (47.5% solids)
Gland seal water (GSW) and service water	10%	Calculated as 10% of the water volume required to meet target percent solids
Water for scrubber	179 m^3/d	Based on FA initial assumption of 8.3 m^3/h required
Volume water required at hydraulic mining to be supplied from the transfer station	Calculated	Calculated as the sum of the water required to reach target density plus losses plus GSW plus water for scrubber
Water sent to transfer station in slurry from hydraulic mining	Calculated	Difference between water sent to the hydraulic mining from the PWT and the losses
Transfer Station		
Percent solids	42.2%	Percent solids in slurry from Transfer Station to Reprocessing Plant
Flush and Wash water	433 m^3/d	Daily volume calculated based on a 24-hour day
Reprocessing Plant		
Percent feed mass to Chrome product	12%	Percent of remined dry tonnes as chrome product deposited on chrome stockpile
Percent feed mass to PGM product	9%	Percent of remined dry tonnes as PGM product sent to Concentrator
Percent feed mass to tailings	79%	Percent of remined dry tonnes as tailings sent to Concentrator
Percent Solids in Chrome product deposited on Chrome stockpile	86%	Percent solids in Chrome product
Percent Solids in PGM product sent to Concentrator	30%	Percent solids in PGM product
Percent solids of tailings slurry sent to Concentrator	25%	Percent solids in tailings slurry
Process Water	-	Calculated as the difference between the outs and ins. To be supplied from the existing PWT

5.3 Process Flow Diagram and Volumes

Water for hydraulic mining and the reprocessing plant will be provided from the existing Process Water Tank (PWT) located at the concentrator. The slurry from the hydraulic mining at TSF 2 is first passed through a transfer station for screening and density correction before the slurry is pumped to the reprocessing plant. The runoff from the transfer station area and the flush/wash water losses are passed through sediment traps before discharge to the existing stormwater drain discharging to the RWD. The PGM product and tailings from the reprocessing plant will be sent to the concentrator. The chrome product will be deposited on a chrome stockpile. The percent solids of the tailings slurry and concentrate from the reprocessing plant are lower than the PGM concentrate, and tailings produced by the concentrator. The density of the concentrate and tailings will be corrected in the concentrator with the excess water discharged to the PWT.

The Process Flow Diagram (PFD) and daily volumes in m^3/day for the project are provided in Figure 5-1.

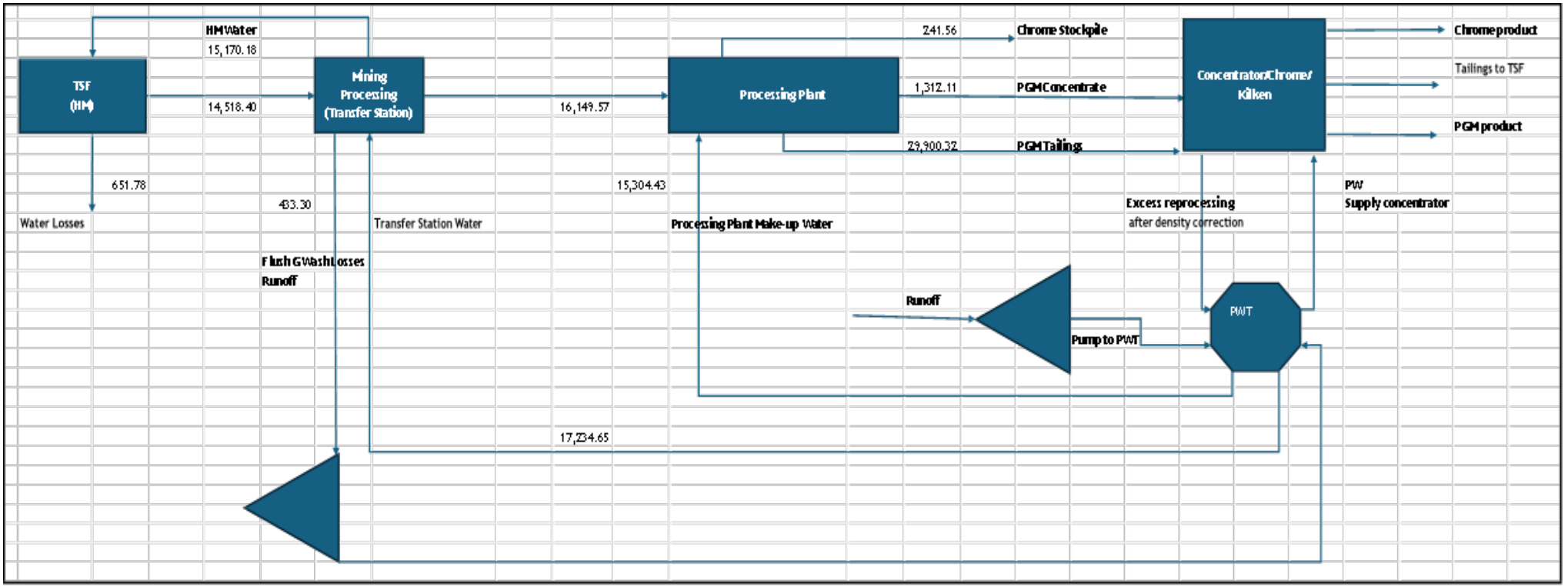

Figure 5-1: Water balance for the project

6 SURFACE WATER IMPACT ASSESSMENT

6.1 Project Activities Assessed

The following key activities are likely to occur during the different phases of the project, and are assessed in the impact assessment:

6.1.1 Construction Phase

- Site clearance and the construction of infrastructure.

6.1.2 Operational Phase

- Hydraulic and mechanical reclamation activities;
- Processing plant and stockpiling activities; and
- Flooding of infrastructure.

6.1.3 Closure and Rehabilitation Phase

The TSF Dam 2 footprint will be used for further tailings deposition once reclamation is fully completed. Therefore, the closure and rehabilitation phase is not applicable to this study.

6.2 Methodology

The impact significance rating process serves to highlight the critical impacts requiring consideration in the management and approval process. The impact significance rating system is presented in Table 6-1, Table 6-2 and Table 6-3, and involves three parts:

- **Part A**: Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/population and duration;
- **Part B**: Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A; and
- **Part C**: Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from **Part B**) and the probability of occurrence.

These are discussed in further detail below.

6.2.1 Part A: Defining Consequence in Terms of Magnitude, Duration and Spatial Scale

Table 6-1 is used to determine the impact consequence characteristics for magnitude, spatial scale/population and duration.

Table 6-1: Consequence rating definitions

IMPACT CHARACTERISTICS	DEFINITION	CRITERIA
Magnitude	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of impact are of conservation importance; or identified threshold often exceeded

IMPACT CHARACTERISTICS	DEFINITION	CRITERIA
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
Spatial scale or population	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g. cadastral, catchment, topographic
	National/ International	Nationally or beyond
Duration	Short term	Up to 18 months.
	Medium term	18 months to 5 years
	Long term	Longer than 5 years

6.2.2 Part B: Determining the Consequence Rating

Once the impact consequence characteristics have been determined from Table 6-1, they are applied to Table 6-2 to obtain the consequence rating.

Table 6-2: Consequence rating

			SPATIAL SCALE/ POPULATION		
			Site or Local	**Regional**	**National/ international**
MAGNITUDE					
Minor	**DURATION**	**Long term**	Medium	Medium	High
		Medium term	Low	Low	Medium
		Short term	Low	Low	Medium

			SPATIAL SCALE/ POPULATION		
			Site or Local	Regional	National/ international
Moderate	DURATION	Long term	Medium	High	High
		Medium term	Medium	Medium	High
		Short term	Low	Medium	Medium
Major	DURATION	Long term	High	High	High
		Medium term	Medium	Medium	High
		Short term	Medium	Medium	High

6.2.3 Part C: Determining Significance Rating

The probability of the impact occurring is assessed as either being definite, possible or unlikely, and is selected in Table 6-3. The consequence rating determined from Table 6-2, is then used to obtain the significance of the impact in Table 6-3.

Table 6-3: Significance rating

		CONSEQUENCE		
		Low	Medium	High
PROBABILITY (of exposure to impacts)	Definite	Medium	Medium	High
	Possible	Low	Medium	High
	Unlikely	Low	Low	Medium

The significance rating of the impact is determined prior to mitigation (without mitigation), as well as after mitigation measures have been implemented.

6.3 Impact Assessment and Mitigation

6.3.1 Construction Phase

During the construction phase, vegetation will be cleared and the proposed infrastructure will be erected. The construction phase will be approximately 2 years. The activities and impacts that are likely to occur during the construction phase are summarised in Table 6-4.

Table 6-4: Summary of activities and impacts for the construction phase

Activity	Impact Description
Removal of vegetation for infrastructure and the alteration to the topography.	Erosion and wash off of exposed soils leading to siltation in downgradient watercourses.

The ratings and proposed mitigation measures for the construction phase are provided in Table 6-5.

Table 6-5: Significance rating for the construction phase

NATURE OF IMPACT: The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Medium term	Medium term
Magnitude *(Major, Moderate, Minor)*	Moderate	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Possible
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts • None foreseen		
Mitigation measures • Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around exposed working areas; and • The SWMP must be implemented as a first step during the construction phase.		

6.3.2 Operational Phase

During the operational phase, hydraulic and mechanical reclamation of the TSF 2 will take place. The operational phase will be approximately 18 years.

The mixing of water with the tailings material during hydraulic mining, will add additional water and oxygen to the material, which could potentially result in acidic water, with leaching of metals and salts. It is of outmost importance that runoff from the reclamation site is contained as recommended in the proposed SWMP.

The PGM IsaMill Flotation Plant and M3 & M4 Feed Tank are likely to produce contaminated runoff. These areas are located within the AMB Concentrator's dirty water footprint area and should therefore tie in with the existing stormwater measures.

Poor maintenance of stormwater infrastructure such as the silting up of paddocks, as well as the erosion of berms, can result in spills from the reclamation site. It is therefore important that stormwater infrastructure is regularly monitored and maintained.

The proposed pipelines will convey process water to TSF 2 for hydraulic reclamation, as well as slurry from TSF 2 to the processing plant. It is important that these pipelines are regularly inspected and maintained to prevent leaks.

Flooding of infrastructure due to high rainfall may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.

The activities and impacts that could potentially occur during the operational phase are summarised in Table 6-6.

Table 6-6: Summary of activities and impacts for the operational phase

Activity	Impact Description
Uncontained dirty water runoff from the reclamation and processing areas.	**Impact 1:** Runoff into the downslope watercourses impacting on water quality.
Poor maintenance of stormwater infrastructure.	**Impact 2:** Silted paddocks and eroded berms which lead to spills into the downslope watercourses impacting on water quality.
Leaks from the proposed pipelines.	**Impact 3:** Leaks from the pipeline running off into down gradient watercourses impacting on water quality.
Flooding of infrastructure.	**Impact 4:** Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.

The ratings and proposed mitigation measures for the operational phase are indicated in Table 6-7 to Table 6-10.

Table 6-7: Significance rating of operational impact 1

NATURE OF IMPACT 1: Uncontained dirty water runoff from the reclamation and processing areas running off into the downslope watercourses impacting on water quality		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Long term	Long term

NATURE OF IMPACT 1: Uncontained dirty water runoff from the reclamation and processing areas running off into the downslope watercourses impacting on water quality		
Magnitude *(Major, Moderate, Minor)*	Major	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**High**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts • None foreseen.		
Mitigation measures • Implementation of the proposed SWMP to contain dirty water runoff.		

Table 6-8: Significance rating of operational impact 2

NATURE OF IMPACT 2: Poor maintenance of stormwater infrastructure resulting in silted paddocks and eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Long term	Long term
Magnitude *(Major, Moderate, Minor)*	Major	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**High**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	

NATURE OF IMPACT 2: Poor maintenance of stormwater infrastructure resulting in silted paddocks and eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation	
Can impacts be enhanced: (Yes or No)	Yes
Residual impacts • None foreseen.	
Mitigation measures • Implementation of the stormwater monitoring plan detailed in section 7 of this report.	

Table 6-9: Significance rating of operational impact 3

NATURE OF IMPACT 3: Leaks from the proposed pipelines running off into down gradient watercourses impacting on water quality		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Local	Local
Duration *(Short term, Medium term, Long term)*	Long term	Long term
Magnitude *(Major, Moderate, Minor)*	Moderate	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Medium**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts • None foreseen.		
Mitigation measures • Regular inspections and maintenance of the pipelines; and • Immediate containment of leaks, repair of the pipeline and clean ups.		

Table 6-10: Significance rating of operational impact 4

NATURE OF IMPACT 4: Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Long term	Long term
Magnitude *(Major, Moderate, Minor)*	Major	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**Major**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts • None foreseen.		
Mitigation measures • Implementation of the proposed SWMP to contain dirty water runoff up to a recurrence interval of 1:50 years, as required by GN R704 regulations.		

6.4 Cumulative Impacts

Cumulative impacts are impacts that result from the incremental impact of the proposed activities on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.

The project is located in a catchment that has been impacted by mining for many years. The implementation of a sound SWMP is crucial to contain dirty water runoff from the reclamation and processing areas. The monitoring and maintenance of the implemented SWMP is of utmost importance, to ensure that spillages into the downslope watercourses do not occur. Should the above not be done, then in the long term, the proposed project has the potential to cumulatively add to the mining impacts in the catchment.

The cumulative impact of the proposed project on the surface water of the catchment is rated in Table 6-11.

Table 6-11: Cumulative impact rating for surface water

NATURE OF IMPACT: Should dirty water runoff not be contained, then the proposed project has the potential to add cumulatively to the mining impacts in the catchment		
	Impact Rating without Mitigation	**Impact Rating with Mitigation**
Extent *(Local, Regional, International)*	Regional	Local
Duration *(Short term, Medium term, Long term)*	Long term	Long term
Magnitude *(Major, Moderate, Minor)*	Major	Minor
Probability *(Definite, Possible, Unlikely)*	Possible	Unlikely
Calculated Significance Rating (Low, Medium, High)	**High**	**Low**
Impact Status: (positive or negative)	Negative	Negative
Reversibility: (Reversible or Irreversible)	Irreversible	
Irreplaceable loss of resources: (Yes or No)	No	
Can impacts be enhanced: (Yes or No)	Yes	
Residual impacts • None foreseen.		
Mitigation measures • Implementation of the proposed SWMP to contain dirty water runoff.		

6.5 Impact Summary Table

The impacts and mitigation measures are summarised in Table 6-12.

Table 6-12: Summary of the potential surface water impacts and proposed mitigation measures

Impact No.	Activity	Impact Description	BEFORE MITIGATION					Mitigation measures / Recommendations	AFTER MITIGATION				
			Magnitude	Duration	Spatial Scale	Probability	SIGNIFICANCE		Magnitude	Duration	Spatial Scale	Probability	SIGNIFICANCE
Construction Phase													
1	Removal of vegetation for infrastructure and the alteration to the topography.	Erosion and wash off of exposed soils leading to potential siltation in downgradient watercourses.	*Moderate -*	*Medium Term > 18 months < 5 years*	*Regional*	*Possible*	Medium	• Clearance of vegetation must be limited as far as possible; • Temporary erosion measures such as sediment nets should be employed around exposed working areas; and • The SWMP must be implemented as a first step during the construction phase.	*Minor -*	*Medium Term > 18 months < 5 years*	*Site or Local*	*Possible*	Low
Operational Phase													
1	Uncontained dirty water runoff from the reclamation and processing areas.	Runoff into the downslope watercourses impacting on water quality.	*Major -*	*Long Term > 5 years*	*Regional*	*Possible*	High	• Implementation of the proposed SWMP to contain dirty water runoff.	*Minor -*	*Long Term > 5 years*	*Site or Local*	*Unlikely*	Low
2	Poor maintenance of stormwater infrastructure.	Poor maintenance of stormwater infrastructure resulting in silted paddocks and eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	*Major -*	*Long Term > 5 years*	*Regional*	*Possible*	High	• Implementation of the stormwater monitoring plan detailed in section 7 of this report.	*Minor -*	*Long Term > 5 years*	*Site or Local*	*Unlikely*	Low

Impact No.	Activity	Impact Description	BEFORE MITIGATION					Mitigation measures / Recommendations	AFTER MITIGATION				
			Magnitude	Duration	Spatial Scale	Probability	SIGNIFICANCE		Magnitude	Duration	Spatial Scale	Probability	SIGNIFICANCE
3	Leaks from the proposed pipelines.	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	*Moderate -*	*Long Term > 5 years*	*Site or Local*	*Possible*	Medium	• Regular inspections and maintenance of the pipelines; and • Immediate containment of leaks, repair of the pipeline and clean ups.	*Minor -*	*Long Term > 5 years*	*Site or Local*	*Unlikely*	Low
4	Flooding of infrastructure	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	*Major -*	*Long Term > 5 years*	*Regional*	*Possible*	High	• Implementation of the proposed SWMP to contain dirty water runoff up to a recurrence interval of 1:50 years, as required by GN R704 regulations.	*Minor -*	*Long Term > 5 years*	*Site or Local*	*Unlikely*	Low
Cumulative Impacts													
1	Unsuccessful containment of dirty water runoff from the reclamation, processing and stockpiling areas.	The proposed project has the potential to cumulatively impact on the surface water quality of the catchment.	*Major -*	*Long Term > 5 years*	*Regional*	*Possible*	High	• Implementation of the proposed SWMP to contain dirty water runoff.	*Minor -*	*Long Term > 5 years*	*Site or Local*	*Unlikely*	Low

7 MONITORING PLANS

7.1 Surface Water Quality

A surface water quality monitoring programme is essential as a management tool to detect negative water quality impacts as they arise and to ensure that the necessary mitigation measures are implemented.

Water quality sampling should be done in accordance with the DWS Best Practice Guideline G3: Water Monitoring Systems. Samples must be kept cool (+-4°C), out of direct sunlight, and transported immediately to an accredited laboratory for water quality analysis within 24 hours of sampling. Since the watercourses surrounding the proposed project are non-perennial and generally dry, no additional monitoring points are recommended, and monitoring should continue at the locations specified in Table 3-2.

7.2 Stormwater Infrastructure

Water infrastructure (bunded areas, paddocks, channels and sumps) should be monitored on a monthly basis during the dry season, and on a weekly basis during the wet season. They should further be monitored immediately after any large storm events. Should blockages, silted up structures or breaches occur, immediate action should be undertaken to remove debris and repair breaches. Monitoring should be undertaken by the onsite Environmental Officer (EO) or maintenance manager. Inspections should be recorded and should include the following:

- Date of inspection;
- Rainfall amount received prior to inspection;
- Photographs of blockages, silted up structures or breaches witnessed;
- What action was undertaken to fix issues, where was debri waste taken to, and the amount of time taken to address them; and
- Photographs post action taken.

Inspection reports should be kept ready and supplied to the DWS when requested, or as part of the WUL conditions.

8 CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the most important aspect to prevent negative impacts from a surface water perspective, is to ensure that a sound SWMP is implemented prior to the commencement of reclamation activities, in accordance with the conditions stipulated in GN R704. Monitoring and maintenance of stormwater measures is of utmost importance and should be conducted as outlined in this report.

The following is recommended:

- The proposed SWMP under section 4 is implemented;
- The impact mitigation measures under section 6 are implemented; and

- The monitoring plans under section 7 implemented.

Should the above be implemented then from a surface water perspective the proposed project can commence.

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APPENDIX A: CURRICULUM VITAE

HYDROSPATIAL

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Curriculum Vitae – Andy Pirie – Hydrologist

Details

Name and Surname:	Andy Pirie
Occupation:	Senior Hydrologist
Company:	Hydrospatial (Pty) Ltd
Address:	17 Sonop Place, Randpark, Johannesburg, 2194
Nationality:	South African
First Language:	English
Email Address:	andy@hydrospatial.co.za
Tel:	+27 84 441 9539

Andy Pirie is a senior hydrologist at Hydrospatial (Pty) Ltd. Andy graduated with a Master of Science (M.Sc.) in Water Resource Management (cum laude). He is registered as a Professional Natural Scientist (Pr.Sci.Nat.) in Water Resources Science with the South African Council for Natural Scientific Professions (SACNASP). He has worked on projects in South Africa, Cameroon, Senegal, Mali, Democratic Republic of the Congo (DRC), Botswana, Zambia and Namibia, for clients such as Assmang, Anglo American, Randgold Resources (now Barrick Gold), Sibanye-Stillwater, Birimian, Exxaro, Sasol, Eskom, Assore and SAFCOL. He has more than 9 years' experience in hydrological assessments and Geographical Information Systems (GIS). His expertise include the following:

- Floodline determinations;
- Mine water and salt balance modelling;
- Stormwater management plans;
- Surface water quality monitoring and assessment;
- Rainfall - runoff modelling;
- Catchment yield assessments;
- Sizing of dams and channels;
- Crop water requirement calculations;
- Environmental flow requirement calculations;
- Surface water impact assessments; and
- GN704 Regulation audits.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Education

- 2013: M.Sc. Water Resource Management, cum laude (University of Pretoria).

Membership in Professional Associations

- Registered as a Professional Natural Scientist (Pr.Sci.Nat.) in Water Resources Science with the South African Council for Natural Scientific Professions (SACNASP). Registration number: 114988.

Employment

- March 2018 – Present: Senior Hydrologist at Hydrospatial (Pty) Ltd.
- June 2012 – February 2018: Hydrologist and GIS specialist at Digby Wells Environmental.

Selected Project Experience

Company	Position	Project Location	Client	Project	Responsibilities
Hydrospatial (Pty) Ltd	Senior Hydrologist	Gauteng	Sibanye Gold	Hydrological Study for the Sibanye Driefontein Operations EMP and WULA Update	• Baseline hydrological assessment. • Water quality assessment. • Stormwater management plan update. • Water and salt balance update. • GN704 and GN509 exemption assessment.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Mpumalanga South Africa	SAFCOL	Streamflow Reduction Modelling of the Genus Exchange Ratio of Eucalyptus for Pine at the SAFCOL Berlin Plantations	• Setup of the WRSM/Pitman model. • Calculation of the allowable genus exchange area using the Gush Tables. • Reporting. • Presentation of study and hand over of reports.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
Hydrospatial (Pty) Ltd	Senior Hydrologist	Mpumalanga South Africa	Transvaal Gold Mining Estates	Hydrological Study for the Proposed Theta Mine Project	• Calculation of the water use freed up through the proposed removal of pine, eucalyptus and wattle in the Blyde River catchment for an offset strategy for the mine. • Baseline hydrological study. • Surface water impact assessment. • Water quality sampling and analysis. • Setup of a water monitoring network and programme. • Stormwater structure placement and sizings of structures. • Development of a water balance model. • Terrain modelling and catchment delineation using ArcGIS software. • Land use and soil assessment. • Determination of Peak flows for the 1:50 and 1:100 year storm event. • Hydraulic modelling to determine the 1:50 and 1:100 year floodlines. • Reporting.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Limpopo, South Africa	Lunsklip Farming	Hydrological Study for the Lunsklip Irrigation Dam	• Catchment runoff modelling using the WRSM/Pitman model which included afforested areas. • Calculation of the farm irrigation requirements. • Quantification of the irrigation dam water balance.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
Hydrospatial (Pty) Ltd	Senior Hydrologist	Mpumalanga South Africa	Anglo American	Surface Water Assessment for the Proposed Leslie 1 Coal Mine	• Baseline hydrological study. • Surface water impact assessment. • Water quality sampling and analysis. • Setup of a water monitoring network and programme. • Stormwater structure placement and sizings of structures. • Development of a water balance model. • Terrain modelling and catchment delineation using ArcGIS software. • Land use and soil assessment. • Determination of Peak flows for the 1:50 and 1:100 year storm event. • Hydraulic modelling to determine the 1:50 and 1:100 year floodlines. • Reporting.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Limpopo South Africa	Assmang	GN704 Legal Compliance Audit of the Dwarsrivier Chrome Mine	• Site audit of the mine to GN704 regulations. • Reporting on findings and recommendations for improvement to comply with GN704 regulations.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Limpopo South Africa	Assmang	Floodline Determination for the Resource and Reserve Drilling Project at the Dwarsrivier Chrome Mine	• Catchment delineation. • Hydrological assessment to calculate the 1:50 and 1:100 year peak flows. • Hydraulic modelling of 18 river reaches to determine the 1:50 and 1:100 year flood water elevations.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
Hydrospatial (Pty) Ltd	Senior Hydrologist	Limpopo South Africa	Assore	GN704 Legal Compliance Audit of the Rustenburg Minerals Development Company Chrome Mine	• Site audit of the mine to GN704 regulations. • Reporting on findings and recommendations for improvement to comply with GN704 regulations.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Gauteng South Africa	Fry's Metals	Stormwater Management Plan for the Fry's Metal Factory	• Audit of site stormwater infrastructure. • Calculation of peak flows and stormwater volumes. • Calculation of stormwater channel capacities to assess whether capacities comply with regulatory requirements.
Hydrospatial (Pty) Ltd	Senior Hydrologist	North West South Africa	Assore	Hydrological Study for the Wonderstone Mine	• Baseline hydrological study. • Surface water impact assessment. • Water quality Assessment. • Development of a stormwater. management plan. • River diversion assessment.
Hydrospatial (Pty) Ltd	Senior Hydrologist	KwaZulu-Natal, South Africa	The Biodiversity Company	Water Quality Monitoring and Assessment for the Edendale Bulwer Housing Development	• Setup of a water monitoring network. • Surface water sampling. • Assessment of water quality results.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Gauteng South Africa	Eskom	Hydrological Assessment of a Tributary of the Braamfonteins pruit near Sandton, Johannesburg	• Site assessment. • Peak flow calculations. • Storm event assessment. • Hydraulic structure assessment. • Assessment of gabion retaining wall failure.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
					• Hydraulic modelling of watercourse.
Hydrospatial (Pty) Ltd	Senior Hydrologist	Limpopo South Africa	Assore	GN704 Legal Compliance Audit of the Zeerust Chrome Mine	• Site audit of the mine to GN704 regulations. • Reporting on findings and recommendations for improvement to comply with GN704 regulations.
Digby Wells Environmental	Hydrologist	Mali	Birimian	Hydrological Study for the Environmental and Social Impact Assessment for the Goulamina Lithium Project	• Baseline hydrological study. • Development of a water and salt balance. • Modelling of catchment flood hydrology. • Calculation of storm rainfall depths. • Stormwater management plan. • Surface water impact assessment.
Digby Wells Environmental	Hydrologist	Senegal	Randgold Resources	Hydrological Study for the Randgold Massawa Gold Project ESIA	• Baseline hydrological study. • Floodline determination. • Development of a water and salt balance. • Modelling of catchment hydrology. • Environmental flow requirement calculations. • Stormwater management plan. • Surface water impact assessment.
Digby Wells Environmental	Hydrologist	Cameroon	Caminex SA	Hydrological Study for the Environmental	• Baseline hydrological study. • Surface water impact

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
				and Social Impact Assessment for the Ntem Iron Ore Project	assessment.
Digby Wells Environmental	Hydrologist	Gauteng South Africa	Sibanye-Stillwater	Sibanye Gold Millsite TSF Reclamation Project EIA	• Audit of existing stormwater management controls. • Development of a stormwater management plan to satisfy GN704 Regulation requirements. • Development of a stormwater control monitoring programme. • Water conservation and water demand management plan
Digby Wells Environmental	Hydrologist	Gauteng South Africa	Sibanye-Stillwater	Sibanye Gold Kloof Floodline Determination	• Site visit to assess channel and floodplains and to measure hydraulic structures. • DEM creation from lidar dataset. • Catchment delineation. • Catchment assessment of soils, vegetation, slope and land cover to obtain suitable runoff coefficients. • Calculation of peak flows using Rational and SDF methods. • Hydraulic modelling in HEC-RAS for approximately 25 river reaches to determine the 1:50 and 1:100 year surface water elevations.
Digby Wells Environmental	Hydrologist	Free State South Africa	Bothma and Son Transport	Stormwater management plan for the Bothma Sand	• Audit of existing stormwater management structures.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
				Mine	• Rainfall assessment. • Sizing of channels. • Development of a stormwater management plan to satisfy GN704 conditions. • Development of a stormwater structure monitoring programme. • Development of a PCD rehabilitation action plan. • Reporting.
Digby Wells Environmental	Hydrologist	Free State South Africa	Sasol Mining	Sasol Defunct Mines Surface Flow Analysis	• Project manager. • Creation of detailed DEMs from Lidar data for 4 of Sasol's defunct subsided collieries. • Modelling of surface water flow directions and accumulations to determine areas that are not free draining.
Digby Wells Environmental	Hydrologist	Gauteng South Africa	DRD Gold	DRD Gold Stormwater Management Plans for the Ergo Elsburg & Van Dyk Tailings Dams	• Project manager. • Site visit audit of stormwater management structures. • Flood peak calculations. • Stormwater structure sizing. • Management measures to ensure that stormwater structures are maintained. • Reporting.
Digby Wells Environmental	Hydrologist	Mpumalanga South Africa	Exxaro	Exxaro Surface Water Study for the Environmental Authorisation for the Proposed Schoonoord	• Baseline hydrological study. • Surface water impact assessment. • Water quality sampling and analysis of results.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
				Underground Mine, Arnot Coal, Mpumalanga	• Setup of a water monitoring network and programme. • Stormwater structure placement and sizings of structures. • Terrain modelling and catchment delineation using ArcGIS software. • Land use and soil assessment. • Determination of Peak flows for the 1:50 and 1:100 year storm event. • Hydraulic modelling using the HEC-RAS model to determine the 1:50 and 1:100 year floodlines. • Reporting.
Digby Wells Environmental	Hydrologist	Limpopo South Africa	Exxaro	Exxaro Floodline Determination for the Closure Environmental Management Plan for the Tshikondeni Coal Mine	• Catchment assessment of rainfall, topography, soils and land cover. • Determination of the 1:50 and 1:100 year peak flows. • Hydraulic modelling using HEC-RAS to determine the 1:50 and 1:100 year floodlines. • Reporting on catchment characteristics, methods and results obtained.
Digby Wells Environmental	Hydrologist	Botswana, Zambia and Namibia	Botswana Government	Kazungula Bridge Project Surface Water Quality Monitoring	• Setup of a water quality monitoring network and programme. • Monthly water sampling from the Zambezi and Chobe Rivers over a 6 year period to determine whether the construction and operation of

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
					the Kazungula Bridge is impacting on the water quality. • Analysis of water quality results. • Monthly monitoring reports describing the water quality for the month and identifying possible sources of pollution as well as providing mitigation measures.
Digby Wells Environmental	Hydrologist	Free State South Africa	Sibanye-Stillwater	Sibanye Beatrix ESIA	• Baseline hydrological study. • Surface water impact assessment. • Water quality and trend analysis.
Digby Wells Environmental	Hydrologist	Mpumalanga South Africa	Anker Coal	Anker Coal Elandsfontein Colliery Stormwater Management Plan	• Site visit audit of stormwater structures. • Review of existing stormwater management plan. • Recommendations for the improvement of existing stormwater management plan
Digby Wells Environmental	Hydrologist & GN704 Auditor	Northern Cape, South Africa	Assmang	GN704 Legal Compliance Audit for the Khumani Iron Ore Mine	• Project manager. • Preparation of an audit checklist. • Audit of the mine to GN704 regulations. • Reporting on findings and recommendations for improvement to comply with GN704 regulations.
Digby Wells Environmental	Hydrologist	Okavango, Botswana	Botswana Government	Mohembo Bridge Surface Water Baseline and Monitoring Programme	• Setup of a surface water quality monitoring network and programme. • Surface water quality sampling and analysis of results. • Analysis of streamflows from the Mohembo

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
					discharge gauging station. • Climate assessment.
Digby Wells Environmental	Hydrologist	Mpumalanga South Africa	Sasol Mining	Sasol Surface Water Study for the Environmental Authorisation for the Imvula Coal Mining Project	• Baseline hydrological study. • Surface water impact assessment. • Terrain modelling and catchment delineation using ArcGIS software. • Land cover and soil hydrological assessment. • Surface water report writing and compilation.
Digby Wells Environmental	Hydrologist	North-west South Africa	Sun International	Sun City Drinking Water Quality Analysis	• Sampling of drinking water at Sun City. • Interpretation of water quality results. • Reporting.
Digby Wells Environmental	Hydrologist	Limpopo South Africa	De Groote Boom Minerals	Surface Water Study for the Mining Permit Application for the De Groote Boom Project	• Baseline hydrological study. • Surface water impact assessment. • Water quality sampling and assessment of water quality results. • Setup of a water quality monitoring programme. • Reporting.
Digby Wells Environmental	Hydrologist	South Africa	Fountain Capital	Floodline Determination for Proposed Development of an Open Pit Coal Mine and Associated Infrastructure near Bronkhorstspruit, Gauteng	• Catchment assessment of rainfall, topography, soils and land cover. • Determination of the 1:50 and 1:100 year peak flows. • Hydraulic modelling using HEC-RAS to determine the 1:50 and 1:100 year floodlines. • Reporting on catchment

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
					characteristics, methods and results obtained.
Digby Wells Environmental	Hydrologist	Limpopo South Africa	Pamish Investments No. 39	Floodline Determination for the Proposed Open Pit Magnetite Mine and Concentrator Plant, Mokopane, Limpopo Province	• Catchment assessment of rainfall, topography, soils and land cover. • Determination of the 1:50 and 1:100 year peak flows. • Hydraulic modelling using HEC-RAS to determine the 1:50 and 1:100 year floodlines. • Reporting on catchment characteristics, methods and results obtained.
Digby Wells Environmental	Hydrologist	Mpumalanga South Africa	Eskom	Eskom Surface Water Study for the Mashala Resourses 22kV Power Line	• Baseline hydrological study • Surface water impact assessment. • Hydraulic modelling using HEC-RAS to determine the 1:50 and 1:100 year floodlines. • Reporting.

Hydrospatial (Pty) Ltd (2018/059188/07)
17 Sonop Place, Randpark, 2194
Cell: 084 441 9539
Email: andypirie82@gmail.com

Company	Position	Project Location	Client	Project	Responsibilities
Digby Wells Environmental	Hydrologist	Mpumalanga South Africa	Msobo Coal	Msobo Coal Surface Water Study for the Sara Buffels A and B: IWULA and IWWMP for Opencast and Underground Mining Activities	• Surface water impact assessment. • Terrain modelling and catchment delineation using ArcGIS software. • Land use and soil assessment. • Determination of Peak flows for the 1:50 and 1:100 year storm event. • Hydraulic modelling using the HEC-RAS model to determine the 1:50 and 1:100 year floodlines. • Reporting.
Digby Wells Environmental	Hydrologist	Mali	Randgold Resources	Randgold Surface Water Study for the Morila Gold Mine Agri-Assessment Project	• Review of reports, mine layout plan and water quality data. • Classification of clean and dirty water areas based on the above. • Recommendations on water sources and areas for agri-business post mine closure.

Appendix D3
Groundwater Impact Assessment

2025

Amandelbult TSF Reclamation and Processing Project, Groundwater Assessment Report

15 August 2025

Groundwater Abstract (Pty) Ltd
Enterprise Number: 2017/489367/07
Rietfontein
Pretoria, 0084
www.wells.*africa*

AMANDELBULT TSF RECLAMATION AND PROCESSING PROJECT, GROUNDWATER ASSESSMENT REPORT

Rustenburg Platinum Mines Ltd, Amandelbult Mine

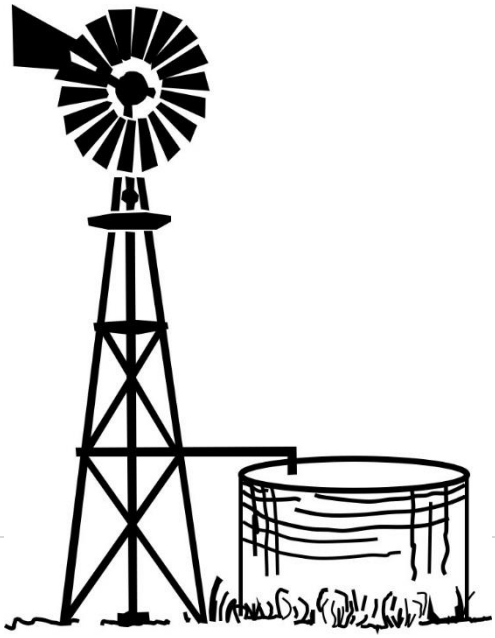
Report compiled by:

Groundwater Abstract Pty Ltd

Lucas Smith and Irene Lea

Principal Hydrogeologists –

M.Sc. and Pr. Sci. Nat.



On behalf of:

Kongiwe Environmental (Pty) Ltd

Declaration of Independence

We, Lucas Smith and Irene Lea, declare that –

General declaration:

- *I act as the independent Hydrogeology practitioner in this application;*
- *I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;*
- *I declare that there are no circumstances that may compromise my objectivity in performing such work;*
- *I have expertise in conducting hydrogeological impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;*
- *I will comply with the Act, Regulations and all other applicable legislation;*
- *I have no, and will not engage in, conflicting interests in the undertaking of the activity;*
- *I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;*
- *I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;*
- *I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;*
- *All the particulars furnished by me in this form are true and correct;*
- *I will perform all other obligations as expected from a hydrogeological practitioner in terms of the Act and the constitutions of my affiliated professional bodies; and*
- *I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the NEMA.*

Disclosure of Vested Interest

- *I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations.*

CONTACT PERSON: Lucas Smith

Tel: +27 82 577 8439

Email: lucas@wellsafrica.com

SIGNATURES:

_____ _____

LA Smith I Lea

12 August 2025

INDEMNITY AND CONDITIONS RELATING TO THIS REPORT

The findings, results, observations, conclusions and recommendations given in this report are based on the authors' best scientific and professional knowledge as well as available information. The report is based on assessment techniques, which are limited by information available, time and budgetary constraints relevant to the type and level of investigation undertaken, and Groundwater Abstract (Pty) Ltd, supported by Irene Lea Environmental and Hydrogeology cc (ILEH) reserve the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research, monitoring and further work in this field pertaining to the investigation.

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Executive Summary

The Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi, and along the northwestern limb of the Bushveld Igneous Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

AMB aims to reclaim and reprocess Tailings Storage Facility (TSF) 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs, using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of TSF 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams. TSF 2 is located approximately 5 km southwest of the Dishaba Shaft. The reclamation of TSF 2 will also open additional space for tailings deposition in the future, without extensions onto greenfield areas.

The Amandelbult Tailings Storage Facility consists of four compartments, i.e. TSF 1, TSF 2, TSF 3A and TSF 3B. TSF 3A and TSF 3B are considered as “wet dams” with tailings being deposited mainly on TSF 3B. Tailings on TSF 2 originated from the Merensky and UG2 Concentrator Plants and deposition commenced during the early 2000s and ceased in 2022 (Kongiwe, 2025). This dam has a height of 49 meters.

The return water dam was constructed during the operational period of TSF 1. TSF 3A was constructed in 2004 and TSF 3B, with the Holding Dam by 2008. Deposition of tailings to TSF 1 took place up to 2021 on an ad hoc basis. It is planned that the TSFs will be operational until 2080 (Anglo American Platinum, 2024). At present, tailings are only deposited on TSF 3B.

The AMB Concentrator consists of two operational plants, namely UG2-1 and UG2-2 that treat mainly UG2 Reef; and one non-operational plant, Merensky Concentrator Plant. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2-1 and UG2-2 Plants.

The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols.

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation where hydraulic and mechanical reclamation would take place.

The groundwater impact assessment focussed on the following tasks:

- Use the dataset provided by the client to construct a conceptual aquifer model for the footprint area of TSF 2.
- Construct and calibrate a numerical groundwater flow and contaminant transport model using the existing dataset for the sub-catchment in which the TSF 2 is located. Please note that this model will not be used to simulate underground mining.
- Complete a hydrogeological impact assessment with the calibrated numerical groundwater flow and contaminant transport model that will meet the requirements of the Environmental Impact Assessment Regulations as well as that for the Water Use Licence application.
- Use the impact assessment results to compile a groundwater management plan as well as a monitoring program for the Amandelbult TSF 2 Reclamation Project.

Environmental Setting:

Amandelbult TSF 2 is in the A24C quaternary catchment, associated with the Crocodile River, and forming part of the Limpopo Water Management Area. This catchment drains in a north-easterly direction towards the Crocodile River. The sub-catchment of TSF 2 is drained by a non-perennial tributary of the Crocodile River that is associated with the Holding Dam. A very small portion of the northwestern corner of the TSF is in the A24F quaternary catchment, associated with the Bierspruit.

The topographical setting of the TSF indicates a gentle north-easterly slope towards the non-perennial stream and the Holding Dam, and regionally towards the Crocodile River.

The Mean Annual Precipitation for AMB is 593 mm. The A-Pan Mean Annual Evaporation for the site is 1 598 mm (WSP, 2024a). Evaporation exceeds rainfall in all months of the year.

Regionally, the geological setting comprises rock formations of the Rustenburg Layered Suite of the western limb of the Bushveld Igneous Complex. These formations include norite, pyroxenite, anorthosite and gabbro. The platinum and chrome reefs are hosted in the Rustenburg Layered Suite and sub-outcrop northwest of the Amandelbult TSFs.

Formations of the Pretoria Group are found to the northwest and to the southeast of the TSFs (roughly 10 km away). These include shale, minor limestone and basalt. The Pretoria Group sediments underlie the Rustenburg Layered Suite at a depth of approximately 2.3 km below surface at the Dishaba Shaft. Granite from the Lebowa Suite outcrop east of the TSFs. These underlie the Pretoria Group sediments. Quaternary sand and alluvium and surficial deposits are associated with the floodplains of the rivers and streams.

Site Assessments:

A hydrocensus was completed by Groundwater Abstract during June 2025. Sixteen boreholes were identified, all on AMB properties. All hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m. The depth of the groundwater table varied between 0.52 m and 11.98 m below surface.

All 16 boreholes are used or were historically used for groundwater monitoring purposes. Some of the boreholes around the return water dam (RWD) were drilled to serve as scavenger boreholes, but to date they were only used for groundwater monitoring purposes.

Groundwater level measurements were possible from 15 of the 16 boreholes. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line). The boreholes adjacent to the RWD and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest of the groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.

If the groundwater levels are viewed as elevation above sea level, then the highest water elevations (968 mamsl) can be found at boreholes close to the TSF complex footprint (e.g. EMPR05, EMPR07 and EMPR15). The lowest water table elevation is 945 mamsl, at borehole WM08, followed by EMPR04 and MB16-5. Locally, surface drainage and possibly groundwater flow will be towards the local drainages, but the regional groundwater flow direction will be in a north to north-easterly direction.

Groundwater quality monitoring is conducted at the Amandelbult Mine quarterly. The long-term groundwater quality data was used during this impact assessment. During the June 2025 hydrocensus three additional water samples were collected: two groundwater samples up- and downstream from TSF 2 (boreholes EMPR08 and EMPR15) and one water sample was taken from toe drain 27, along the northern perimeter of TSF 2. Based on the water quality results the following conclusions were drawn in terms of the hydrocensus water samples (SANS 241:2015 comparison):

- Health effects:
    - Iron – An elevated iron concentration was measured for borehole EMPR15 (upgradient BH), with an Iron concentration of 4.33 mg/L, versus the maximum allowable concentration of 2 mg/L. This borehole is on the northern perimeter (upgradient) of TSF 2 and TSF 3A. The Total Iron concentration at EMPR 08 (downgradient) was 0.034mg/L and the Total Iron concentration was below the detection limit for the toe drain sample (downgradient).
    - Manganese – Borehole EMPR15 measured a Manganese concentration that exceeds the health impact limit – 0.66 mg/L versus the maximum allowable concentration of 0.4 mg/L. The Manganese concentration at the other two sampled sites exceeds the aesthetic limit (0.1 mg/L), but was still below the health impact limit of 0.4 mg/L.
    - Sulphate – Sulphate forms salts with various cations such as potassium, sodium, calcium, magnesium, barium, lead and ammonium (DWAF, 1996). Sulphate is a common constituent of water and arises from the dissolution of mineral sulphates in soil and rock. The Sulphate concentration was elevated for all three sampled sites, with the concentrations varying between 634 mg/L and 689 mg/L for the boreholes, and 941mg/L for the toe drain sample. The health limit is set at 500 mg/L.
- Aesthetic / Operational effects:
    - Sodium – Borehole EMPR15 (438 mg/L) and toe drain 27 (486 mg/L) present elevated Sodium concentrations that exceed the aesthetic limit (200 mg/L) for drinking water.
    - Chloride – Elevated chloride concentrations were measured at all sampled sites with the measured concentrations varying between 513 and 969 mg/L.

- Ammonium – Water collected from toe drain 27 presented an elevated Ammonium concentration (4.7 mg/L) that exceeds the aesthetic limits for drinking water with the aesthetic limit set at 1.5 mg/L.
- The SANS 241 guideline limits for Electrical Conductivity (EC) and Total Dissolved Salts (TDS) were exceeded for all sampled sites. EC level varied between 287 and 422 mS/m. TDS varied between 2039 and 3114 mg/L.
- Total hardness – Very hard total hardness values were measured at all three sampled sites. The Total Hardness values vary between 1454 mg/L and 1755 mg/L.
- Turbidity – The turbidity value was elevated for all sampled sites. The boreholes are not in use and the sampling possibly disturbed the silt inside the borehole cavity. The water from toe drain 27 is associated with consistent water flow, with possible suspended matter in the water. Toe drain 27 presents a much lower Turbidity value.

Fieldwork undertaken by Groundwater Abstract for the project was completed in June 2025, which represents dry season conditions.

Prevailing Groundwater Conditions:

The vertical extent of the unsaturated zone varies depending on site conditions. The average depth to groundwater at the Amandelbult TSFs, based on the 2025 hydrocensus data, is 6.6 m. The depth to groundwater in borehole EMPR08, located north of TSF 2 is 8.2 m. In this area the unsaturated zone is probably more than 6 m in depth. Shallower groundwater level conditions prevail around the RWD and the Holding Dam, where the average depth to groundwater is 3.56 m and 1.36 m respectively. Here the unsaturated zone is thin. In the new Plant area, the depth to groundwater is 9.24 m.

Information presented by Water Hunters (2023) suggests that the shallow weathered and fractured aquifers are dewatered north of TSF 2, in the vicinity of the opencast pits. Here the depth to groundwater is more than 40 m, which increases the unsaturated zone. It is unlikely that the impact of mine dewatering further north affects groundwater levels around the Amandelbult TSF.

Three aquifers are typically present in this region. The first is associated with the depth of weathering of the Upper Zone formations, which is variable across the site. Based on the available dataset, it is understood that the depth of weathering can be as deep as 40 m but is likely to be around 15 m to 20 m on average. Deeper zones of weathering are associated with fault zones that extend to the near surface, like those associated with the Middelaagte graben. The shallow weathered aquifer is unconfined and recharged through the infiltration of rainwater. Shallow groundwater level data also suggests that this aquifer is recharged from the RWD and Holding Dam, which are both associated with non-perennial streams.

Dormant TSFs like TSF 1 and TSF 2 are not likely to contribute significantly to the rate of seepage to the underlying weathered aquifer, as these start to dry out after tailings deposition ceases.

Information presented by Water Hunters (2023) suggests that the transition between weathered and fresh anorthosite forms a preferential flow path to groundwater. This is demonstrated by the depth to groundwater level strikes measured in boreholes drilled around the TSFs, RWD and Holding Dam.

It is shown that 75% of the water strikes intersected in the boreholes drilled, occurred at depths of between 5 m and 20 m.

The second is a fractured rock aquifer associated with fresh rock formations located deeper in the geological succession. These aquifers are heterogeneous with groundwater flow controlled by the presence of geological structures like faults, intrusions or contact zones. Very little groundwater flow takes place in the unfractured rock matrix. The formations in the Rustenburg Layered Suite form the so-called Bushveld Aquifer. The Pretoria Group shale, quartzite and diabase that underlie the Bushveld Aquifer are unlikely to carry significant volumes of groundwater. The depth to the Pretoria Group shale is approximately 2.3 km below surface and will therefore not play a role in groundwater flow associated with the shallow Upper Zone aquifers and therefore the Amandelbult TSFs.

There is a possibility that a fault zone associated with a graben structure transects the No 3A TSF footprint. These faults were mapped in the underground workings, and it is unclear whether they extend to surface. Fieldwork completed by Water Hunters (2024) in this area does not suggest the presence of a fault zone in the weathered and shallow fractured aquifers underlying the TSFs. This must however be confirmed through a dedicated fieldwork programme. The Middelaagte graben sub-outcrops approximately 3 km northeast of TSF 2. The fault zones mentioned are associated with this graben. The underground workings do not currently extend to TSF 2. It is unlikely that dewatering at depths greater than 1300 m will impact on shallow groundwater levels due to the significant vertical separation between the two impacts.

A third aquifer is associated with alluvium deposited in the floodplain of the Crocodile River. The alluvial aquifer is used for commercial irrigation. It is not situated near the Amandelbult TSFs and is located more than 5 km east along the banks of the Crocodile River.

Analysis of the dataset show three groundwater level trends. The first is the estimated natural or ambient groundwater level trend, which has a good correlation (86%) with topographical elevation. This means that groundwater levels generally follow the topography and drains towards the rivers and streams. The average depth to groundwater in this trend group is 5.7 m below surface.

Groundwater levels around the RWD are elevated above the natural trend because of recharge from the dam to the shallow weathered aquifer. The average depth to groundwater in this area is 0.58 m, which is on average 5.1 m higher than natural trends.

Groundwater levels around the pits and underground workings have been lowered because of dewatering. The average depth to groundwater in this area is 41.4 m. This means that groundwater levels have been lowered by 35.7 m due to the impact of dewatering.

Groundwater flow contours indicate the following:

- Groundwater flow is controlled by the position of the quaternary catchment divide. Flow from TSF 2 is in a north-easterly direction towards the Crocodile River. The groundwater flow gradient in this area is lower compared to other areas due to the impact of the water divide.
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.

- Groundwater flow underneath the TSF 3A and TSF 3B is also in a north-easterly direction towards the Crocodile River at a similar gradient.
- The flow from TSF 1 is likely to be predominantly in a north-westerly direction towards the Bierspruit. Flow patterns in this area seem radial, which normally suggests active recharge, but this is not the case at TSF 1 as the radial flow is attributed to the position of the water divide along the quaternary catchment boundary.
- A strong radial flow has developed around the RWD due to infiltration of water from the dam to the shallow weathered aquifer. As discussed above, groundwater levels around the dam are on average 0.58 m below surface and at least 5 m above regional trends.

The water quality data obtained from the 2025 hydrocensus was used to identify the indicator elements for the TSF 2 reclamation process. The dataset indicates that chloride and sulphate are the dominant major ions and iron and manganese the dominant metals. The following is concluded from the dataset evaluated:

- Sulphate will be considered as one of the indicator elements. The sample taken from Toe 27 indicates that the water draining from the TSF has higher sulphate concentrations compared to chloride. The sulphate originates from the oxidation of sulphide minerals exposed during mining. Sulphate is also present in concentrations above the Water Use Licence (WUL) condition of 500 mg/L in the RWD and Holding Dam. In addition, elevated sulphate concentrations are recorded in some of the boreholes around the TSFs, especially EMPR05 located down gradient of TSF 1 and MBH16-04 located down gradient of TSF 3B.
- Boreholes around the TSFs have elevated sulphate concentrations compared to those in the plant area and down gradient of the RWD and Holding Dam. Of specific interest is that sulphate concentrations down gradient of the dormant TSFs are higher compared to the active TSF. This suggests and element of oxidation in the older tailings material. Sulphate concentrations down gradient of the RWD and Holding Dam are within the WUL condition based on the latest dataset.
- The second indicator element that will be considered is iron. Iron is also associated with the oxidation of sulphide minerals, for example pyrite. Although elevated manganese concentrations are also reported in groundwater, it is more likely that manganese is naturally occurring in the rock formations of the Upper Zone and therefore not necessarily an indicator element of the tailings material. Significantly elevated iron concentrations are reported in EMPR15, situated down gradient of TSF 2 and TSF 3A. The Holding Dam is also a source of iron, but to a lesser extent. Average iron concentrations in the RWD are below the WUL condition. The comparatively low iron concentrations in the dirty water dams are attributed to neutral pH conditions.
- It is noted that elevated iron concentrations are also present in the Holding Dam and in groundwater downgradient of TSF 1.
- Elevated cadmium and total chromium concentrations were also recorded in the RWD and Holding Dam. Due to the potential health impacts associated with these elements, they were included in the assessment. The results indicate that the TSF 2 toe drain and groundwater around the TSFs fortunately do not have elevated Cd and Total Cr

concentrations. For this reason, these elements will not be used as indicator elements in this assessment. The presence of elevated Cd and Total Cr in the dirty water dams is however flagged and should be carefully monitored to establish trends and avoid health risks.

A geochemical study was completed as part of a project that evaluated the future of the Amandelbult Underground Mine Project (WSP, 2023a). This project did not include analysis of tailings material, but focussed on the geochemical characteristics of the ore, hanging wall and footwall lithologies. The study concluded that the rock samples taken were dominated by silicate minerals and chromite. Sulphide and carbonate minerals were present at concentrations below the detection limit (1%), in the samples taken.

The bulk neutralising potential was low to moderate, and the carbonate-based neutralising potential was lower than the bulk neutralising potential. This suggests that the neutralisation is attributed to silicates and to a lesser extent to carbonates. In addition, the paste pH of the samples was alkaline, which indicates that sufficient reactive neutralising potential is present to buffer acidity generated by the initial oxidation of sulphides during the tests.

The risk of acid generating capacity was assessed based on total sulphur, paste pH and the calculated total neutralising potential ratio. The results indicate that the Merensky Reef workings and one of the UG2 Reef workings samples were classified as potentially acid generating. All the other samples from the UG2 Reef workings were not potentially acid generating. The nett acid generating pH and total neutralising potential ratio of the samples yielded a non-potential acid generating signature, apart from one UG2 Reef sample, which was classified as having uncertain acid rock drainage potential.

Since the tailings on TSF 2 originated from a mixture of the Merensky and UG2 Reefs, the tailings could potentially be acid generating. It is however noted that a water sample taken from a toe drain at TSF 2, as part of the 2025 hydrocensus had a pH of 8.44 (Toe 27).

The depth of weathering controls the occurrence of groundwater to a large extent. This is supported by the fact that the 75% of groundwater strikes recorded by Water Hunters (2023) were encountered at depths of 5 m to 20 m below surface, which is most likely associated with the transition between weathered and fresh rock formations. Vertical infiltration of groundwater at the limit of weathering is retarded due to lower permeabilities in the underlying fractured aquifer compared to the shallow weathered aquifer. As such, the base of the weathered zone is considered a preferential flow path to groundwater in this assessment.

Numerical Modelling – TSF 2 Reclamation:

The conceptual model discussed above was used to construct the numerical model for the project area. The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.

The WUL conditions for sulphate (<500 mg/L) and iron (<0.3 mg/L) were considered. The information presented in Table 14 suggests that sulphate concentrations exceeding 1000 mg/L and iron concentrations exceeding 2 mg/L could pose health risks. The plumes used to delineate the zones of impact on groundwater quality are defined in terms of exceedances of the WUL conditions as well as in terms of significant risk to health. For sulphate, these concentrations correspond to 500 mg/L (zone

of impact in terms of WUL condition) and 1000 mg/L (zone of significant impact). For iron, the concentrations are 0,3 mg/L (zone of impact in terms of WUL condition) and 2 mg/L (zone of significant impact).

Since all the sources of contamination assessed in this report are on surface, the impact on the weathered aquifer will be more significant compared to the underlying fractured aquifer. The extent of the iron plume is generally larger compared to sulphate, mainly since much lower iron concentrations are considered.

The extent of the delineated unchanneled valley bottom wetlands for the project area is indicated on all maps that delineate the zones of impact on groundwater quality.

ANTICIPATED IMPACTS AT THE END OF THE OPERATIONAL PHASE OF TAILINGS RECLAMATION:

The objective of this scenario is to evaluate the impact of reclamation of tailings material deposited on TSF 2, as described by Kongiwe (2025). During this phase, the source of contamination will be gradually removed, but the rate of infiltration of potential leachate is expected to be higher because the tailings will be partially reclaimed using hydraulic methods.

During the reclamation of TSF 2, deposition on the other active TSFs will continue. Infiltration of leachate from TSF 1 as well as the RWD and Holding Dam will also continue to impact on groundwater quality.

The results indicate that the zones of significant impact on groundwater quality are only likely to manifest in the weathered aquifer and mostly only over the footprint area of the source areas. These are TSF 1 for sulphate and TSF 3A for iron.

The zone of impact in terms of the WUL conditions extend further from the sources and could in places exceed the Amandelbult Surface Rights and Mineral Rights Areas, especially in terms of iron. It is noted that the Amandelbult TSFs are on the border of these rights.

The zone of impact on the underlying fractured rock aquifer is expected to be much smaller compared to the weathered aquifer. In terms of sulphate, only a small portion underneath TSF 1 could be significantly affected. For iron, the zone of impact is expected to be limited to the footprint of TSF 3A.

The estimated zones of impact do not reach the Middelaagte graben, or the alluvial aquifer associated with the Crocodile River. It is recommended that the characteristics of the fault zone that extends from the graben to the TSF3A footprint are in the underground workings is confirmed in the weathered and shallow fractured aquifers to determine whether it forms a preferential groundwater flow path. No private boreholes are located within the delineated zones of impact.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions, but not with the zones of significant impact.

It is likely that the plumes may reach the unchanneled valley bottom wetland down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 500 mg/L and iron concentrations above 0.3 mg/L in groundwater at this position. This impact is not considered significant.

ESTIMATED IMPACTS AT THE END OF RE-DEPOSITION OF TAILINGS:

A high-level assessment was completed to evaluate the potential impacts on groundwater quality at the end of life of the TSFs and after re-deposition of tailings on the TSF 2 footprint area. To achieve this, it was assumed that tailings would be deposited on an unlined footprint area, as the surrounding TSFs are unlined. Based on the outcome of model calibration, it is estimated that the volume of leachate that infiltrates during operational tailings deposition would be less than 250 m^3/d, over the 105-ha footprint of TSF 2. This is an estimated volume and for this reason, the level of confidence in this scenario is not considered high. It is therefore presented as an indicative scenario.

The zone of significant impact on the weathered aquifer for sulphate is expected to migrate in a westerly direction towards the Bierspruit, from the footprint of TSF 1. The zone of significant impact in terms of iron concentrations is expected to migrate in a southerly and westerly direction. The zone of significant impact is not expected to migrate vertically to the underlying fractured aquifer.

The zone of impact in terms of the WUL conditions expand in an easterly direction towards the Crocodile River, and northwards towards the RWD and the non-perennial stream draining from the dam as well as westwards towards the Bierspruit and to some extent southwards.

The sulphate plume does not reach the Middelaagte graben, but there is a small risk that the iron plume may reach this feature. The plumes do not reach the alluvium associated with the Crocodile River nor any of the private boreholes identified.

The extent to which the plume migrates outside the Amandelbult Surface and Mineral Rights areas expands slightly, especially in terms of iron concentrations. There is a small risk that the plume may reach the Zondereinde TSF complex to the south, but not significantly so.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions. The stream origins do not fall with the zones of significant impact except for the sulphate plume draining from the TSF 1. Where this occurs, sulphate concentrations exceeding 1000 mg/L may be present in the groundwater baseflow component to the stream. The impact is unlikely to result in significant impacts, mainly due to the very limited area over which it may manifest.

Over the life of the operations, the plumes are likely to extend past the unchanneled valley bottom wetland delineated down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 700 mg/L and iron concentrations above 0.8 mg/L over the affected area. Although concentrations in groundwater are likely to increase, the impact on this wetland is not considered significant from a groundwater impact perspective.

LONG-TERM IMPACTS:

To assess potential long-term impacts on groundwater quality, the model was run for a period of 100 years after the end of life of the Amandelbult TSF complex. During simulations, the Amandelbult rehabilitation plan for the TSFs were considered. Three long-term scenarios were assessed, as discussed below:

SCENARIO 1: NO PROJECT OPTION

The outcome is like that described for Scenario 2 below. This is mainly because the impact of other sources of contamination like TSF 1, TSF 3A and TSF 3B continue play a role in the long-term. In addition, the re-deposition of tailings on the TSF 2 footprint is expected to increase impacts on groundwater quality over the life of the project as operational tailings deposition will allow for higher infiltration of leachate compared to dormancy.

SCENARIO 2: RECLAMATION AND RE-DEPOSITION OF TAILINGS

It was assumed that active deposition on TSF 3B would continue until the end of life of the TSF complex and that TSF 1 and TSF 2 would remain dormant until then.

The results indicate that the plumes in the weathered zone are expected to recede towards the TSF complex in the long-term as they start to dry out. The sulphate plume is expected to migrate in a westerly direction towards the Bierspruit but is not expected to reach the river in the long-term.

The extent of the zone of significant impact in the weathered aquifer is however likely to remain in the weathered aquifer post closure and will be mainly associated with the footprint of TSF 1 for sulphate and TSF 3A for iron concentrations. The zone of significant impact in terms of sulphate is expected to migrate in a westerly direction, approximately 850 m from TSF 1 in the long-term. The zone of significant impact in terms of iron concentrations is expected to migrate in a north-easterly direction towards the Crocodile River but will not reach the river in the evaluation period.

The zone of impact in terms of WUL conditions will recede for sulphate concentrations in the weathered aquifer, to mainly within the Amandelbult Surface and Mineral Rights areas. The iron plume may however exceed the Surface and Mineral Rights Area along the easterly boundary over a distance of 960 m. There is a small risk that the iron plume may still reach the Middelaagte graben in the long-term, but it will not reach the alluvium in the Crocodile River floodplain.

The potential impact on the underlying fractured aquifer is however expected to increase with time. Even though the vertical movement of contamination is expected to be slower compared to horizontal flow, with time, the plumes are expected to migrate down to the fractured aquifer. Simulations suggests that sulphate and iron concentrations are not expected to increase to above significant impact concentrations.

No private boreholes are in the zone of significant impact, in terms of sulphate or iron. The origins of the non-perennial streams are also outside the zone of significant impact, except for the stream draining near TSF 1.

The sulphate and iron plumes are expected to migrate past the unchanneled valley bottom wetlands delineated down gradient of the Holding Dam. Sulphate and iron concentrations are expected to reduce slightly in the long-term compared to the end of the operational phase because of the rehabilitation measures implemented at closure. Despite the reduction, sulphate concentrations may exceed 550 mg/L and iron concentrations 0.6 mg/L in groundwater reaching this wetland. This is unlikely to result in significant impacts on the wetland from a groundwater perspective.

SCENARIO 3: RECLAMATION AND RE-DEPOSITION OF TAILINGS WITH SCAVENGER BOREHOLES

A scenario was included to test the possible effect of using scavenger boreholes for plume reduction during the operational phase, as described by Water Hunters (2023). To achieve this, abstraction of groundwater at the rates reported in the 10 scavenger boreholes identified was implemented over the remainder of the life of the operations. It was assumed that pumping would cease at mine closure.

The results indicate that in the long-term groundwater abstraction from EMPR15, located south of TSF 3A is not expected to significantly affect the delineates zone of impact on groundwater quality. It is specifically noted that this abstraction is unlikely to affect groundwater qualities in the long-term around TSF 2 as the capture zone of EMPR15 is limited to the southern border of TSF 3A.

Groundwater abstraction is expected to reduce sulphate and iron concentrations, especially over the operational phase. This is discussed in more detail below.

SIMULATED SULPHATE AND IRON CONCENTRATION TIME SERIES EVALUATION

A comparison between simulated iron and sulphate concentrations indicates that there is very little difference between the three scenarios tested at borehole EMPR8, located closest to TSF 2. The results suggest that none of the scenarios tested are expected to reduce iron and sulphate concentrations immediately north of TSF 2, to below WUL conditions. In this area, sulphate concentrations are expected to remain between 700 and 800 mg/L in the long-term. Iron concentrations are expected to increase to between 1.3 mg/L and 1.4 mg/L, as discussed earlier, but not to exceed 2 mg/L.

The results indicate that the reclamation of TSF 2 and the re-deposition of tailings over the remainder of the operational phase is likely to have a similar long-term outcome compared to if the project does not go ahead. If scavenger boreholes are to be used to reduce long-term impacts, additional abstraction boreholes should be considered around the Amandelbult TSF complex, especially along the eastern boundary where the plumes are expected to migrate outside the Amandelbult Surface and Mineral Rights areas.

The groundwater monitoring requirements are presented in Section 18. If additional private boreholes are identified within a 1 km radius, they must be included in the monitoring program.

Recommendations listed in Table 18, plus Section 17 to Section 19 need to be followed.

Reasoned Opinion:

It is the opinion of the project hydrogeologist that the reclamation of the Amandelbult TSF 2 can proceed, if the outcome of the groundwater impact assessment as well as the groundwater management and monitoring measures proposed in this report are considered and implemented. Since TSF 2 forms part of a larger complex of TSFs, its reclamation in isolation is not expected to significantly affect long-term groundwater quality trends. The project does however provide an opportunity to incorporate measures to reduce long-term impacts on groundwater quality associated with future tailings re-deposition on the cleared footprint, which otherwise would not have been possible. Should the results of the proposed monitoring program indicate adverse impacts on groundwater quality over and above those already evident from historical impacts, immediate measures must be taken to rectify non-compliances.

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Abbreviations

Abbreviation	Description
AMB	Amandelbult Mine
Bh	Borehole
BIC	Bushveld Igneous Complex
CRP	Chrome Recovery Plant
CV	Curriculum Vitae
DEM	Digital Elevation Model
DWAF	Department of Water Affairs and Forestry (now DWS)
DWS	Department of Water and Sanitation
DWS BPG	Department of Water and Sanitation, Best Practice Guidelines
EA	Environmental Authorisation
EC	Electrical Conductivity
EIA	Environmental Impact Assessment
GPS	Global Positioning System
GSW	Gland Service Water
GWA	Groundwater Abstract (Pty) Ltd
ha	Hectares
iLEH	Irene Lea Environmental and Hydrogeology
km	kilometre
L/s	Litre per second
L/hr	Litres per hour
LOO	Life of Operations
m	meter
m/day	meter per day
m^2/day	metre square per day
MAE	Mean Annual Evaporation
mamsl	meters above mean sea level
MAP	Mean Annual Precipitation
m bgl	meters below ground level
mg/L	milligrams per litre
ml	millilitre

mm	millimetre
mm/a	millimetre per annum
mS/m	milli-Siemens per meter
NEMA	National Environmental Management Act
NEM:WA	National Environmental Management: Waste Act
NWA	National Water Act, 1998
PCD	Pollution Control Dam
PGM	Platinum Group Metals
RWD	Return Water Dam
SANAS	South African National Accreditation System
SANS	South African National Standards
TDS	Total Dissolved Solids
TSF	Tailings Storage Facility
WMA	Water Management Area
WUL	Water Use Licence

1 INTRODUCTION

The Amandelbult Mine (AMB) (Rustenburg Platinum Mines Ltd) is situated in the Limpopo Province between the towns of Northam and Thabazimbi, and along the northwestern limb of the Bushveld Igneous Complex (BIC). The Amandelbult No 2 Tailings Storage Facility (TSF 2) is located approximately 23 kilometres (km) southwest of Thabazimbi (Figure 1).

AMB aims to reclaim and reprocess the Amandelbult TSF 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of TSF 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams.

AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator. TSF 2 is located approximately 5 km southwest of the Dishaba Shaft (Figure 1). Northam Platinum's Zondereinde Mine is situated adjacent to and south of the Amandelbult operations.

The AMB Concentrator consists of two operational plants, namely UG2-1 and UG2-2 that treat mainly UG2 Reef; and one non-operational plant, Merensky Concentrator Plant. The Merensky Concentrator Plant historically treated a mixture of Merensky and UG2 underground reef, UG2 opencast reef and low-grade waste rock material. With the closure of the Merensky Concentrator Plant, UG2 opencast and low-grade ore are now being treated through the UG2-1 and UG2-2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2-1 and UG2-2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of four compartments, i.e. TSF 1, TSF 2, TSF 3A and TSF 3B (Figure 2). TSF 3A and TSF 3B are considered as "wet dams" with tailings being deposited mainly on TSF 3B. Initial earthworks comprised a compacted clay starter wall (Anglo American Platinum, 2024). Initial tailings deposition was managed within TSF 1, which was constructed as nine separate paddocks in 1980 and was operational until 1991, at which time TSF 2 was commissioned (Anglo American Platinum, 2024, Kongiwe, 2025 and Water Hunters, 2023). The return water dam (RWD) was constructed during the operational period of TSF 1. TSF 3A was constructed in 2004 and TSF 3B, with the Holding Dam by 2008. Deposition of tailings to TSF 1 took place up to 2021 on an ad hoc basis. It is planned that the TSFs will be operational until 2080 (Anglo American Platinum, 2024). Tailings on TSF 2 originated from the Merensky and UG2 Concentrator Plants and deposition commenced during the early 2000s and ceased in 2022 (Kongiwe, 2025). This dam has a height of 49 meters (m) (Anglo American Platinum, 2025). At present, tailings are only deposited on TSF 3B, which is currently at a height of 16 m.

The proposed project seeks to recover Chrome and Platinum Group Metals (PGM) from TSF 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of PGMs and Chrome. The reclamation of TSF 2 will also open additional space for tailings deposition in the future, without extensions onto greenfield areas.

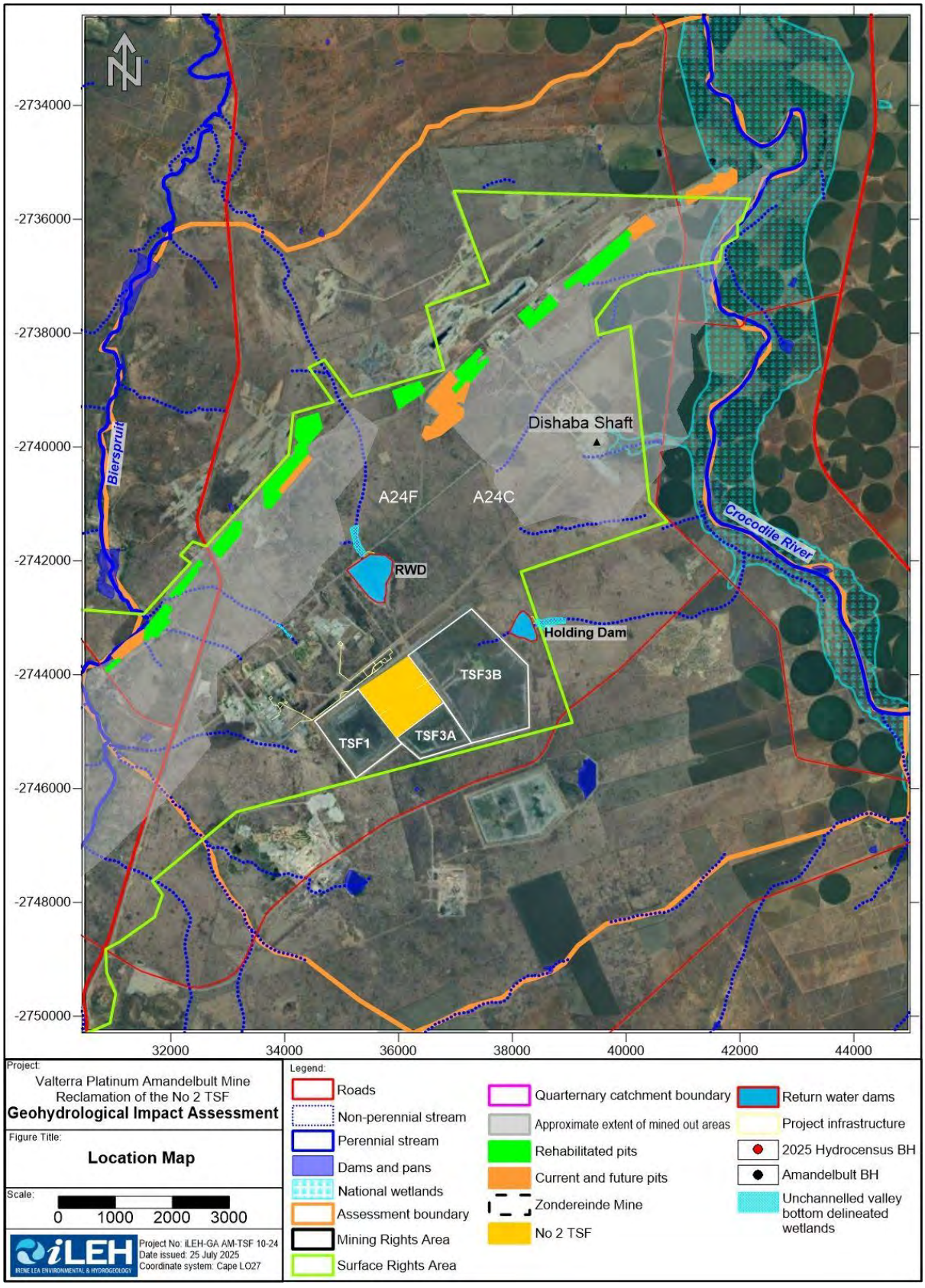

Figure 1. Project locality map

Figure 2. Amandelbult TSF configuration

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

Additionally, it is expected that a Water Use Licence (WUL) in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998) (NWA) will be required.

This report represents the geohydrological specialist study completed for the Amandelbult TSF Reclamation and Processing Project.

2 GROUNDWATER ASSESSMENT FRAMEWORK

A thorough understanding of the hydrogeological environment is essential to understand the impact of the operations on the receiving environment and to help design a groundwater management plan that reduces or removes the risk of groundwater quality and quantity impacts.

2.1 GROUNDWATER SCOPE OF WORK

The groundwater impact assessment focussed on the following tasks:

- Use the dataset provided by the client to construct a conceptual aquifer model for the footprint area of TSF 2.
- Construct and calibrate a numerical groundwater flow and contaminant transport model using the existing dataset for the sub-catchment in which the TSF 2 is located. Please note that this model will not be used to simulate underground mining and for that reason, its extent will be focussed on hydrogeological boundaries that will enable assessment of impacts associated with TSF 2.
- Complete a hydrogeological impact assessment with the calibrated numerical groundwater flow and contaminant transport model that will meet the requirements of the Environmental Impact Assessment Regulations as well as that for the Water Use Licence application.
- Use the impact assessment results to compile a groundwater management plan as well as a monitoring program for the Amandelbult TSF 2 Reclamation Project.

2.2 COMPLIANCE FRAMEWORK

The report was compiled according to the requirements of DWS BPG G4 (2008) as well as Regulation 267 of the National Water Act (1998).

The water quality assessment will be based on South African National Standard (SANS) 241-1:2015, Drinking Water.

2.3 GROUNDWATER ASSESSMENT TEAM

The following hydrogeologists are involved in the Amandelbult TSF Reclamation and Processing Project groundwater assessment:

- Lucas Smith (MSc Geohydrology) Pr.Sci.Nat:
  - Field work, data analysis, interpretations, and reporting.
- Irene Lea (MSc Geohydrology) Pr.Sci.Nat:

- Data analysis, interpretations, numerical model and impact assessment.

Curricula Vitae (CVs) are appended to Appendix A.

2.4 Report Structure

The remainder of the report is structured as follow:

- Section 4 – Environmental Setting.
- Section 5 – Site Investigations.
- Section 6 – Additional Work Undertaken.
- Section 7 – Prevailing Groundwater Conditions.
- Section 8 – Aquifer Characterisation and Vulnerability.
- Section 9 – Conceptual Model.
- Section 10 – Groundwater Sources and Sinks.
- Section 11 – Pathways and Receptors.
- Section 12 – Key Assumptions and Literature Base Data Inputs.
- Section 13 – Groundwater Modelling.
- Section 14 – Hydrogeological Impact Assessment.
- Section 15 – Groundwater Impact Assessment Rating.
- Section 16 – Cumulative Impacts.
- Section 17 – Groundwater Management Program.
- Section 18 – Groundwater Monitoring Program.
- Section 19 – Post Closure Management.
- Section 20 – Reasoned Opinion.
- Section 21 – Conclusions and Recommendations.

Appendices:

- Appendix A: Curricula Vitae.
- Appendix B: Water Laboratory Certificate.
- Appendix C: Surface and groundwater monitoring data used in this report.
- Appendix D: Impact Assessment Ratings.

3 About the Project

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

3.1 Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

3.2 Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required. These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 millimetres (mm).

Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

3.3 Power Supply, Sewage, Process Water and Other Requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with

sewage taken away to the Amandelbult Sewage treatment plant for final disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines).

3.4 Work Schedule

The anticipated life span of the Project is approximately 20 years. It is expected that there will be a 2-year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan.

3.5 PGM and Chrome Processing Plant

The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols.

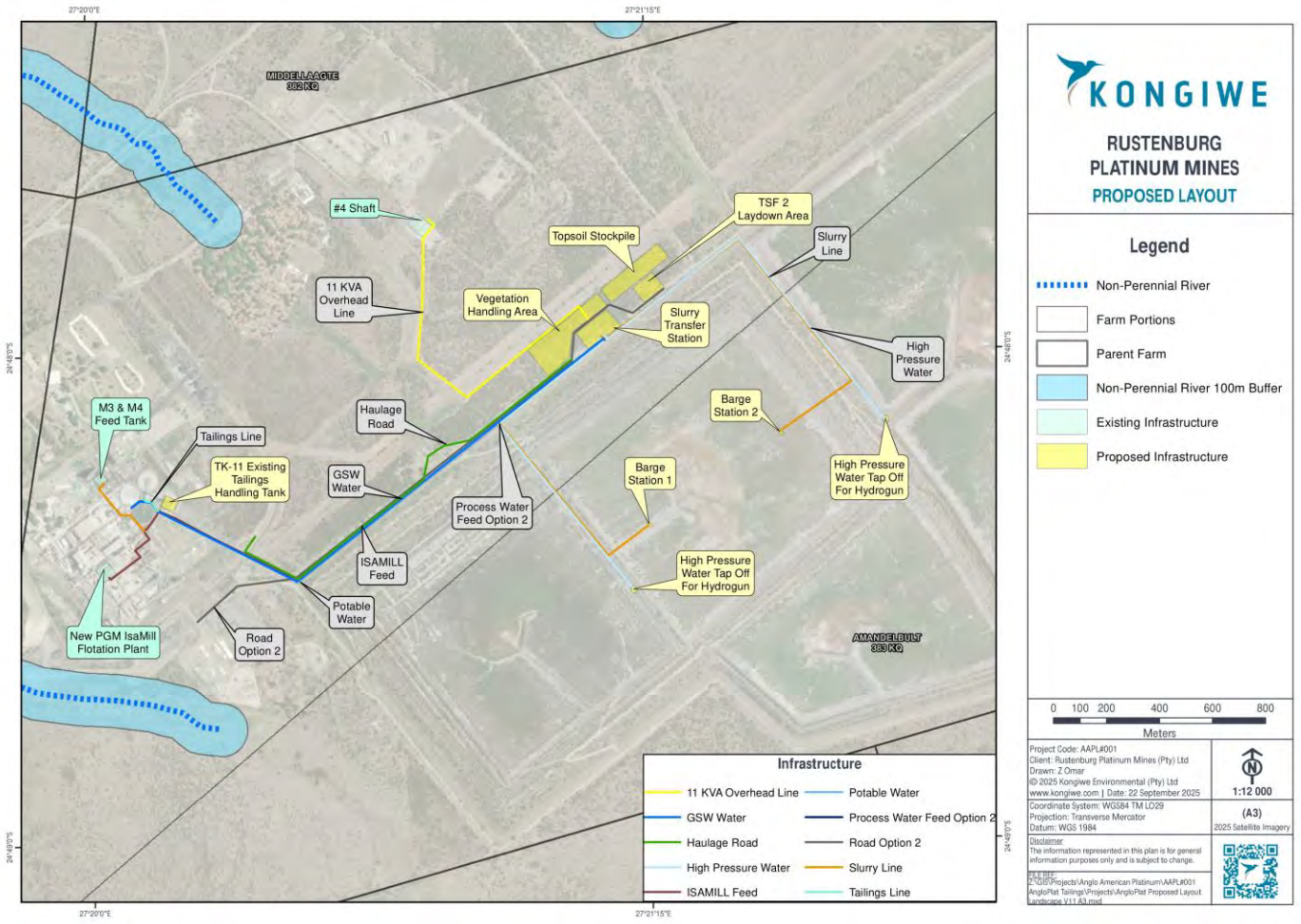

Figure 3. Proposed project layout

4 ENVIRONMENTAL SETTING

Amandelbult TSF 2 is in the A24C quaternary catchment, associated with the Crocodile River, and forming part of the Limpopo Water Management Area (WMA:1). The position of the catchment boundary relative to TSF 2 is indicated on Figure 1. This catchment drains in a north-easterly direction towards the Crocodile River. This forms part of Resource Unit MRU 10 of the Crocodile River. A very small portion of the northwestern corner of the TSF is in the A24F quaternary catchment, associated with the Bierspruit.

The sub-catchment of TSF 2 is drained by a non-perennial tributary of the Crocodile River that is associated with the Holding Dam.

The topographical setting of the TSF indicates a gentle north-easterly slope towards the non-perennial stream and the Holding Dam, and regionally towards the Crocodile River. The gradient of the topography is approximately 1:60 (0.017). The topographical elevation at TSF 2 varies from 977 meters above mean sea level (mamsl) in the south to 962 mamsl in the northeast.

Large-scale agricultural activities take place within the Crocodile River floodplain. These are dependent on water from the river and possibly from groundwater abstracted from boreholes drilled into the alluvial aquifers using pivot systems. The extent of the agricultural activities relative to the TSF 2 is visible on Figure 1. The agricultural activities are located more than 3 km from TSF 2.

4.1 CLIMATE AND RAINFALL

Monthly rainfall and Class A-Pan (A-Pan) evaporation measured at the AMB site was obtained from the Amandelbult Mine Water Balance Calibration Report (WSP, 2024a) and is indicated in Figure 4. Rainfall was measured between 2000 and 2024, whilst A-Pan evaporation was measured from 2010 to 2021 (Hydrospatial, 2025).

Rainfall is highest between October to April, with January generally being the wettest month. Very little rainfall occurs between May to September. The Mean Annual Precipitation (MAP) for AMB is 593 mm (WSP, 2024a).

Evaporation is highest over the warmer months of September to March, with the remaining cooler months having lower evaporation. The A-Pan Mean Annual Evaporation (MAE) for the site is 1 598mm (WSP, 2024a). Evaporation exceeds rainfall in all months of the year (Figure 4).

4.2 RESERVE

The Department of Water and Sanitation published an interim reserve determination for the Crocodile West Catchment (A20). According to this, the present ecological state of the Crocodile River is reported as D. The ecological water requirement for the A24C catchment is estimated as 42.3 million m^3/a, which is approximately 9% of the mean annual runoff.

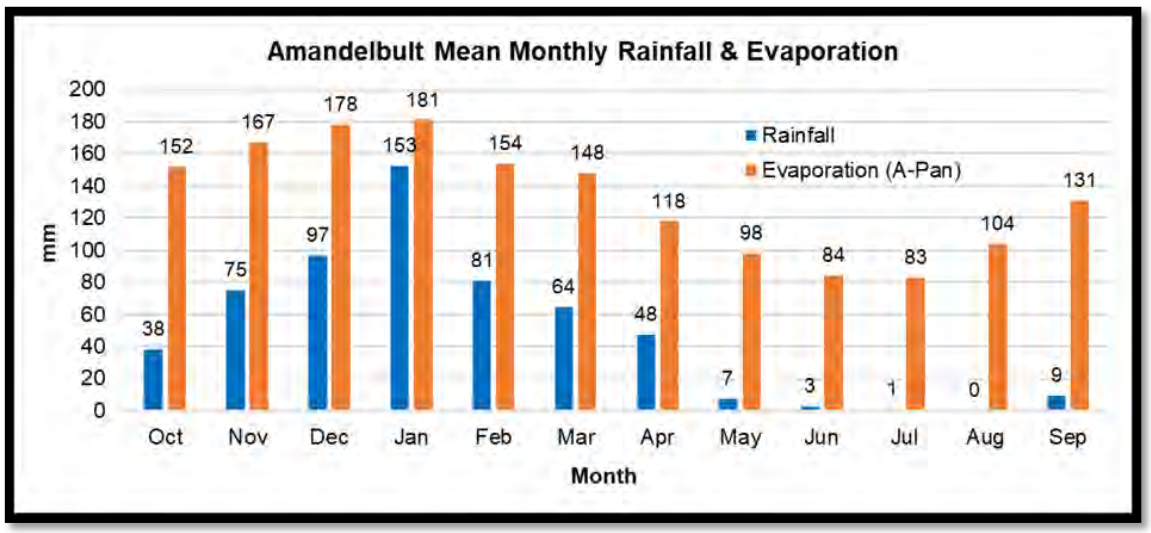

Figure 4. Mean monthly rainfall and evaporation measured at the Amandelbult Mine

4.3 GEOLOGY

4.3.1 REGIONAL GEOLOGY

Regionally, the geological setting comprises rock formations of the Rustenburg Layered Suite of the western limb of the Bushveld Igneous Complex. These formations include norite, pyroxenite, anorthosite and gabbro. The platinum and chrome reefs are hosted in the Rustenburg Layered Suite and sub-outcrop northwest of the Amandelbult TSFs. The reefs dip at 16° to 30° in a south-easterly direction (Anglo American Platinum, 2021).

Formations of the Pretoria Group are found to the northwest and to the southeast of the TSFs (roughly 10 km away). These include shale, minor limestone and basalt. The Pretoria Group sediments underlie the Rustenburg Layered Suite at a depth of approximately 2.3 km below surface at the Dishaba Shaft. Granite from the Lebowa Suite outcrop east of the TSFs. These underlie the Pretoria Group sediments. Quaternary sand and alluvium and surficial deposits are associated with the floodplains of the rivers and streams. The alluvium associated with the Crocodile River form a strong aquifer, which is targeted for commercial irrigation farming.

4.3.2 LOCAL GEOLOGY

The geology of the Rustenburg Layered Suite is divided into the Upper Zone (weathered anorthosite, norite and gabbro); the Main Zone (anorthosite, norite, gabbro, pyroxenite); the Critical Zone (chrome and platinum reefs hosted in anorthosite and norite) and the Lower Zone and the Marginal Zone. The Marginal Zone is underlain by the Transvaal Group Sediments and the basement granite. The available hydrogeological dataset is based on boreholes drilled to depths of 20 m and 61 m and therefore target the Upper Zone. These zones are demonstrated in the schematic cross section in Figure 5 (Anglo American Platinum, 2024). Mining currently takes place at a depth of up to 1300 m below surface. Although this assessment will consider the deeper zones of the Rustenburg Layered Suite, the focus of the risk assessment for the reclamation of TSF 2 will be on the shallower weathered and fractured aquifers. This is discussed in more detail below.

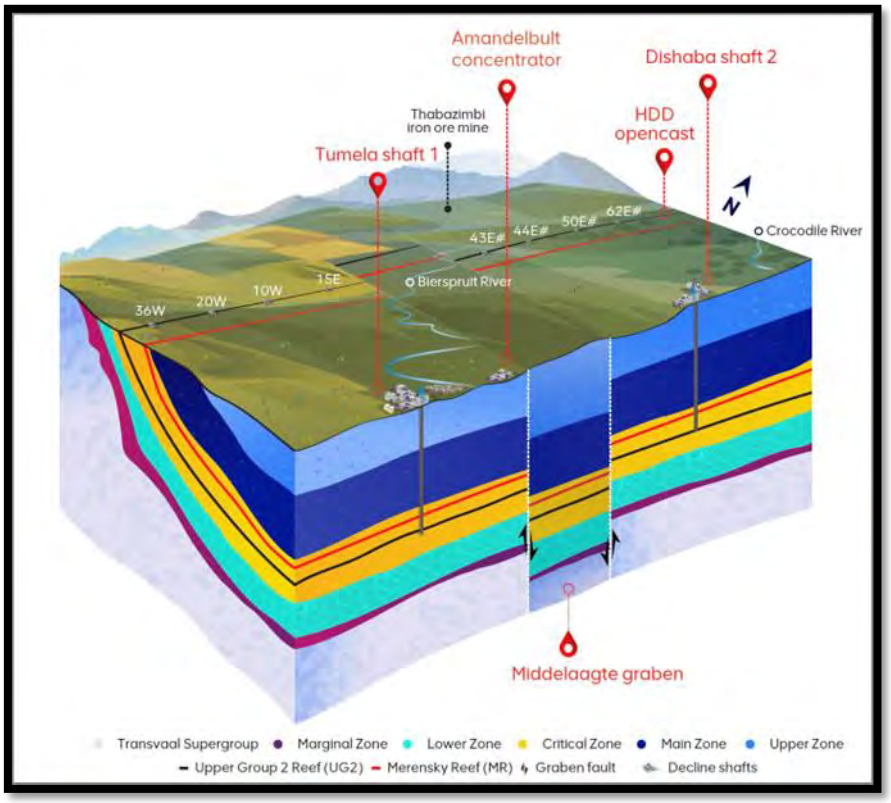

Figure 5. Schematic cross section (Anglo American Platinum, 2024)

A schematic cross section of the Upper Zone is presented in Figure 7. The location of the cross section is indicated on Figure 6 and extends from the Bierspruit in the west to the Crocodile River in the east, through the Amandelbult TSFs. The cross section evaluates geological conditions to a depth of 250 m below surface, which is assumed to be within the vertical extent of the Upper Zone.

TSF 2 is underlain by anorthosite of the Upper Zone of the Rustenburg Layered Suite. The anorthosite and norite typically weathers to a black clay-rich turf. The depth of weathering varies in this area. Where the reefs outcrop further north, deeper weathering takes place. The weathered zone is expected to extend to an average depth of 15 m to 20 m underneath the TSFs.

The estimated extent of the weathered anorthosite underlying TSF 2 is shown relative to the groundwater table and the Bierspruit and Crocodile River in Figure 7. The floodplain alluvium associated with the Crocodile River is also indicated. The position of the Middelaagte graben is shown. As discussed earlier, the fault zones associated with the structure is expected to create deeper zones of weathering. Fault zones associated with the graben structure are mapped in the underground workings. One of these extend to the footprint of the TSF3A, as indicated on Figure 6. It is unclear to what extent these fault zones extend to within the shallow fractured and weathered aquifers. Fieldwork completed by Water Hunters (2024) on boreholes that could intersect these structures does not indicate enhanced aquifer conditions. Due to the uncertainty around the role that these fault zones could play on groundwater movement in the shallow fractured and weathered aquifers, it is recommended that a dedicated fieldwork programme is undertaken to pinpoint their locations and to

drill and test monitoring boreholes into the structures. It is noted that the fault zones do not extent to the TSF2 footprint area, but this should also be confirmed. The weathered anorthosite is underlain by fresh anorthosite, norite, pyroxenite and gabbro of the Upper Zone.

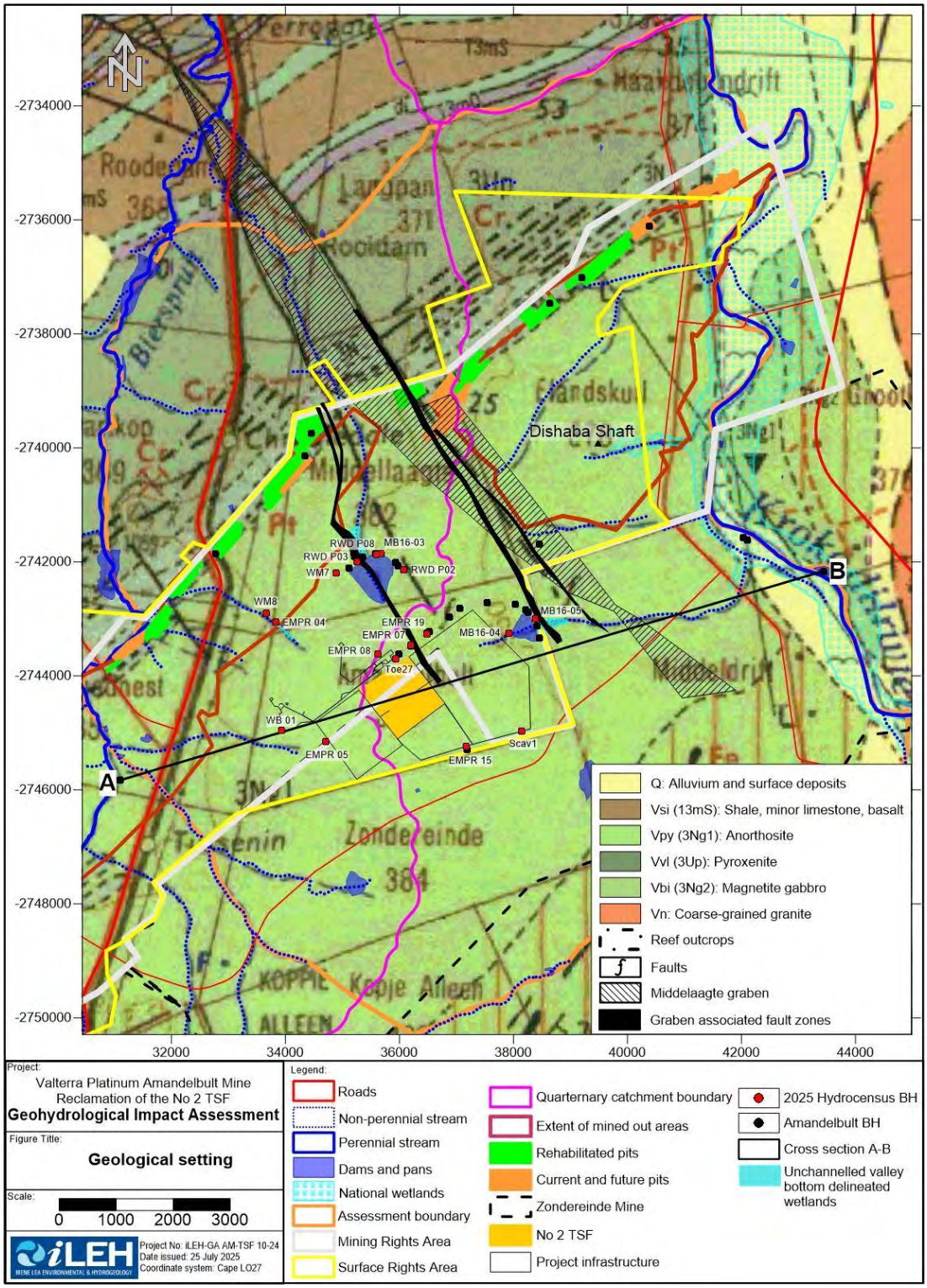

Figure 6. Project area geology

The region is further characterised by faulting, as indicated northeast of the Amandelbult TSFs on Figure 6. These faults have resulted in the formation of the Middelaagte graben (Anglo American Platinum, 2021). This graben resulted in the downward displacement of the rock formations and the reefs along the fault zones indicated. These fault zones are likely to form preferential flow paths to groundwater due to rock fracturing. These faults and the graben do not extend to the Amandelbult TSFs and no faulting that extends to surface is reported under TSF 2. Faults are present in the underground workings further north, which are currently at a depth of approximately 1300 m below surface.

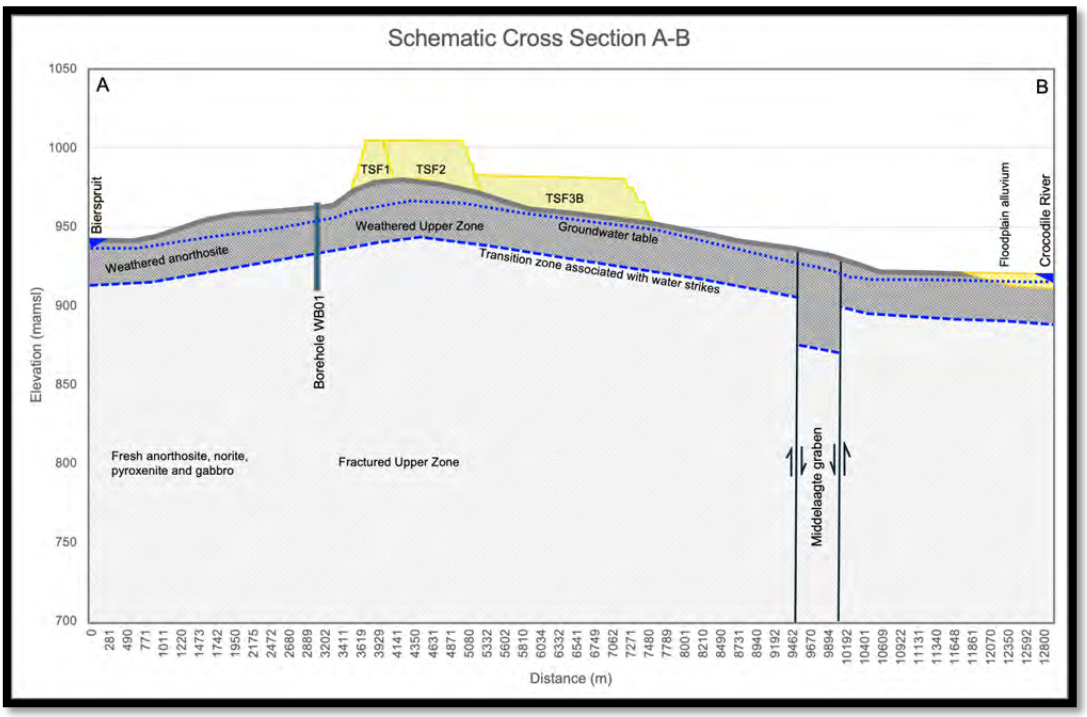

Figure 7. Schematic cross section A-B

5 Site Investigations

5.1 Desktop Study

The hydrogeological impact assessment was initiated with a desktop study on information contained in existing monitoring programs, specialist reports and documentation made available by Kongiwe. The list of documents assessed is presented in the References at the end of this report. All information that was used during the assessment is summarised in the report.

5.2 Hydrocensus

A hydrocensus was completed by Groundwater Abstract during June 2025. The locations of the hydrocensus boreholes, as well as boreholes tested by Water Hunters (2023), are indicated on Figure 8. The hydrocensus data used in this report is summarised in Table 1. All coordinates were taken with a hand-held Garmin GPS (Global Positioning System) (WGS84).

Some of the boreholes tested by Water Hunters were included in the 2025 hydrocensus. All the hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m. The depth of the groundwater table varied between 0.52 m and 11.98 m below surface. Groundwater level trends are discussed in more detail later in this report.

The hydrocensus survey included accessible areas within a 2.5 km radius from TSF 2 and concentrated on identifying existing boreholes to enhance the knowledge of the groundwater movement and groundwater use. Sixteen (16) boreholes were identified, all on AMB properties (Table 1).

During the hydrocensus the following information was collected for each site:

- Borehole position (X, Y, Z-coordinates);
- Information relating to equipment installed;
- Borehole construction details;
- Borehole yield – if known;
- Groundwater level; and
- Current use.

All 16 boreholes are used or were historically used for groundwater monitoring purposes. Some of the boreholes around the RWD were drilled to serve as scavenger boreholes, but to date they were only used for groundwater monitoring purposes.

The extent of the study area, budget and time constraints, and land access limited the hydrocensus in terms of surveying every borehole in the area. The study aimed to cover the whole area to ensure a data set representative of the study area.

Groundwater levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole. The height of the borehole collar was subtracted from the measured water level to define a water level below surface (measured in m bgl). Groundwater samples were also collected, where possible (see Section 5.3).

Groundwater level measurements were possible from 15 of the 16 boreholes (Table 1). It is shown that groundwater levels in the region varies, and this is possibly associated with the mining activities, recharge from the TSFs and mine dams, or open fractured aquifer systems. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line) (Table 1). The boreholes adjacent to the RWS and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.

If the groundwater levels are viewed as elevation above sea level, then the highest water elevations (968 m amsl) can be found at boreholes close to the TSF complex footprint (e.g. EMPR05, EMPR07 and EMPR15). The lowest water table elevation is 945 mamsl, at borehole WM08, followed by EMPR04 and MB16-5. Locally, surface drainage and possibly groundwater flow will be towards the local

drainages, but the regional groundwater flow direction will be in a north to north-easterly direction (Figure 12).

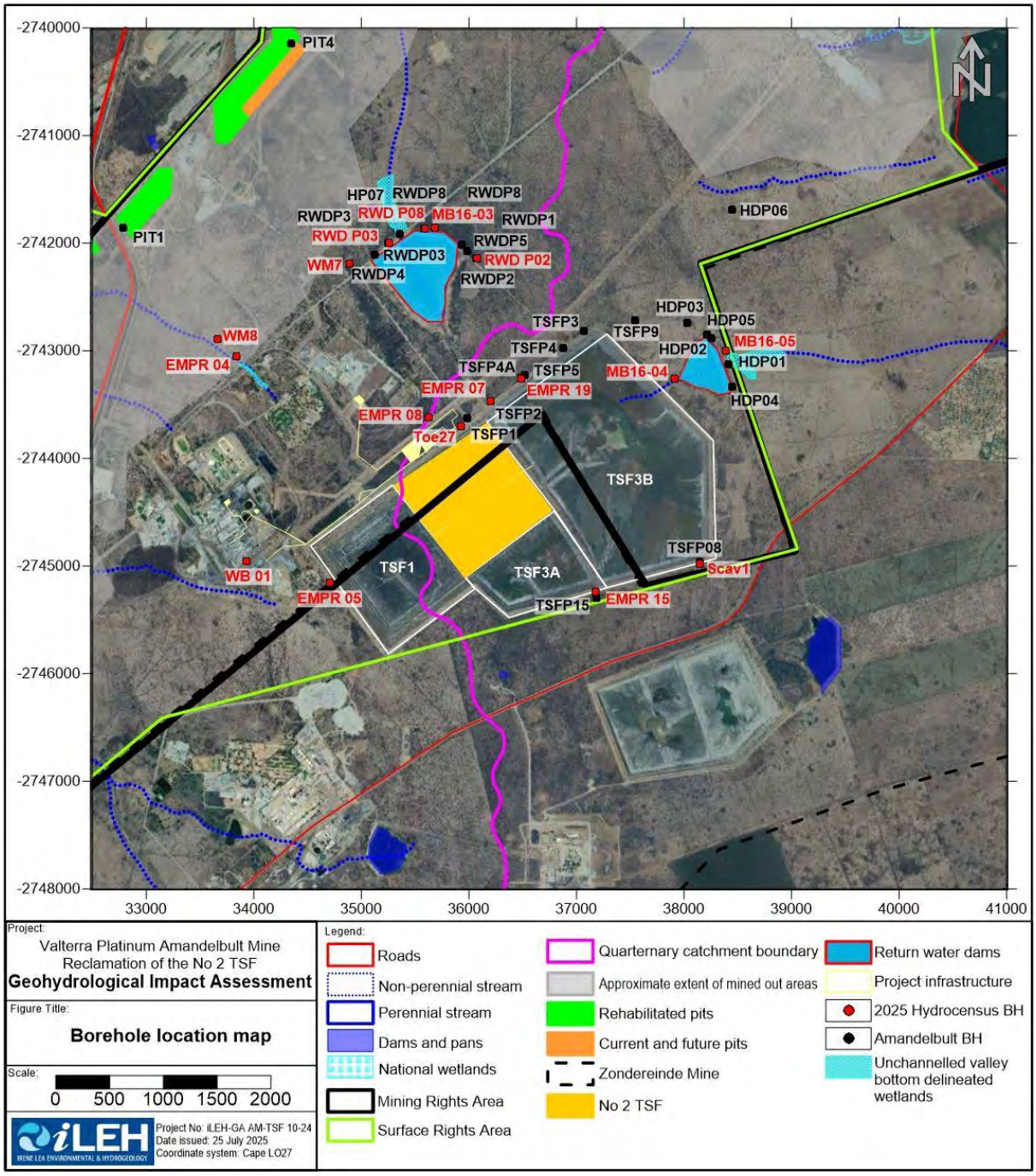

Figure 8. Hydrocensus borehole localities

Table 1. March 2025 Hydrocensus data

Site ID	Lat (WGS84)	Long	Elevation (mamsl)	Water depth (mbgl)	Collar height (m)	Water elevation (mamsl)	BH depth (m)	Yield (L/hr)	Use	Note
EMPR 04	24°47'31.04"S	27°20'04.57"E	958	6,49	0,35	951,86			Monitoring	Old beehive inside
EMPR 05	24°48'39.51"S	27°20'35.79"E	975	6,83	0,43	968,60			Monitoring	West of Dam 1
EMPR 07	24°47'44.45"S	27°21'28.92"E	965	3,15	0,44	962,29			Monitoring	Between Dan 2 and Dam 3
EMPR 08	24°47'49.29"S	27°21'08.44"E	969	8,15	0,26	961,11			Monitoring	Under trees
EMPR 15	24°48'42.02"S	27°22'03.80"E	969	7,40	0,81	962,41	30	2052	Monitoring	South of Dam 3b
EMPR 19	24°47'37.69"S	27°21'39.02"E	964	4,93	0,43	959,50			Monitoring	North of Dam 3b
MB16-3	24°46'52.19"S	27°21'10.35"E	962	0,89	0,66	961,77			Monitoring	Downstream of RWD in north
MB16-4	24°47'37.39"S	27°22'29.93"E	952	0,87	0,98	952,11			Monitoring	BH in Holding Dam
MB16-5	24°47'29.01"S	27°22'46.70"E	949	1,84	0,85	948,01			Monitoring	East of Holding Dam
RWD P02	24°47'01.31"S	27°21'24.28"E	964	3,05	0,36	961,31	25	4212	Monitoring	East of RWD in north
RWD P03	24°46'56.67"S	27°20'55.05"E	961	0,52	0,43	960,91	21	720	Monitoring	North of RWD in north
RWD P08	24°46'52.39"S	27°21'07.03"E	961	sealed	--	--	25	3888	Monitoring	Downstream of RWD in north
Scav 1	24°48'33.30"S	27°22'38.23"E	963	6,17	0,67	957,50			Monitoring	South of Dam 3b
WB01	24°48'32.86"S	27°20'08.20"E	969	9,56	0,90	960,34			Monitoring	Near Plant
WM07	24°47'03.00"S	27°20'42.06"E	967	9,78	0,32	957,54	33		Monitoring	Water level at bottom of BH
WM08	24°47'26.07"S	27°19'58.31"E	956	11,98	1,16	945,18			Monitoring	

The groundwater table governs water flow and in similar geological terrains a relationship exists between the groundwater table and the topography. This correlation is known as the Bayesian relationship. The borehole collar elevation is plotted against the measured groundwater elevation to test if this relationship is applicable. The correlation between topography and groundwater elevation is approximately 85% to 97%, as shown in Figure 11.

Detailed information in terms of borehole construction and yields, plus borehole depths and water strike depths, are not known for all identified hydrocensus sites. Time series groundwater level or quality data were available for some of the monitoring boreholes.

5.3 Groundwater Quality

Groundwater quality monitoring is conducted at the Amandelbult Mine quarterly. The long-term groundwater quality data was used during this impact assessment. During the June 2025 hydrocensus three additional water samples were collected: two groundwater samples up- and downstream from TSF 2 (boreholes EMPR08 and EMPR15) and one water sample was taken from toe drain 27, along the northern perimeter of TSF 2 (Table 2).

A sterilized 500 millilitre (ml) sample bottle was used and filled to the top, for each site sampled. Grab samples were taken using a single valve, decontaminated bailer, during the hydrocensus. Samples were stored in a cooler box during the site assessment. The water samples were analysed for basic inorganic parameters and the results were compared against the SANS 241:2015 Drinking Water Standards. The DWS's Drinking Water Standard was also considered.

The water samples were submitted to Aquatico Laboratories for analysis. Aquatico is a SANAS accredited laboratory (South African National Accreditation System).

The three water samples collected during the 2025 hydrocensus are from:

- EMPR15 – monitoring borehole south (up gradient) of TSF 2 (Figure 8). Borehole approximately 850 meters from TSF 2, with TSF 3A located between the borehole and TSF2.
- EMPR08 – monitoring borehole north (downgradient) of TSF 2. Borehole approximately 330 m from TSF 2.
- Toe 27 – flowing toe drain along the northern perimeter of TSF 2.

The hydrocensus water quality results are presented in Table 2 and the laboratory certificates are presented in Appendix B. Based on the water quality results the following conclusions were drawn in terms of the hydrocensus water samples (SANS 241:2015 comparison):

- Health effects:
    - Iron – An elevated iron concentration was measured for borehole EMPR15 (upgradient BH), with an Iron concentration of 4.33 milligrams per litre (mg/L), versus the maximum allowable concentration of 2 mg/L. This borehole is on the northern perimeter (upgradient) of TSF 2 and TSF 3A. The Total Iron concentration at EMPR 08 (downgradient) was 0.034mg/L and the Total Iron concentration was below the detection limit for the toe drain sample (downgradient).

The concentration of dissolved Iron in potentially related to the historic mining activities and is dependent on the occurrence of other heavy metals, such as manganese, and the pH of the water.

- Manganese – Manganese is a relatively abundant element, constituting approximately 0.1% of the earth's crust. Borehole EMPR15 measured a Manganese concentration that exceeds the health impact limit – 0.66 mg/L versus the maximum allowable concentration of 0.4 mg/L. Manganese tends to precipitate out of solution to form a black hydrated oxide which is responsible for staining problems. The Manganese concentration at the other two sampled sites exceeds the aesthetic limit (0.1 mg/L), but was still below the health impact limit of 0.4 mg/L.
- Sulphate – Sulphate forms salts with various cations such as potassium, sodium, calcium, magnesium, barium, lead and ammonium (DWAF, 1996). Sulphate is a common constituent of water and arises from the dissolution of mineral sulphates in soil and rock. Since most sulphates are soluble in water it tends to accumulate to progressively increasing concentrations. Contamination by sulphate is to be expected in waters contaminated by mining activities, due to the oxidation of sulphides in the ore and waste.
  The Sulphate concentration was elevated for all three sampled sites, with the concentrations varying between 634 mg/L and 689 mg/L for the boreholes, and 941mg/L for the toe drain sample. The health limit is set at 500 mg/L.

- Aesthetic / Operational effects:

  - Sodium – Sodium is abundant in the environment and usually occurs as sodium chloride, but sometimes as sodium sulphate, bicarbonate or even nitrate (DWAF, 1996). Sodium is highly soluble in water and does not precipitate when water evaporates, unless saturation occurs. Borehole EMPR15 (438 mg/L) and toe drain 27 (486 mg/L) present elevated Sodium concentrations that exceed the aesthetic limit (200 mg/L) for drinking water. With the reuse or recycling of water, the sodium concentration will tend to increase with each cycle or addition of sodium to the water. For this reason, sodium concentrations are elevated in runoffs or leachates.
  - Chloride – Elevated chloride concentrations were measured at all sampled sites with the measured concentrations varying between 513 and 969 mg/L. The chlorides of sodium, potassium, calcium and magnesium are all highly soluble in water. Once in solution chloride tends to accumulate.
  - Ammonium – The chemistry of ammonia is very complex, especially where transition metals are present in water, and while ammonia itself is of relatively low toxicity, this is not necessarily the case for some of its organometallic complexes (DWAF, 1996). Taste and odour complaints are likely to occur if the ammonia concentration exceeds 1.5 mg/L. High concentrations of ammonia can also give rise to nitrite, which is potentially toxic, especially to infants (DWAF, 1996). Water collected from toe drain 27 presented an elevated Ammonium concentration (4.7 mg/L) that exceeds the aesthetic limits for drinking water with the aesthetic limit set at 1.5 mg/L.

- The SANS 241 guideline limits for Electrical Conductivity (EC) and Total Dissolved Salts (TDS) were exceeded for all sampled sites. EC level varied between 287 and 422 mS/m. TDS varied between 2039 and 3114 mg/L.
- Total hardness – Very hard total hardness values were measured at all three sampled sites. Water hardness is influenced by the presence of calcium and magnesium salts. Other metals such as strontium, iron, aluminium, zinc and manganese may occasionally contribute to the hardness of water, but the calcium and magnesium hardness usually predominates. The Total Hardness values vary between 1454 mg/L and 1755 mg/L.
- Turbidity – The turbidity value was elevated for all sampled sites. The boreholes are not in use and the sampling possibly disturbed the silt inside the borehole cavity. The water from toe drain 27 is associated with consistent water flow, with possible suspended matter in the water. Toe drain 27 presents a much lower Turbidity value.

The DWS uses a water classification system where the water is defined in different classes based on a fitness for use classification (see Table 3). The element concentrations are like the SANS guideline limits, but with the DWS system a classification is assigned to the water sample, e.g., Class 2 water.

Based on the DWS classification system the sampled water is categorized as:

- EMPR08 – Class 3 water (poor water quality) due to the Magnesium and Sulphate concentrations and the Turbidity and Total Hardness levels, and then Class 2 (marginal water quality) due to the Calcium and Chloride concentrations, and EC and TDS. This borehole is not in use and is located downgradient from TSF 2.
- EMPR15 – Class 3 water (poor water quality) due to the EC, TDS, Magnesium, Sodium, Chloride and Sulphate concentrations and the Turbidity and Total Hardness levels, and then Class 2 (marginal water quality) due to the Total Iron and Manganese concentrations. This borehole is not in use and is located upgradient from TSF 2.
- Toe drain 27 – Class 4 water (unacceptable water quality) due to the Magnesium concentration, and then Class 3 (poor water quality) due to the EC, TDS, Magnesium, Sodium, Chloride and Sulphate concentrations and the Total Hardness level.

Table 2. Hydrocensus groundwater quality – June 2025

	DWS Drinking Water Guideline Limits					SANS241:2015 Drinking Water Standard Limits		EMPR 08	EMPR 15	TOE 27
	Class 0	Class 1	Class 2	Class 3	Class 4	Aesthetic effects	Chronic health effects			
pH	5-9.5	***4.5-5 or 9.5-10***	4-4.5 or 10-10.5	3-4 or 10.5-11	<3 or >11	≥5 to ≤9.7		7,86	6,69	8,44
Electrical Conductivity	<70	***70-150***	150-370	370-520	>520	Aesthetic ≤170		287	403	432
TDS	<450	***450-1000***	1000-2400	2400-3400	>3400	Aesthetic ≤1200		2039	2632	3114
Total Alkalinity								375	180	622
Total Hardness	<200	***200-300***	300-600	>600		more than 180 mg/l, very hard		1454	1510	1755
Aluminium		***0 - 0,15***	0,15 - 0,5	>0,5		Operational ≤ 0,30		-0,002	-0,002	-0,002
Arsenic	<0,01	***0,01-0,05***	0,05-0,2	0,2-2	>2		Chronic health ≤0,01	-0,006	-0,006	-0,006
Calcium	<80	***80-150***	150-300	>300				180	129	30,8
Copper	<1	***1-1,3***	1,3-2	2-15	>15		Chronic health ≤2	0,01	0,011	0,015
Total Iron	<0,5	***0,5-1***	1-5	5-10	>10	Aesthetic ≤0,3	Chronic health ≤2	0,034	4,33	-0,004
Magnesium	<70	***70-100***	100-200	200-400	>400			244	288	407
Manganese	<0,1	***0,1-0,4***	0,4-4	4-10	>10	Aesthetic ≤0,1	Chronic health ≤0,4	0,264	0,66	0,143
Potassium	<25	***25-50***	50-100	100-500	>500			2,63	4,92	64,3
Sodium	<100	***100-200***	200-400	400-1000	>1000	Aesthetic ≤200		198	438	486
Chloride	<100	***100-200***	200-600	600-1200	>1200	Aesthetic ≤300		513	969	770
Fluoride	<0,7	***0,7-1***	1-1,5	1,5-3,5	>3,5		Chronic health ≤1,5	-0,263	-0,263	-0,263
Ammonium						Aesthetic ≤1,5		0,906	0,223	4,7
Nitrate	<6	***6 - 10***	10 - 20	20-40	>40		Acute health ≤11	0,22	0,266	0,279
Ortho Phosphate as P								-0,009	-0,009	0,083
Sulphate	<200	***200-400***	400-600	600-1000	>1000	Aesthetic ≤250	Acute health ≤500	634	689	941

	DWS Drinking Water Guideline Limits					SANS241:2015 Drinking Water Standard Limits		EMPR 08	EMPR 15	TOE 27
	Class 0	Class 1	Class 2	Class 3	Class 4	Aesthetic effects	Chronic health effects			
Cadmium							Chronic health ≤0.003	-0,002	-0,002	-0,002
Total Chrome	0 - 0,05		0,05 - 1	1 - 5	>5		Chronic health ≤0,05	-0,01	-0,01	-0,01
Chromium								-0,003	-0,003	-0,003
Trivalent Chromium (Cr^{3+})								-0,01	-0,01	-0,01
Hexavalent chromium (Cr^{6+})								-0,002	-0,002	-0,002
Nickel							Chronic health ≤0.07	-0,002	-0,002	-0,002
Cobalt								-0,003	-0,003	-0,003
Selenium							Chronic health ≤0.04	-0,002	-0,002	-0,002
Lead							Chronic health ≤0,01	-0,004	-0,004	-0,004
Zinc	0 - 5	**5 - 10**	10 - 50	50 - 700	>700	Aesthetic ≤5		-0,002	-0,002	-0,002
E.coli							Not detected	-1	-1	-1
Total coliform		**0 - 5**	5 - 100	>100		≤ 10		2	-1	-1
Turbidity	0 - 1	**1 - 5**	5 - 10	>10		Operational ≤ 1	Aesthetic ≤ 5	67,9	306	1,03
Sodium Adsorption Ratio								2,26	4,9	5,04
Chemical oxygen demand								34,6	40,4	47,8
Total suspended solids								51	108	14
Dissolved oxygen								7,92	6,96	8,55
							DWS Classification	**3**	**3**	**4**

Table 3. DWS water quality "fitness for use" classes

Water use	Categorisation	Description
Domestic	Class 0	Water of ideal quality, which has no health or aesthetic effects, and which is suitable for lifetime use without negative effects.
	Class 1	Water of good quality, suitable for lifetime use with few health effects. Aesthetic effects may be apparent.
	Class 2	Marginal water quality. May be used without health effects by most individuals of all ages but may cause effects in some individuals in sensitive groups.
	Class 3	Poor water quality. Poses a risk of chronic health effects, especially in babies, children and the elderly.
	Class 4	Unacceptable water quality. Severe acute health effects, even with short-term use.

5.4 Date and Season of the Investigation

Fieldwork undertaken by Groundwater Abstract for the project was completed June 2025, which represents dry season conditions.

6 Additional Work Undertaken

No fieldwork other than the hydrocensus was completed as part of this assessment. Data used to characterise the aquifers was supplied by Valterra to complete the assessment. This information is summarised below and referenced at the end of this report.

6.1 Groundwater Modelling

A detailed description of the methodology used to complete the groundwater modelling for the project is presented in Section 13 of this report.

6.2 Groundwater Availability Assessment

A hydrocensus was completed in April 2023 within a 5 km radius around the Amandelbult TSFs (Water Hunters, 2023). Six boreholes were visited, all of which are used for monitoring purposes by Valterra and the adjacent Northam Platinum Zondereinde Mine. Three private boreholes situated on the farm Witvley were included in the hydrocensus. These boreholes (WV-BH01-03) are more than 5 km southeast of the Amandelbult TSFs, as indicated on Figure 1. Two of these were blocked at 32 m and 34 m and the third borehole is not in use. No large-scale groundwater abstraction was observed within the 5 km radius survey. As mentioned earlier, groundwater is used for irrigation along the Crocodile River, as indicated on Figure 1. The amount of groundwater abstracted from these boreholes is not known.

Water Hunters (2023) completed an assessment of the use of scavenger boreholes around the Amandelbult TSFs with the objective to assess the impact of abstracting groundwater to manage the movement of contaminated groundwater from the TSFs. The sustainable yields of the boreholes tested as part of this study are presented in Table 4. It is shown that the sustainable yields of boreholes around TSF 2 vary between 0.2 litres per second (L/s) and 21.5 L/s with a weighted average of 1.8 L/s. The distribution of the sustainable yields of boreholes located around TSF 2 is presented in

Figure 9. It is shown that boreholes with a higher yield are located down gradient of the RWD and Holding Dam. Boreholes tested south of the Amandelbult TSFs have yields ranging between 0.2 L/s and 0.57 L/s.

Unfortunately, borehole logs were not provided with the Water Hunters report. It is therefore not possible to confirm the geology or geological structures associated with higher groundwater occurrence in the vicinity of TSF 2. Groundwater strikes were recorded at depths of between 10 m and 13 m bgl in the boreholes tested at the TSFs. The available dataset suggests that no significant groundwater preferential flow paths are present immediately south of the Amandelbult TSFs. At the RWD and Holding Dam, the depth to groundwater strikes varies between 7.5 m and 27.5m below surface.

Table 4. Sustainable borehole yields around TSF 2

Borehole ID	Borehole depth (m)	Recommended sustainable yield (L/s)
RWDP1	30	5.27
RWDP2	25	1.17
RWDP4	30	0.83
RWDP5	30	5.87
RWDP8	25	1.08
36W	61	21.50
PIT05	66	6.13
HDP02	38	2.80
HDP05	25	2.44
HDP06	25	0.37
RWDP03	21	0.20
TSFP08	25	0.20
TSFP15	30	0.57
HDP04	27	2.60
PIT7A	40	10.00

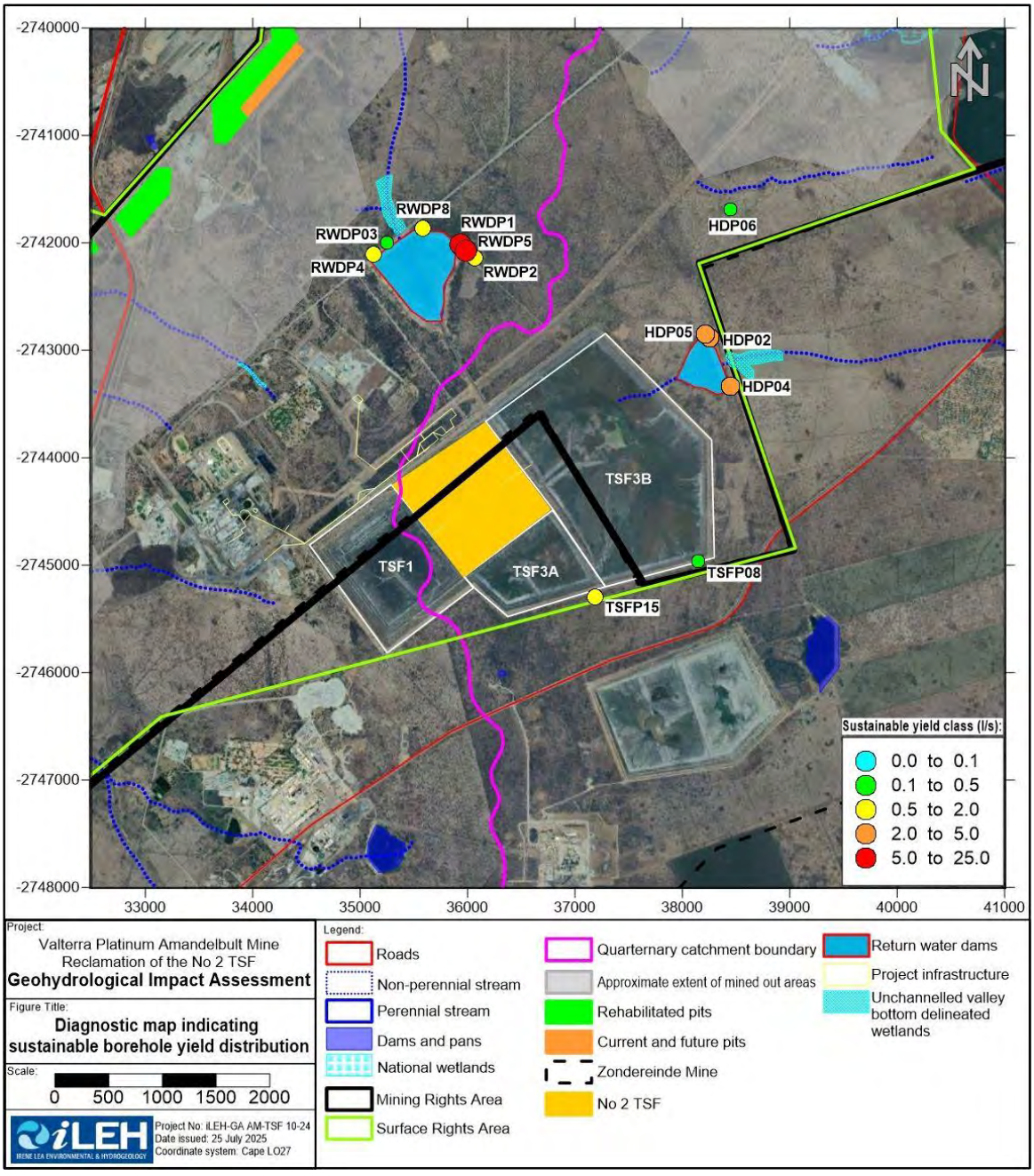

Figure 9. Distribution of sustainable yields in boreholes tested around TSF 2

7 PREVAILING GROUNDWATER CONDITIONS

7.1 UNSATURATED ZONE

The unsaturated zone will comprise of weathered anorthosite, which is typically a black clay-rich turf.

The vertical extent of the unsaturated zone varies depending on site conditions. The average depth to groundwater at the Amandelbult TSFs, based on the 2025 hydrocensus data, is 6.6 m as presented

in Table 5. The depth to groundwater in borehole EMPR08, located north of TSF 2 is 8.2 m. In this area the unsaturated zone is probably more than 6 m in depth.

Shallower groundwater level conditions prevail around the RWD and the Holding Dam, where the average depth to groundwater is 3.56 m and 1.36 m respectively. Here the unsaturated zone is thin.

In the new Plant area, the depth to groundwater is 9.24 m.

Information presented by Water Hunters (2023) suggests that the shallow weathered and fractured aquifers are dewatered north of TSF 2, in the vicinity of the opencast pits. Here the depth to groundwater is more than 40 m, which increases the unsaturated zone. It is unlikely that the impact of mine dewatering further north affects groundwater levels around the Amandelbult TSF, as confirmed by the comparatively shallow depth to groundwater in this area, as discussed above.

Table 5. Average depth to groundwater

Area	Average depth to groundwater (m)
Amandelbult TSFs	6,60
Holding Dam	1,36
Return Water Dam	3,56
New Plant area	9,24

7.2 SATURATED ZONE

Three aquifers are typically present in this region. The first is associated with the depth of weathering of the Upper Zone formations, which is variable across the site. Based on the available dataset, it is understood that the depth of weathering can be as deep as 40 m but is likely to be around 15 m to 20m on average. Deeper zones of weathering are associated with fault zones that extend to the near surface, like those associated with the Middelaagte graben. The shallow weathered aquifer is unconfined and recharged through the infiltration of rainwater. Shallow groundwater level data also suggests that this aquifer is recharged from the RWD and Holding Dam, which are both associated with non-perennial streams. This aquifer is also a receptor of infiltration of leachate from the Amandelbult TSFs. The rate at which this can take place is dependent on the water balance for the TSFs, which includes factors like rainfall, evaporation, interstitial storage, leachate collection and vertical seepage through the soils and unsaturated zone. Dormant TSFs like TSF 1 and TSF 2 are not likely to contribute significantly to the rate of seepage to the underlying weathered aquifer, as these start to dry out after tailings deposition ceases.

Information presented by Water Hunters (2023) suggests that the transition between weathered and fresh anorthosite forms a preferential flow path to groundwater. This is demonstrated by the depth to groundwater level strikes measured in boreholes drilled around the TSFs, RWD and Holding Dam, which is presented in Figure 10. It is shown that 75% of the water strikes intersected in the boreholes drilled, occurred at depths of between 5 m and 20 m. This is likely attributed to the fact that water infiltrating to the weathered aquifer is retarded vertically at the transition zone, as the aquifer permeability of the shallow weathered aquifer is higher than the underlying fractured rock aquifer. Aquifer permeability is discussed in more detail below.

Keep in mind that the boreholes drilled are shallow and therefore mostly target the shallow weathered aquifer. Only three of the boreholes drilled extended to depths greater than 40 m. As such the information presented in Figure 10 is not representative of both aquifers. The data is however valuable to characterise the shallow weathered aquifer, which is vulnerable to the vertical infiltration of potential contaminants in the project area.

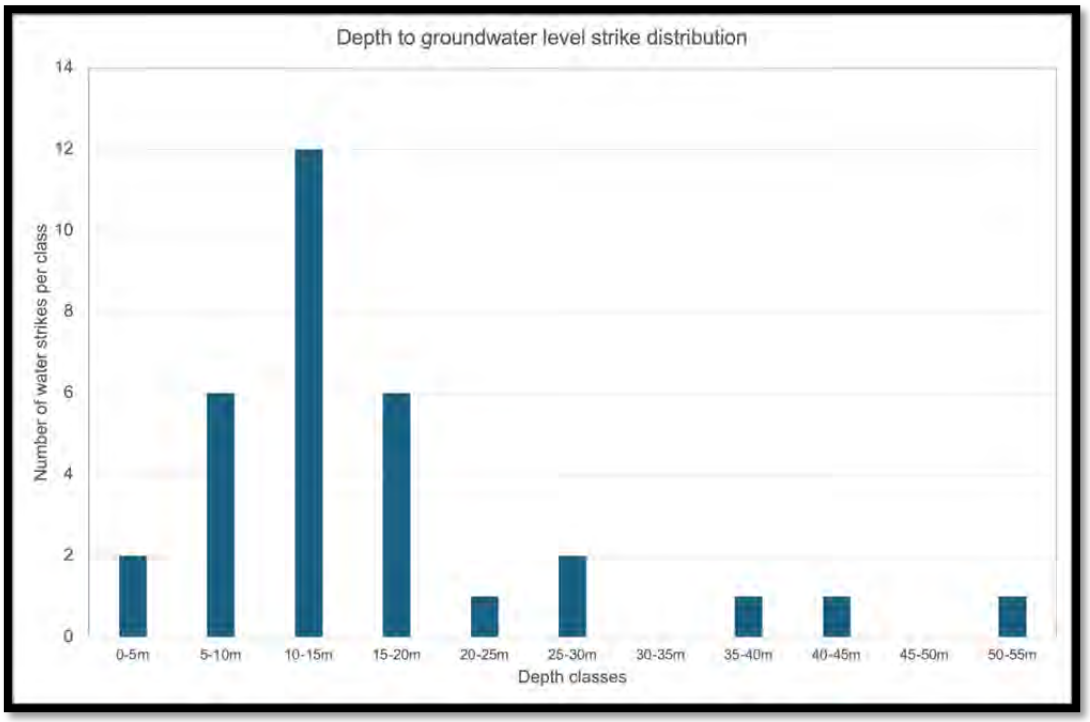

Figure 10. Depth to groundwater level strike distribution

The second is a fractured rock aquifer associated with fresh rock formations located deeper in the geological succession. These aquifers are heterogeneous with groundwater flow controlled by the presence of geological structures like faults, intrusions or contact zones. Very little groundwater flow takes place in the unfractured rock matrix. Groundwater in this aquifer originates from the infiltration of rainwater from the overlying weathered aquifer, but also from regional groundwater flow along faults, contact zones and know aquifer like the Transvaal age dolomite. It is further likely that groundwater occurrence will decrease with depth in this aquifer. The formations in the Rustenburg Layered Suite form the so-called Bushveld Aquifer. The Pretoria Group shale, quartzite and diabase that underlie the Bushveld Aquifer are unlikely to carry significant volumes of groundwater and are therefore considered an aquitard. The dolomite underlying the Pretoria Group sediments however form a significant regional aquifer, as mentioned. The depth to the Pretoria Group shale is approximately 2.3 km below surface as mentioned earlier and will therefore not play a role in groundwater flow associated with the shallow Upper Zone aquifers and therefore the Amandelbult TSFs.

There is a possibility that a fault zone associated with a graben structure transects the No 3A TSF footprint. These faults were mapped in the underground workings and it is unclear whether they extend to surface. Fieldwork completed by Water Hunters (2024) in this area does not suggest the

presence of a fault zone in the weathered and shallow fractured aquifers underlying the TSFs. This must however be confirmed through a dedicated fieldwork program. The Middelaagte graben sub-outcrops approximately 3 km northeast of TSF 2. The fault zones mentioned are associated with this graben. The underground workings do not currently extend to TSF 2. It is unlikely that dewatering at depths greater than 1300 m will impact on shallow groundwater levels due to the significant vertical separation between the two impacts.

A third aquifer is associated with alluvium deposited in the floodplain of the Crocodile River. The alluvial aquifer is used for commercial irrigation. Little information is available to characterise this aquifer from the available dataset. It is however not situated near the Amandelbult TSFs and is located more than 5 km east along the banks of the Crocodile River.

7.3 Aquifer Transmissivity and Hydraulic Conductivity

Information to characterise the aquifers underlying TSF 2 was sourced from the work completed by Water Hunters (2023). The study included aquifer testing around the RWD, Holding Dam and Amandelbult TSFs. Tests were also completed further north at the rehabilitated pits. In addition, Valterra made data available as part of a groundwater modelling project completed by WSP (2023b). The consolidated dataset is presented in Table 6.

The dataset indicates that the shallow weathered aquifer at the Amandelbult TSFs, RWD and Holding Dam has a transmissivity range of 27.4 to 144.1 m^2/d. The shallow weathered aquifer in the mining areas further north of the TSFs has a transmissivity range of 0.2 to 156.5 m^2/d. The datasets are comparable but indicates a level of heterogeneity in the aquifer. Similar variations in transmissivities are reported for the alluvial and the underlying fractured aquifers. As no borehole logs are available for the boreholes included in the dataset, the specific structures or weathering features associated with each value cannot be confirmed.

Storage coefficient data is available for the aquifers associated with the mining areas and the Crocodile River, but unfortunately not for the boreholes at the TSFs. The regional dataset will therefore be extrapolated to the TSFs.

Table 6. Available aquifer parameter dataset

BH ID /lithology	Transmissivity (m^2/d)	Hydraulic conductivity (m/d)	Storage coefficient (-)	Description
RWDP1	98,7			Shallow weathered aquifer at TSFs
RWDP2	27,4			
RWDP4	31,8			
RWDP5	144,1			
RWDP8	28,4			
36W	1400			Deep aquifer/underground workings
PIT05	1400			Rehabilitated pit
EMPR 09	42	1,4	1,00E-05	Fractured aquifer in mining areas
EMPR 10	5,5	0,2	2,00E-07	
EMPR 1	0,15	0,003	2,00E-07	
EMPR 4	0,2	0,004	2,00E-07	
TBH03	61,3		3,78E-01	
TBH04	156,5		5,60E-03	
TBH01	9,4		1,30E-03	Crocodile River alluvium
TBH02	252,6		1,19E-01	
TBH05	46,2		7,85E-02	
LS09	18,7		7,31E-01	
Norite	15		1,00E-03	Deeper fractured aquifer in mining areas
Dolerite dyke	1		1,00E-02	
Fault zone	200		1,00E-01	
Underground	1000		6,00E-01	

7.4 Groundwater Levels

Two groundwater level datasets were available for consideration as part of this assessment, namely the 2025 hydrocensus and the 2023 Water Hunters information. The data is presented in Table 7.

Analysis of the dataset show three groundwater level trends. The first is the estimated natural or ambient groundwater level trend, which has a good correlation (86%) with topographical elevation, as indicated in Figure 11. This means that groundwater levels generally follow the topography and drains towards the rivers and streams. The average depth to groundwater in this trend group is 5.7m below surface.

Groundwater levels around the RWD are elevated above the natural trend because of recharge from the dam to the shallow weathered aquifer. The average depth to groundwater in this area is 0.58 m, which is on average 5.1 m higher than natural trends.

Groundwater levels around the pits and underground workings have been lowered because of dewatering. The average depth to groundwater in this area is 41.4 m. This means that groundwater levels have been lowered by 35.7 m due to the impact of dewatering.

Table 7. Groundwater level dataset

Borehole ID	Depth to groundwater (m)	Groundwater elevation (mamsl)	Borehole depth (m)	Source
EMPR 04	6,49	951,86		2025 hydrocensus
EMPR 05	6,83	968,60		
EMPR 07	3,15	962,29		
EMPR 08	8,15	961,11		
EMPR 15	7,40	962,41	30	
EMPR 19	4,93	959,50		
MB16-3	0,89	961,77		
MB16-4	0,87	952,11		
MB16-5	1,84	948,01		
RWD P02	3,05	961,31	25	
RWD P03	0,52	960,91	21	
Scav 1	6,17	957,50		
WB01	9,56	960,34		
WM07	9,78	957,54	33	
WM08	11,98	945,18		
36W	46,63	932,37	61	Water Hunters (2023)
HDP02	3,82	948,18	35	
HDP04	3,03	948,97	25	
HDP05	3,91	949,09	25	
HDP06	7,13	949,87	26	
PIT05	45,29	909,71		
PIT7A	32,28	899,72	40	
RWDP01	1,85	963,15	30	
RWDP02	3,37	963,63	25	
RWDP03	0,69	964,31		
RWDP04	2,90	960,10	30	
RWDP05	2,50	963,50	30	
RWDP08	0,00	963,00		
TSFP08	6,92	962,08	25	
TSFP15	8,26	964,74	30	

Groundwater flow contour and vectors were generated with the available dataset and is presented in Figure 12. The flow contours indicate the following:

- Groundwater flow is controlled by the position of the quaternary catchment divide. Flow from TSF 2 is in a north-easterly direction towards the Crocodile River. The groundwater flow gradient in this area is lower compared to other areas due to the impact of the water divide. Over the TSF 2 footprint area, the groundwater flow gradient is 0.004 (1:250).
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- Groundwater flow underneath the TSF 3A and TSF 3B is also in a north-easterly direction towards the Crocodile River at a similar gradient.
- The flow from TSF 1 is likely to be predominantly in a north-westerly direction towards the Bierspruit. Flow patterns in this area seem radial, which normally suggests active

recharge, but this is not the case at TSF 1 as the radial flow is attributed to the position of the water divide along the quaternary catchment boundary.

- A strong radial flow has developed around the RWD due to infiltration of water from the dam to the shallow weathered aquifer. As discussed above, groundwater levels around the dam is on average 0.58 m below surface and at least 5 m above regional trends. In this area, the groundwater flow gradient has increased to 0.02 (1:50).
- Groundwater flow in the area north of the TSFs is impacted by dewatering with flow in a northerly to north-westerly direction towards the pits and underground workings. The flow gradient is also increased in this area to similar conditions as reported at the RWD.

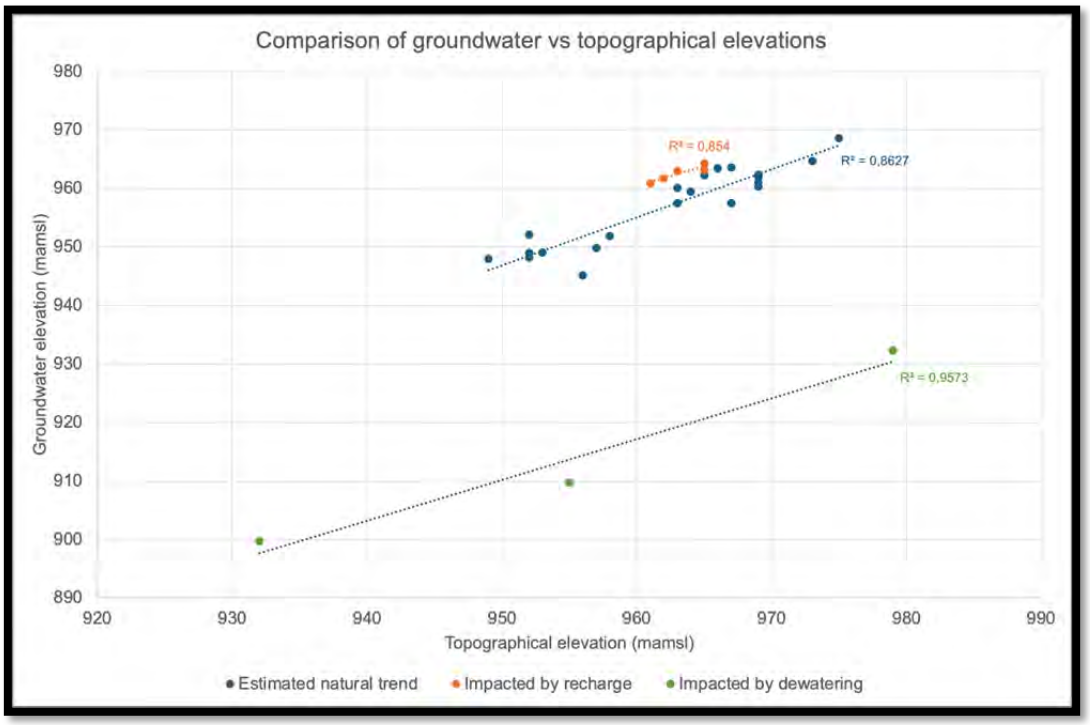

Figure 11. Comparison of groundwater and topographical elevations

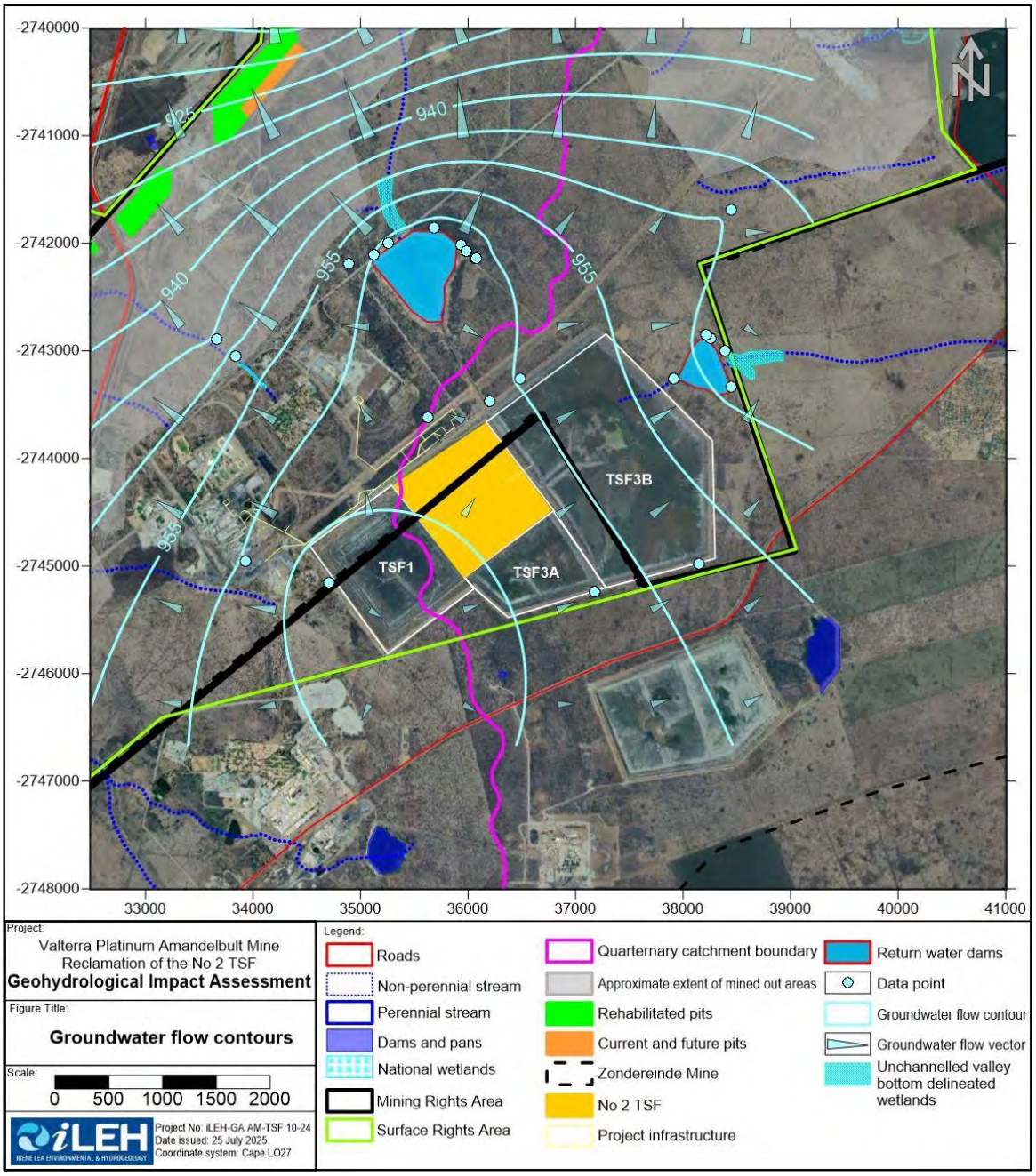

Figure 12. Groundwater flow contours in shallow boreholes

7.5 GROUNDWATER POTENTIAL CONTAMINANTS

The water quality data obtained from the 2025 hydrocensus was used to identify the indicator elements for the TSF 2 reclamation process. The dataset indicates that chloride and sulphate are the dominant major ions and iron and manganese the dominant metals, as indicated in Figure 13.

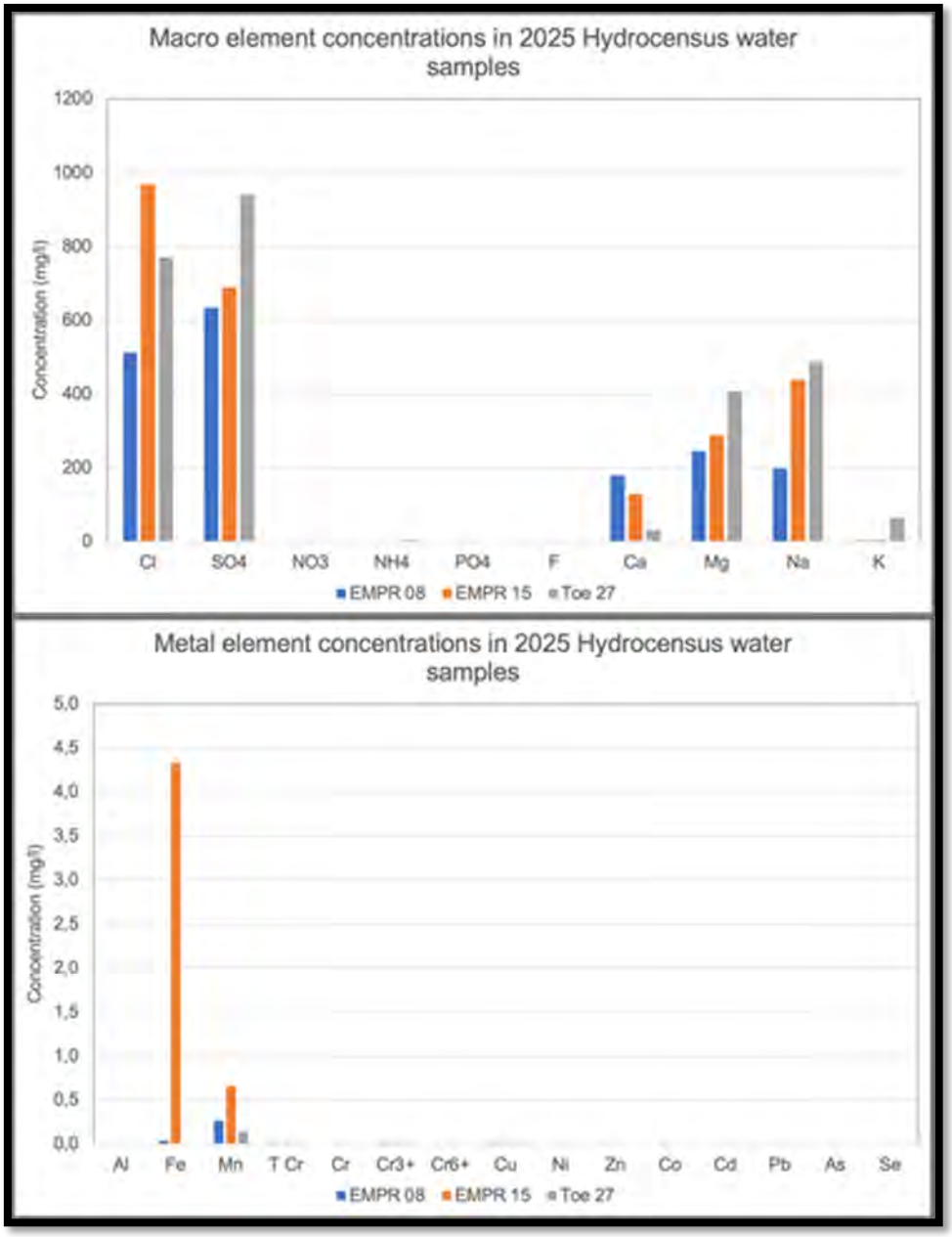

Figure 13. Elemental analysis of 2025 Hydrocensus water quality data

In addition, the groundwater and surface water monitoring data made available by Valterra for this project was analysed to confirm the trends form the hydrocensus (Aquatico, 2023 – 2024 and Shanko Projects 2024 – 2025). Monitoring information for the RWD (AMD J) and Holding Dam (AMD U) suggests that iron, cadmium and total chrome concentrations are also elevated in the water draining from the Amandelbult TSFs. The information analysed is presented in Appendix C and summarised below.

The potential sources to groundwater contamination that will be assessed as part of this report include the Amandelbult TSFs and the dirty water dams (RWD and Holding Dam).

The geochemical assessment completed for the mine (WSP, 2023) included ore, overburden material and waste rock. Tailings was not analysed. For this reason, the source term to be used in this assessment will be based on water quality data. Water draining from the TSFs is contained in the RWD and Holding Dams which will be used to characterise the impact of tailings deposition on groundwater quality.

The averaged dataset used to complete the assessment is presented in Table 8. Averages were calculated from the information presented in Appendix C.

Table 8. Average water quality data used for source term development

Element	WUL condition (mg/L)	Source (mg/L)			Groundwater monitoring position (mg/L)			
		RWD (AMD J)	Holding Dam (AMD U)	TSF2 Toe Drain (Toe 27)	Borehole EMPR05	Borehole EMPR08	Borehole EMPR15	Borehole MBH16-04
SO_4	<500	624	626	941	3362	308	381	564
Cl	<300	557	539	770	797	518	758	744
Al	<0,5	0,612	1,977	0,002	0,049	0,011	0,007	0,012
Mn	<0,1	1,022	0,123	0,143	0,423	0,199	0,268	0,125
Fe	<0,3	0,053	0,488	0,004	0,0004	0,008	3,648	0,005
Cd	<0,01	0,134	0,145	0,002	0,005	0,002	0,002	0,003
Total Cr	<0,05	0,158	0,048	0,003	0,001	0,003	0,003	0,003

The following is concluded from the dataset evaluated:

- Sulphate will be considered as one of the indicator elements. The sample taken from the TSF 2 toe drain (Toe 27) indicate that the water draining from the TSF has higher sulphate concentrations compared to chloride. The sulphate originates from the oxidation of sulphide minerals exposed during mining. Sulphate is also present in concentrations above the WUL condition of 500 mg/L in the RWD and Holding Dam. In addition, elevated sulphate concentrations are recorded in some of the boreholes around the TSFs, especially EMPR05 located down gradient of TSF 1 and MBH16-04 located down gradient of TSF 3B.
- The spatial distribution of sulphate in groundwater and the TSF2 toe drain is presented in Figure 14. This map was generated from the 2025 hydrocensus data and the latest available Valterra monitoring data. It is shown, boreholes around the TSFs have elevated sulphate concentrations compared to those in the plant area and down gradient of the RWD and Holding Dam. Of specific interest is that sulphate concentrations down gradient of the dormant TSFs are higher compared to the active TSF. This suggests and element of oxidation in the older tailings material. Sulphate concentrations down gradient of the RWD and Holding Dam are within the WUL condition based on the latest dataset.
- The second indicator element that will be considered is iron. Iron is also associated with the oxidation of sulphide minerals, for example pyrite. Although elevated manganese concentrations are also reported in groundwater, it is more likely that manganese is naturally occurring in the rock formations of the Upper Zone and therefore not necessarily

an indicator element of the tailings material. Significantly elevated iron concentrations are reported in EMPR15, situated down gradient of TSF 2 and TSF 3A. The Holding Dam is also a source of iron, but to a lesser extent. Average iron concentrations in the RWD are below the WUL condition. The comparatively low iron concentrations in the dirty water dams are attributed to neutral pH conditions.

- The spatial distribution of iron around the TSFs is presented in Figure 15. The map was generated on the same principle as that for sulphate. The map indicates that iron concentrations exceeding the WUL condition of 0.3 mg/L were recorded downgradient of TSF 3A and to some extent TSF 2. Groundwater downgradient of the RWD is also elevated. It is noted that iron concentrations in the TSF 2 toe drain sample were below the laboratory detection limits. This is a surprising outcome and should be confirmed through continued monitoring, as discussed later in this report.
- It is noted that elevated iron concentrations are also present in the Holding Dam and in groundwater downgradient of TSF 1.
- Elevated cadmium (Cd) and total chromium (Total Cr) concentrations were also recorded in the RWD and Holding Dam. The results indicate that the TSF2 toe drain and groundwater around the TSFs fortunately do not have elevated Cd and Total Cr concentrations. For this reason, these elements will not be used as indicator elements in this assessment. The presence of elevated Cd and Total Cr in the dirty water dams is however flagged and should be carefully monitored to establish trends and avoid health risks.

7.6 Groundwater Quality

It is noted that significantly elevated metal concentrations, specifically cadmium and total chromium are reported in the monitoring reports for July and August 2024 (Shanko Projects, 2024). A detailed assessment of this, undertaken as part of this report indicated that the laboratory reported metal concentrations in ug/L, which were erroneously indicated as mg/L in the monitoring reports. This was corrected in the dataset used in this report (see Appendix C).

It is also noted that significantly elevated nitrate concentrations are recorded in the mine water quality. Although nitrate was considered in this assessment, the results of the 2025 hydrocensus groundwater quality for the TSF 2 reclamation project does not indicate elevated nitrate concentrations in the toe drain or groundwater down gradient of TSF 2.

7.7 Monitoring Boreholes

Several monitoring boreholes are located around the Amandelbult TSFs, the RWD and the Holding Dam. The locations of these boreholes are indicated on Figure 8. Some of these boreholes were evaluated during the 2025 hydrocensus, completed as part of this assessment. These are listed in Table 1. Data obtained during the hydrocensus as well as information received from Valterra will be considered in this assessment.

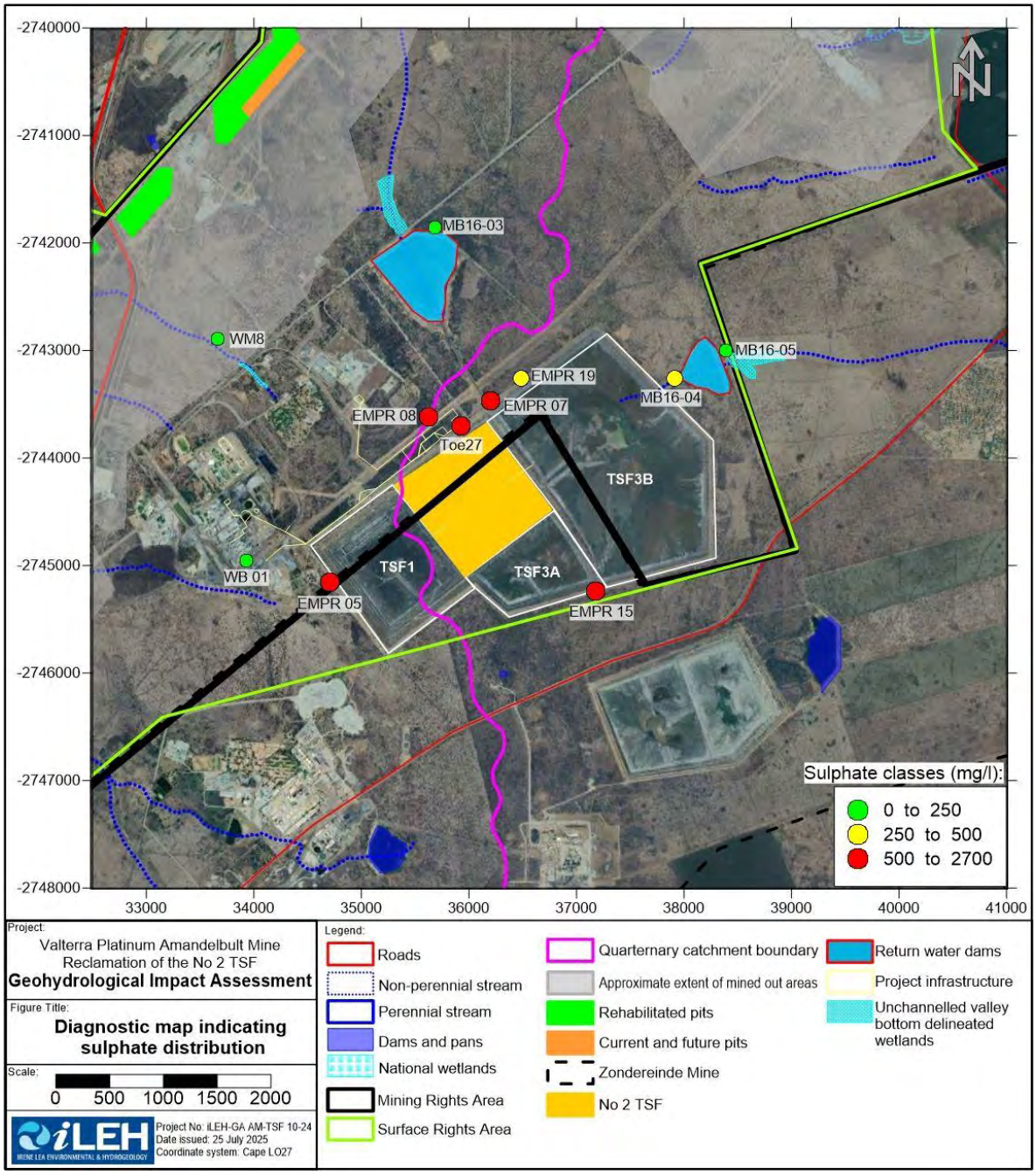

Figure 14. Diagnostic map indicating sulphate distribution

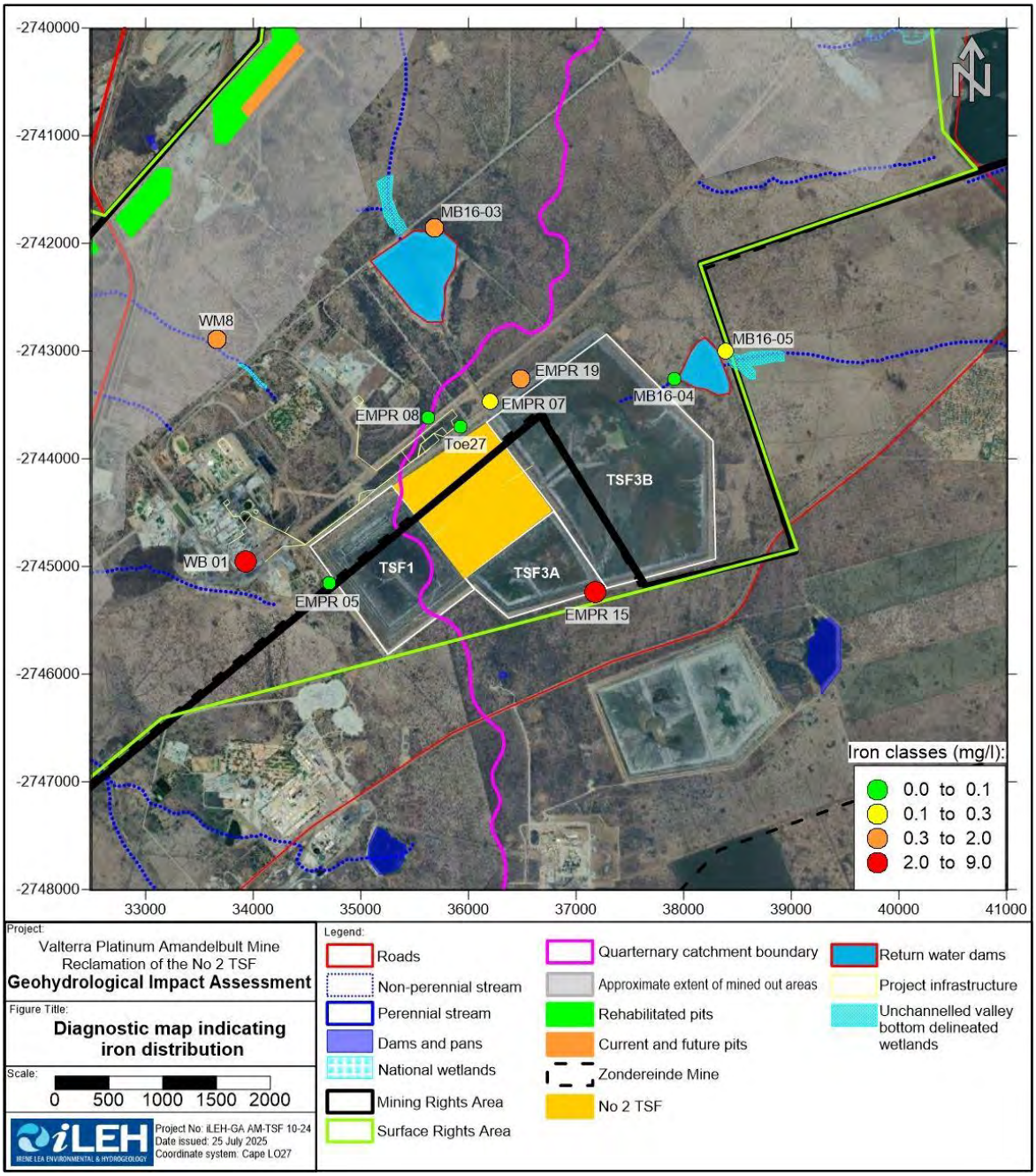

Figure 15. Diagnostic map indicating iron distribution

7.8 Acid Generation Capacity

A geochemical study was completed as part of a project that evaluated the future of the Amandelbult Underground Mine Project (WSP, 2023a). This project did not include analysis of tailings material, but focussed on the geochemical characteristics of the ore, hanging wall and footwall lithologies. By inference the outcome of the geochemical analysis on the ore, hanging wall and footwall samples were used to provide an indication of the acid generating capacity of the tailings material on TSF 2.

The study concluded that the rock samples taken were dominated by silicate minerals and chromite. Sulphide and carbonate minerals were present at concentrations below the detection limit (1%), in the samples taken.

The total sulphur content of the samples varied between 0.021 and 0.38%, with a median of 0.057%. The total sulphur-based acid potential varied between 0.64 and 16 kg $CaCO_3$, with a median of 1.8 kg $CaCO_3$. The sulphide-based acid potential was low, ranging between 0.19 and 5.3kg $CaCO_3$.

The bulk neutralising potential was low to moderate, and the carbonate-based neutralising potential was lower than the bulk neutralising potential. This suggests that the neutralisation is attributed to silicates and to a lesser extent to carbonates. In addition, the paste pH of the samples was alkaline, which indicates that sufficient reactive neutralising potential is present to buffer acidity generated by the initial oxidation of sulphides during the tests.

The risk of acid generating capacity was assessed based on total sulphur, paste pH and the calculated total neutralising potential ratio. The results indicate that the Merensky Reef workings and one of the UG2 Reef workings samples were classified as potentially acid generating. All the other samples from the UG2 Reef workings were not potentially acid generating. The nett acid generating pH and total neutralising potential ratio of the samples yielded a non-potential acid generating signature, apart from one UG2 Reef sample, which was classified as having uncertain acid rock drainage potential.

Since the tailings on TSF 2 originated from the Merensky and the UG2 Concentrator Plants, the tailings could potentially be acid generating. It is however noted that a water sample taken from a toe drain at TSF 2, as part of the 2025 hydrocensus had a pH of 8.44 (Toe 27). This is discussed in more detail below. The risk of acidification of the tailings material will however be considered in the groundwater management plan presented later in this report.

Deionized water leach test results indicate that the underground mine water is likely to be neutral mine drainage with low concentrations of total dissolved solids and metals, in the short-term.

Nett acid generating leach test results indicate that complete oxidation of the samples is likely to produce neutral to acidic drainage, with low TDS and metal concentrations.

In addition to the geochemical tests, an evaluation of the shaft discharge water chemistry was also completed as part of the WSP 2023 study. The data indicates that water from both Dishaba and Tumela shafts is generally alkaline with variable TDS concentrations. The dominant salts include chloride, sodium and sulphate. Elevated concentrations of nitrate and copper were recorded.

WSP also completed a waste rock geochemical assessment in 2017. The waste rock mineralogy is dominated by plagioclase and enstatite, with low sulphur content (0.017 to 0.069%) and a very low acid potential. The waste rock was classified as potentially non-acid generating based on sulphur content and neutralisation potential ratio. The samples had limited metal and semi-metal leachability due to near-neutral to mildly alkaline pH conditions. Elevated sodium and aluminium were reported in leachate tests on the samples.

8 AQUIFER CHARACTERISATION AND VULNERABILITY

Based on aquifer classification methodology and regions published in the Aquifer Classification Map Series of South Africa (DWS, 2012), the weathered and fractured Bushveld aquifers present at Amandelbult are minor with moderate yields and variable quality. The aquifers fall in a moderately vulnerable category, which means they are vulnerable to some pollutants when these are continuously discharged or leached. Overall, the weathered and fractured Bushveld aquifers present are ranked with a medium susceptibility to the impacts of pollutants. Based on the information above, as well as the methodology described by Parsons (1995), the Bushveld Aquifer protection classification is rated as medium.

It is however noted that the alluvial aquifer associated with the floodplain of the Crocodile River is ranked as a major aquifer that is most vulnerable, especially to potential pollutants. The aquifer is regionally used for groundwater abstraction which is used for commercial irrigation farming. This aquifer is not present underneath the Amandelbult TSFs and is situated more than 5 km east and northeast of TSF 2. The alluvial is identified as a sensitive receptor for contamination associated with the project. Potential impacts are discussed below.

9 CONCEPTUAL MODEL

The conceptual model for the project is based on the available dataset discussed in this report. The cross section presented in Figure 5 provides an overview of the conceptual groundwater model.

Since the Amandelbult TSFs, as well as the RWD and Holding Dam are potential surface sources of contamination to the aquifers present, only the weathered and fractured aquifers in the Upper Zone will be considered in this assessment.

The Amandelbult TSFs are not undermined, and groundwater level information suggests that the cone of depression around the pits and shallow underground workings further north do not extend to the TSFs. While the TSFs may be undermined in future, the depth of mining will be greater than 1300 m below surface. Mining at greater depths is not expected to impact on shallow groundwater levels around the TSFs, even with undermining, due to the significant vertical separation between the TSFs on surface and the underground workings. For this reason, deeper impacts on aquifers associated with underground mining will not be considered in this assessment. Groundwater level monitoring is however proposed later in this report. If the proposed monitoring program indicates a lowering in groundwater levels because of deep undermining in this area, the impact assessment presented should be re-assessed. It must however be borne in mind that any potential cone of depression in shallow groundwater levels because of deep mine dewatering will control the spread of contamination from the TSFs as groundwater flow will be reversed towards the zone of impact for an extended period.

The existing groundwater monitoring boreholes situated around the TSF and dirty water dams target the shallow Upper Zone aquifers. The borehole depths vary between 20 m and 66 m with a mean depth of 29 m. Only three boreholes extend to depths greater than 40 m. The available dataset therefore represents aquifer conditions in the upper 70 m of the geological succession.

The depth of weathering controls the occurrence of groundwater to a large extent. This is supported by the fact that the 75% of groundwater strikes recorded by Water Hunters (2023) were encountered at depths of 5 m to 20 m below surface, which is most likely associated with the transition between weathered and fresh rock formations. Vertical infiltration of groundwater at the limit of weathering is retarded due to lower permeabilities in the underlying fractured aquifer compared to the shallow weathered aquifer. As such, the base of the weathered zone is considered a preferential flow path to groundwater in this assessment.

Based on the information discussed above, the conceptual model consists of three aquifers:

- Underneath TSF 2, two aquifers are present in the Upper Zone, namely a shallow weathered and an underlying fractured rock aquifer.
- The third aquifer is formed in the alluvium of the Crocodile River floodplain but does not underlie TSF 2. Groundwater levels in monitoring boreholes drilled into the alluvium (TBH-series) indicate an average water table depth of 5,5 m in the alluvium.
- The upper unconfined, weathered aquifer has an estimated average thickness of 20 m but is known to vary by between 3 m and 40 m. This aquifer is unconfined and recharged through rainfall.
- The underlying semi-confined fractured rock aquifer is formed by fractures and faults in the anorthosite and pyroxenite of the Upper Zone. The fractured rock aquifer is hydraulically connected to the weathered aquifer and will be recharged with rainwater from the weathered aquifer. The vertical movement of groundwater between the two aquifers is however expected to be at least and order of magnitude lower compared to horizontal flow rates. This assessment will consider the fractured aquifer to a depth of 100 m below surface, which corresponds with the dataset.
- Known fault zones are included as discrete zones. The only faults considered in this assessment are those that have formed the Middelaagte graben. These faults do not underlie TSF 2 or the other AMB TSFs.

The conceptual aquifer parameters, based on the available dataset are presented in Table 9. The hydraulic conductivities were calculated from the transmissivities and the saturated thickness for each aquifer.

The parameters presented in Table 9 will be systematically adjusted during model calibration to obtain an optimal match between measured and simulated groundwater levels. This process is discussed below.

Table 9. Conceptual aquifer parameter dataset

Aquifer description	Range	Transmissivity range (m^2/d)	Calculated hydraulic conductivity range (m/d)	Storage coefficient range (-)	Rate of recharge (% of MAP)
Shallow weathered Upper Zone aquifer	Minimum	27	2,5	1E-4*	2,5*
	Maximum	144	13,1	1E-2*	
	Mean	51	4,7	1E-3*	
Underlying fractured Upper Zone aquifer	Minimum	0,2	0,002	2,0E-07	-
	Maximum	42	0,689	1,0E-05	
	Mean	2	0,027	5,3E-07	
Alluvial aquifer	Minimum	9	0,6	1,3E-03	5*
	Maximum	253	17,4	7,3E-01	
	Mean	38	2,6	5,5E-02	
Fault zones	One data point	200	3,3	1,00E-01	-

* *Assumed parameter value*

10 GROUNDWATER SOURCES AND SINKS

The conceptual source term used during the impact prediction simulations is presented in Table 10, in terms of sulphate and iron concentrations. The information discussed above as well as that presented in Appendix C was considered. As there is some uncertainty in the quality of leachate that could drain from the tailings material, which is inferred from groundwater and dirty water monitoring data, the conceptual source term is mainly based on the maximum concentrations of indicator elements presented in Appendix C. This is in line with the provisions of the Precautionary Principle. The impact assessment presented in this report therefore tends towards a worst-case scenario.

The information suggests that not all components that could impact on groundwater quality are potential sources of sulphate and iron. It is however good practice to evaluate impacts both in terms of a macro element and a metal, as these will behave differently in the source areas and in the aquifers.

Table 10. Conceptual source term

Conceptual Source Term		Sulphate (mg/L)	Iron (mg/L)
Potential Source	Plant PCD1 and 2	1000	1
	TSF1	2000	1
	TSF2	1000	1
	TSF3A	1000	5
	TSF3B	1000	1
	RWD	1000	1
	Holding Dam	1000	5

11 PATHWAYS AND RECEPTORS

The source-pathway-receptor conceptualisation for the project is presented in Table 11.

Table 11. Conceptual source-pathway-receptor analysis

Sources	Conceptual pathways	Possible receptors
Plant PCD1 and 2	• Seepage from the source area. • Vertical movement through the unsaturated zone. • Vertical and horizontal flow in the weathered aquifer. • Horizontal and vertical flow along the limit of weathering (preferential flow path). • Flow along fractures, faults and contact zones in the fractured aquifer. • Groundwater flow in the rock matrix, but at significantly lower rates.	Shallow weathered aquifer. Underlying fractured rock aquifer. Bierspruit and its wetlands.
TSF 1		Shallow weathered aquifer. Underlying fractured rock aquifer. Western non-perennial stream. Bierspruit and its wetlands. Aquifers under TSF 2, TSF 3A and TSF 3B. Monitoring boreholes EMPR05 and WB01.
TSF 2		Shallow weathered aquifer. Underlying fractured rock aquifer. The alluvial aquifer, Crocodile River, and its wetlands. Aquifers under TSF 2, TSF 3A and TSF 3B. Monitoring boreholes EMPR08 and EMPR07.
TSF 3A		Shallow weathered aquifer. Underlying fractured rock aquifer. The alluvial aquifer, Crocodile River, and its wetlands. Aquifers under TSF 3B. Aquifers under the Holding Dam. Monitoring borehole EMPR15.
TSF 3B		Shallow weathered aquifer. Underlying fractured rock aquifer. Eastern non-perennial stream. The alluvial aquifer, Crocodile River, and its wetlands. Aquifers under the Holding Dam. Monitoring boreholes EMPR19, MB16-4. Scavenger boreholes TSFP4A, TSFP4, TSFP3, TSFP5, TSFP9, TSFP08.
RWD		Shallow weathered aquifer. Underlying fractured rock aquifer. Northern non-perennial stream. Bierspruit and its wetlands. Monitoring boreholes WM7, MB16-3. Scavenger boreholes RWDP3, RWDP4, RWDP8, RWDP1, RWDP5, PWDP2.
Holding Dam		Shallow weathered aquifer. Underlying fractured rock aquifer. Eastern non-perennial stream. The alluvial aquifer, Crocodile River, and its wetlands. Monitoring borehole MB16-5. Scavenger boreholes HDP03, HDP02, HDP05, HDP01, HDP04.

12 KEY ASSUMPTIONS AND LITERATURE-BASED DATA INPUTS

The numerical modelling is based on the following assumptions:

- Aquifer parameters were inferred from the existing dataset as discussed above and presented in Table 9. Aquifer transmissivity and hydraulic conductivity information is based on field data. Aquifer storage coefficients are partially based on field data. Assumed values will be used to characterise the specific yield of the shallow weathered aquifer as well as the rate of recharge.
- Although faults and geological structures were intersected in the underground workings north of TSF 2, there is currently no information available that suggests that any of these extend to surface or to underneath the Amandelbult TSFs. This is of specific reference to the fault zones associated with the Middelaagte graben that extends to the TSF3A footprint. There is currently also no field measured data that suggests enhanced aquifer conditions for the projected faults positions. For the purpose of this assessment, it is therefore assumed that no significant faults or intrusions are present underneath the TSFs, that could act as preferential flow paths to groundwater. Only the faults associated with the Middelaagte graben are considered in this study. These are located northeast of TSF 2 and do not transect the TSF2 footprint area. It is however recommended that the hydraulic characteristics of the fault zones associated with the Middelaagte graben are investigated and confirmed.
- It is assumed that current underground and opencast mining activities will not affect groundwater levels during the reclamation of TSF 2. The current dataset suggests that the zone of impact on groundwater levels, because of mining, does not extend to the Amandelbult TSFs. It is further assumed that future mining activities that will move towards the TSFs will also not affect groundwater levels since the depth of mining will exceed 1300 m below surface. This is due to the vertical separation between the shallow aquifers underneath the TSFs and the underground workings.
- The source characterisation used for the project was inferred from the existing dataset. The values that will be assigned during simulations are presented in Table 10. As leach test data was not made available for the tailings material, the source term was inferred from the groundwater and dirty water monitoring dataset. The Precautionary Principle was followed in the absence of specific geochemical information, as discussed above.
- Only advective transport of contaminants was simulated. Assumptions made regarding advection, are discussed below. While it is acknowledged that attenuation will take place in the soils, there is currently insufficient information available to quantify the extent to which this takes place. As such, simulations are based on the Precautionary Principle and take the worst-case scenario into consideration.
- The plan-view extent of the numerical model is based on natural groundwater barriers including water divides, as well as rivers and streams. It is assumed that the vertical extent of potential impacts associated with the TSF will not extend deeper than 100 m below surface.

13 GROUNDWATER MODELLING

13.1 SOFTWARE USED

The numerical modelling was undertaken according to accepted industry principles and standards, including the Department of Water and Sanitation's Best Practice Guideline for Impact Prediction (DWAF, 2008).

The numerical model for the project was constructed using MODFLOW and MT3DMS. MODFLOW is a modular three-dimensional groundwater flow model and MT3DMS a modular three-dimensional solute transport model published by the United States Geological Survey. MODFLOW and MT3DMS use 3D finite difference discretization and flow codes to solve the governing equations. MODFLOW and MT3DMS is a widely used simulation code, which is well documented. MODFLOW is used to simulate groundwater flow rate and direction. MT3DMS is superimposed on the MODFLOW simulation results and is used to predict the rate and direction of contaminant movement in the aquifers.

13.2 MODEL SET-UP, BOUNDARIES AND GEOMETRIC STRUCTURE

The model area was refined into block cells, with a finer grid around the areas of interest, as indicated on Figure 16. The finer grid allows for more detailed simulations around the areas of interest. Towards the model boundaries and away from the area of interest, the model grid size is increased.

The point where the perennial rivers exit the model in the north was simulated as specified head (Dirichlet) boundaries. Boundaries that are formed by rivers and streams are simulated as head dependent (Cauchy) boundaries. The rest of the model boundaries were included as specified flux (Neumann) boundaries.

Perennial rivers and streams inside the model boundary were simulated nodes that allow the simulation of flow between the aquifers and a surface water body.

All units used during simulations were presented in meters (length) and days (time).

13.3 MODEL DATA INTEGRATION INCLUDING GROUNDWATER ELEVATION AND GRADIENT

The conceptual model discussed above was used to construct the numerical model for the project area. The conceptual aquifer parameters used are presented in Table 9. These were gradually adjusted during calibration, as discussed below.

The topographical surface was interpolated from the Digital Elevation Model (DEM) (i.e. the surface topography) and incorporated into the model to ensure that the elevations used to simulate the streams reflect the site conditions. Since there is a strong correlation between groundwater and topographical elevations in boreholes not affected by dewatering or recharge from the RWD, the initial groundwater levels were kriged from the DEM. These changed during the calibration process with the adjustment of aquifer parameters until an acceptable fit could be obtained between measured and calibrated groundwater levels.

The geology included in the model was inferred from the data presented in Figure 6 and included as discrete zones.

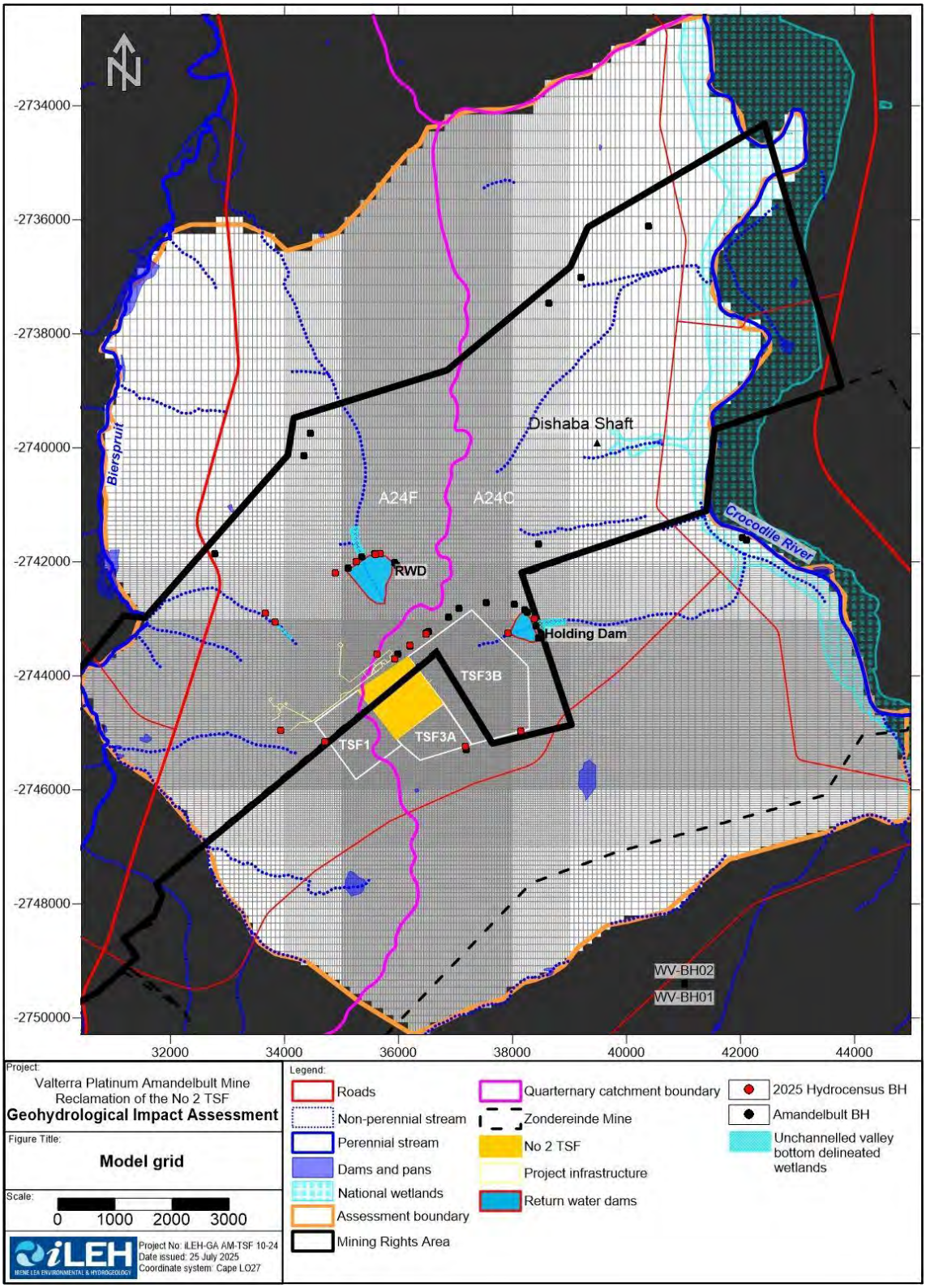

Figure 16. Model grid

13.4 NUMERICAL MODEL

13.4.1 CALIBRATION RESULTS

Calibration of a numerical model refers to the demonstration that the model is capable of reproducing field-measured data, which are the calibration values. Calibration is achieved when a set of parameters, boundary conditions, source terms and stresses are found that produce simulated heads and concentrations that match field-measured data within the calibration criteria set for the project. This is an important step in the modelling project, which ensures that model results are reliable. The calibration criteria set for the project are presented in Table 12.

Table 12. Flow model calibration criteria

Requirement	Acceptability criteria	Compliance
Model convergence	Maximum change in head of 0,001 m	Complied with (see discussion below)
Water balance	Difference between inflow and outflow <1%	Complied with (see discussion below)
Root Mean Square Error	<5 m for targets	Complied with (see discussion below)
Calibration error	80% of targets with <5 m error between simulated and measured head	Complied with (see discussion below)

Model calibration was undertaken with field-measured groundwater levels from the 2025 hydrocensus and was augmented with groundwater level data reported by Water Hunters (2023). The Water Hunters dataset was assigned a low weight during the calibration process, as it originates from a different time compared to the 2025 data. There is still value in using the 2023 water level measurements as the information is comparable to the 2025 data and it provides additional observation points which increases confidence. Both steady state and transient calibration was completed. The results of the calibration process are presented in Table 13 and Figure 17. It is shown that 83% of the residuals are within the 5 m error set as a calibration criterion. The Root Mean Square Error of the residuals is 2,97 which complies with the calibration criteria. The sum of the residuals is -42 m, which indicates that the model slightly underestimates groundwater levels. This is mainly because groundwater levels are significantly elevated above regional trends around the RWD and the Holding Dam. The model underestimates groundwater levels by 1 m to 2 m in these areas. These differences are however within the calibration target of 5 m.

The model convergence of 0,001m was achieved during calibration. The water balance error for the model is 0.0003%, which also complies with the model calibration criteria. Based on the outcome of the assessment, it is concluded that the model calibration is sufficient to enable simulations to complete the groundwater impact assessment for this project.

Table 13. Calibration results

Calibration point	Simulated head (mamsl)	Measured head (mamsl)	Residual (m)
EMPR4	952,061	951,86	0,20
EMPR5	968,825	968,60	0,23
EMPR7	962,730	962,29	0,44
EMPR8	958,171	961,11	-2,94
EMPR15	957,835	962,41	-4,58
EMPR19	956,018	959,50	-3,48
MB16-3	958,309	961,77	-3,46
MB16-4	950,872	952,11	-1,24
MB16-5	948,190	948,01	0,18
RWDP2	956,057	961,31	-5,25
RWDP3	956,290	960,91	-4,62
SCAV1	954,806	957,50	-2,69
WB1	954,801	960,34	-5,54
WM7	952,997	957,54	-4,54
WM8	951,472	945,18	6,29
RWDP1	962,589	963,15	-0,56
RWDP2	963,031	963,63	-0,60
RWDP4	958,593	960,10	-1,51
RWDP5	958,047	963,50	-5,45
HDP2	948,888	948,18	0,71
HDP5	949,097	949,09	0,01
HDP6	946,248	949,87	-3,62
HDP4	948,773	948,97	-0,20

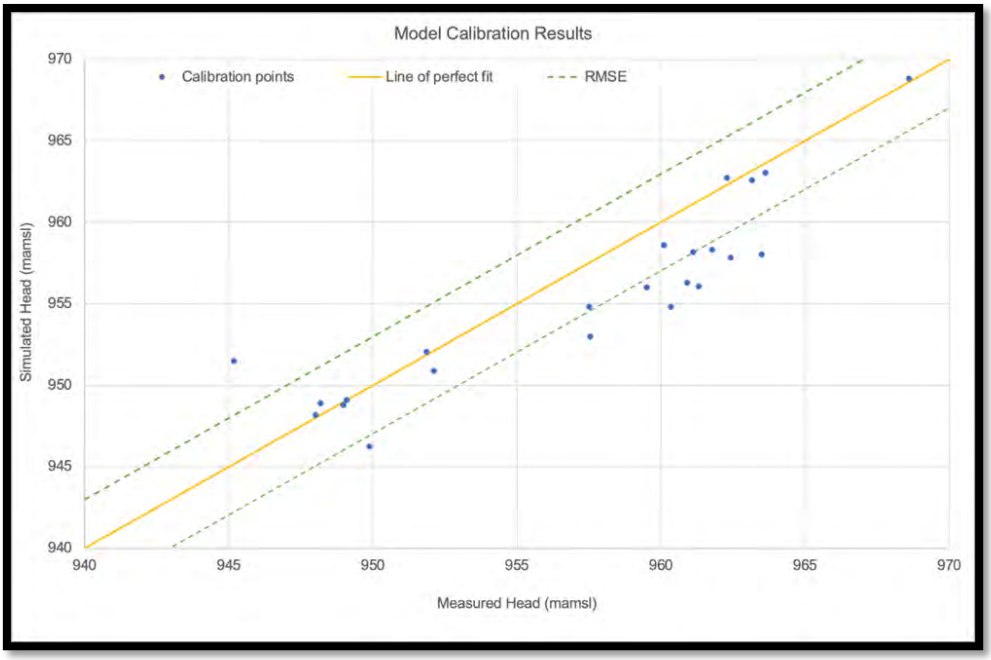

Figure 17. Model calibration results

13.4.2 Model Sensitivity

A sensitivity analysis was completed on the model to quantify the uncertainty in the calibrated model caused by uncertainty in the estimates of aquifer parameters, stresses and boundary conditions. The level of heterogeneity of the aquifer material can never be accurately measured with field data. The uncertainty of the impact of heterogeneity on simulations is therefore assessed as part of the sensitivity analysis.

The results of a sensitivity analysis can be used to identify data gaps and to plan for additional fieldwork, including monitoring requirements, once the modelling has been completed.

The comparative sensitivity for the parameters included during calibration is presented in Figure 18. The comparative sensitivity provides an indication of how sensitive the model is to changes in each parameter compared to the other parameters tested. A low value indicates a low sensitivity and a high value a high sensitivity.

The results indicate that the model is sensitive to changes in aquifer parameters assigned to the weathered aquifer. Confidence in these parameters can be improved by analysing groundwater monitoring data, especially groundwater levels, against rainfall to improve the understanding of the rate of recharge. Aquifer hydraulic conductivities are inferred form field tests, which means that the dataset used is representative of the parameters calculated from field data. Aquifer storage characteristics can also be obtained from specialised field test that involves measurements in more than one borehole. These tests have not yet been completed, but information is available from Water Hunters (2023), which was used in this assessment.

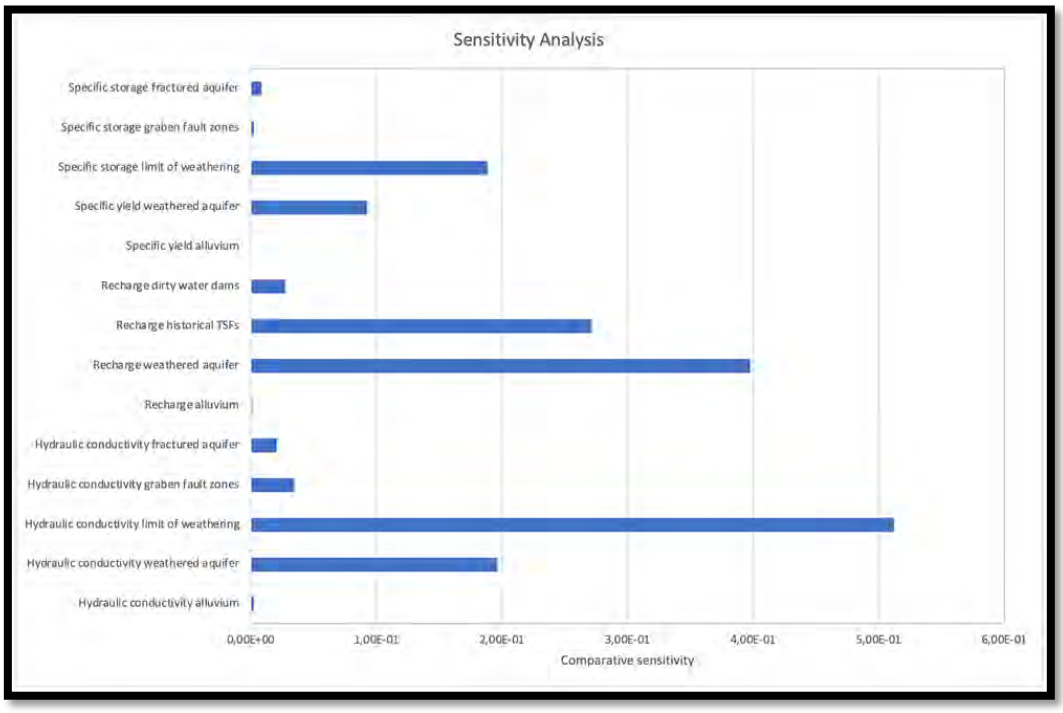

Figure 18. Sensitivity analysis

13.4.3 Assessment Uncertainties

The accuracy of the modelling project depends on the quality of the input data, the available information, time available to complete the calibration process and to test the outcome of scenario modelling. Even with an unchanging environment, impacts are difficult to predict with absolute certainty. Predictions were calculated with the calibrated flow model, which is a simplified version of reality. The model represents a tool that can be used to assess the impact of the TSF 2 reclamation on groundwater quality and to identify data gaps. The calibration process is discussed above and is thought to be acceptable within the limitations of the study.

The model should be updated and verified with additional monitoring information, as it becomes available. Uncertainties are approached conservatively, based on the Precautionary Principle, to ensure that the predictions and impact assessment in this report addresses the maximum potential impact of the proposed development. The uncertainties in the model include:

- Assumption and estimation uncertainties: These include uncertainties regarding the aquifer parameters as well as the quality of leachate associated (in future) with each of the sources of contamination identified.
- Mathematical modelling uncertainties: It is not possible with the available information to quantify the heterogeneity present in the aquifers simulated. For this reason, there are inherent uncertainties in the model. The level of confidence in the model can be improved with the incorporation of additional monitoring data. Of specific importance is aquifer test data to calculate the specific yield and storage coefficient for the aquifers.

14 Hydrogeological Impact Assessment

14.1 Plume Delineation

The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.

The effects of sulphate and iron on human health, as described by DWAF (1997) is presented in Table 14. In addition, the WUL conditions for sulphate (<500 mg/L) and iron (<0.3 mg/L) were considered. The information presented in Table 14 suggests that sulphate concentrations exceeding 1000 mg/L and iron concentrations exceeding 2 mg/L could pose health risks.

For this reason, the plumes used to delineate the zones of impact on groundwater quality are defined in terms of exceedances of the WUL conditions as well as in terms of significant risk to health. For sulphate, these concentrations correspond to 500 mg/L (zone of impact in terms of WUL condition) and 1000 mg/L (zone of significant impact). For iron, the concentrations are 0,3 mg/L (zone of impact in terms of WUL condition) and 2 mg/L (zone of significant impact).

The shape of the plume is defined by aquifer conditions as described above. Groundwater flow in the weathered aquifer and specifically along the limit of weathering is expected to transmit potential contaminants preferentially to the underlying fractured aquifer. The spread of contamination is further linked to the location of the RWD, the Holding Dam and the non-perennial streams draining towards the Crocodile River and Bierspruit.

The shape of the plume is furthermore determined by the location of the sources of contamination as well as the concentration of contaminants assigned to each source, which includes the TSFs, the RWD, the Holding Dam and the PCDs in the new Plant area. The source term used during simulations is discussed above. In this regard, TSF 1 is considered a more significant source of sulphate contamination, and TSF 3A and the Holding Dam more significant sources of iron contamination. The rate and period over which leachate from each source infiltrates to the aquifers also affect the shape and extent of the delineated plumes.

Table 14. Potential health impact associated with the indicator elements assessed

Sulphate	
0 – 250 mg/L	No health or aesthetic effects are experienced
250 – 500 mg/L	Tendency to develop diarrhoea in sensitive and some non-adapted individuals. Slight taste noticeable
500 – 600 mg/L	Diarrhoea in most non-adapted individuals. Definite salty or bitter taste
600 – 1000 mg/L	Diarrhoea in most individuals. User-adaptation does not occur. Pronounced salty or bitter taste
>1000 mg/L	Diarrhoea in all individuals. User-adaptation does not occur. Very strong salty and bitter taste
Iron	
0 – 0.1	No taste, other aesthetic or health effects are experienced
0.1 – 0.3	Very slight effects on taste and marginal other aesthetic effects. No health effects
0.3 - 2	Adverse aesthetic effects gradually increase. No health effects
2 - 10	Pronounced aesthetic effects. Chronic health effects in young children and sensitive individuals
>10	Severe aesthetic effects (taste and plumbing). Chronic health effects and occasional acute effects at concentrations above 20 mg/L

Since all the sources of contamination assessed in this report are on surface, the impact on the weathered aquifer will be more significant compared to the underlying fractured aquifer. The extent of the iron plume is generally larger compared to sulphate, mainly since much lower iron concentrations are considered.

The extent of the delineated unchanneled valley bottom wetlands for the project area is indicated on all maps that delineate the zones of impact on groundwater quality.

14.2 Results of the Hydrogeological Impact Assessment

14.2.1 Anticipated Impacts at the End of the Operational Phase of Tailings Reclamation

The objective of this scenario is to evaluate the impact of reclamation of tailings material deposited on TSF 2, as described by Kongiwe (2025). This scenario evaluates the impacts on groundwater quality at the end of the 20-year period over which the project will be ramped up and tailings will be reclaimed. During this phase, the source of contamination will be gradually removed, but the rate of infiltration of potential leachate is expected to be higher because the tailings will be partially reclaimed using hydraulic methods.

For the assessment, it was assumed that the rate of recharge of leachate from the 105 ha TSF footprint is expected to be less than 100 m^3/d, over the footprint area. The volume of leachate that could infiltrate will be minimised through a combination of sound stormwater runoff management and the reuse of water during hydraulic reclamation.

During the reclamation of TSF 2, deposition on the other active TSFs will continue. Infiltration of leachate from TSF 1 as well as the RWD and Holding Dam will also continue to impact on groundwater quality.

The outcome of the assessment is presented for the weathered and fractured rock aquifers in Figure 19 and Figure 20. Each figure indicates the estimated extent of the zone of impact on groundwater quality in terms of sulphate (SO_4) and iron (Fe). The zone of impact in terms of the WUL condition for each element shows the extent over which SO_4 or Fe is expected to exceed the WUL conditions. The zone of significant impact shows the expected extent over which groundwater quality may pose a health risk if consumed.

The results indicate that the zones of significant impact on groundwater quality are only likely to manifest in the weathered aquifer and mostly only over the footprint area of the source areas. These are TSF 1 for sulphate and TSF 3A for iron, as discussed above.

The zone of impact in terms of the WUL conditions extend further from the sources and could in places exceed the Amandelbult Surface Rights and Mineral Rights Areas, especially in terms of iron. It is noted that the Amandelbult TSFs are on the border of these rights and the spread of contamination outside the Amandelbult area is therefore possible.

The zone of impact on the underlying fractured rock aquifer is expected to be much smaller compared to the weathered aquifer. In terms of sulphate, only a small portion underneath TSF 1 could be significantly affected. For iron, the zone of impact is expected to be limited to the footprint of TSF 3A.

The estimated zones of impact do not reach the Middelaagte graben, or the alluvial aquifer associated with the Crocodile River. It is recommended that the characteristics of the fault zone that extends from the graben to the TSF3A footprint are in the underground workings is confirmed in the weathered and shallow fractured aquifers to determine whether it forms a preferential groundwater flow path. No private boreholes are located within the delineated zones of impact.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions, but not with the zones of significant impact.

It is likely that the plumes may reach the unchanneled valley bottom wetland down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 500 mg/L and iron concentrations above 0.3 mg/L in groundwater at this position. This impact is not considered significant.

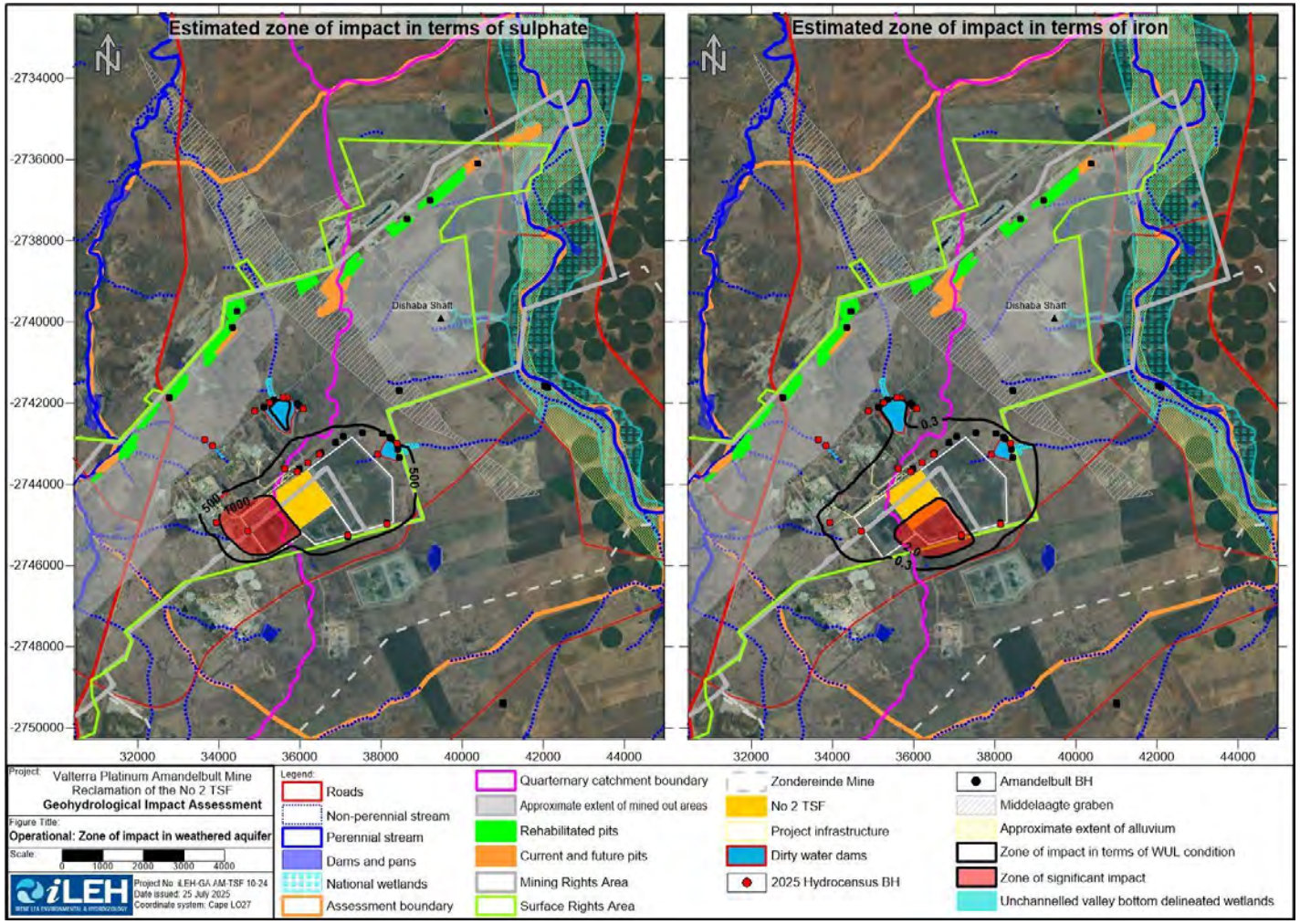

Figure 19. End of tailings reclamation phase: estimated zone of impact on the weathered aquifer

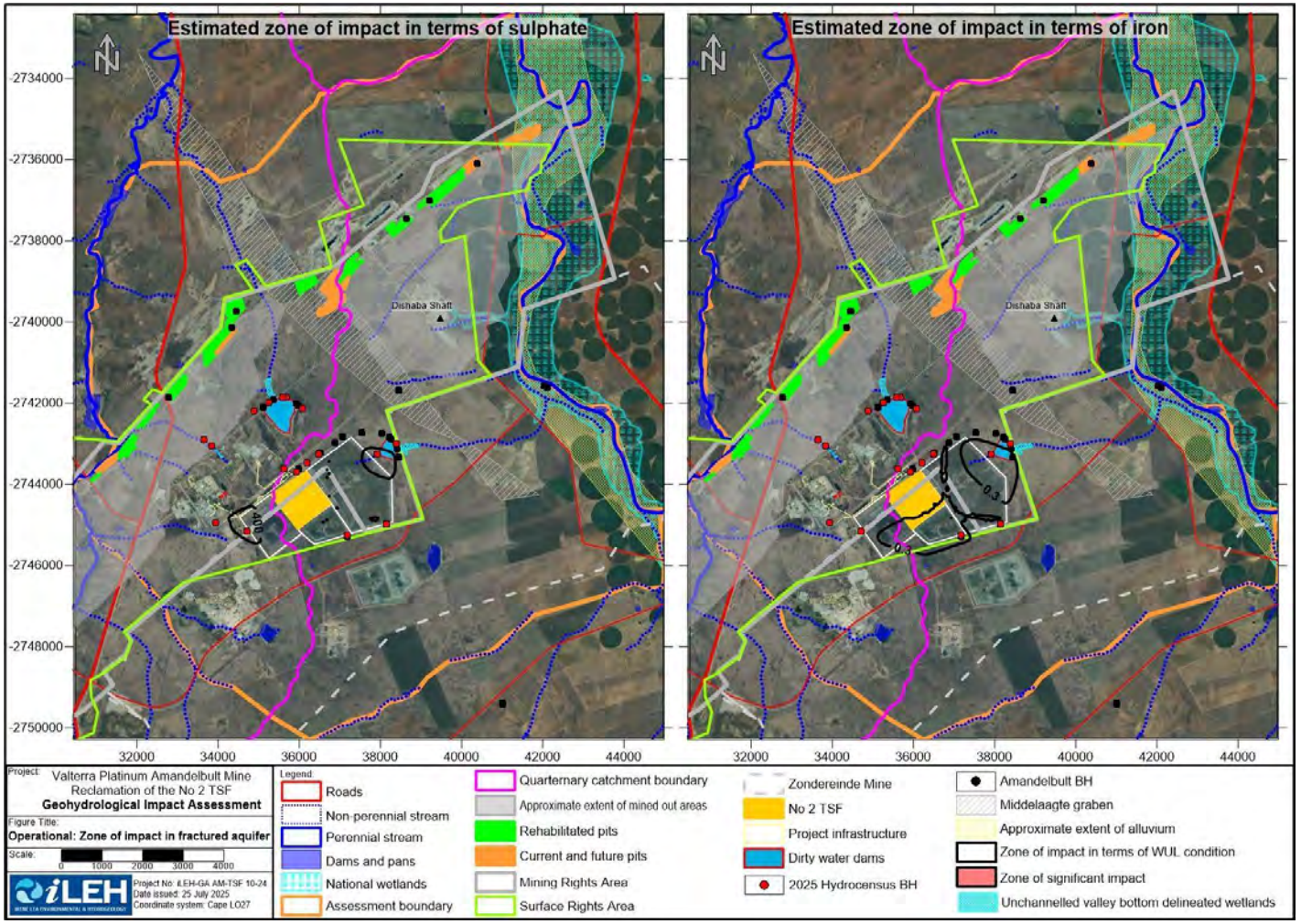

Figure 20. End of tailings reclamation phase: estimated zone of impact on the fractured aquifer

14.2.2 Estimated Impacts at the End of Re-deposition of Tailings

A high-level assessment was completed to evaluate the potential impacts on groundwater quality at the end of life of the TSFs and after re-deposition of tailings on the TSF 2 footprint area. To achieve this, it was assumed that tailings would be deposited on an unlined footprint area, as the surrounding TSFs are unlined. The rate of tailings re-deposition and the water balance for this activity is not currently available. Based on the outcome of model calibration, it is estimated that the volume of leachate that infiltrates during operational tailings deposition would be less than 250 m^3/d, over the 105-ha footprint of TSF 2. This is an estimated volume and for this reason, the level of confidence in this scenario is not considered high. It is therefore presented as an indicative scenario.

The outcome of the assessment is presented in Figure 21 and Figure 22 for the weathered and fractured aquifers. For this scenario, the extent of the zones of impact, both in terms of WUL conditions and significant impacts, extends due to the infiltration of leachate over the period of 34 years between the completion of tailings reclamation over TSF 2 and the end of life of the TSF complex.

The zone of significant impact on the weathered aquifer for sulphate is expected to migrate in a westerly direction towards the Bierspruit, from the footprint of TSF 1. The zone of significant impact in terms of iron concentrations is expected to migrate in a southerly and westerly direction. The zone of significant impact is not expected to migrate vertically to the underlying fractured aquifer.

The zone of impact in terms of the WUL conditions also expand in an easterly direction towards the Crocodile River, but also northwards towards the RWD and the non-perennial stream draining from the dam as well as westwards towards the Bierspruit and to some extent southwards. The radial flow from the Amandelbult TSFs is attributed to the fact that the complex is located on a water divide delineated by the quaternary catchment boundary.

The sulphate plume does not reach the Middelaagte graben, but there is a small risk that the iron plume may reach this feature. The plumes do not reach the alluvium associated with the Crocodile River nor any of the private boreholes identified.

The extent to which the plume migrates outside the Amandelbult Surface and Mineral Rights areas expands slightly, especially in terms of iron concentrations. There is a small risk that the plume may reach the Zondereinde TSF complex to the south, but not significantly so.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions. The stream origins do not fall with the zones of significant impact except for the sulphate plume draining from the TSF 1. Where this occurs, sulphate concentrations exceeding 1000 mg/L may be present in the groundwater baseflow component to the stream. The impact is unlikely to result in significant impacts, mainly due to the very limited area over which it may manifest.

Over the life of the operations, the plumes are likely to extend past the unchanneled valley bottom wetland delineated down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 700 mg/L and iron concentrations above 0.8 mg/L over the affected area. Although concentrations in groundwater are likely to increase, the impact on this wetland is not considered significant from a groundwater impact perspective.

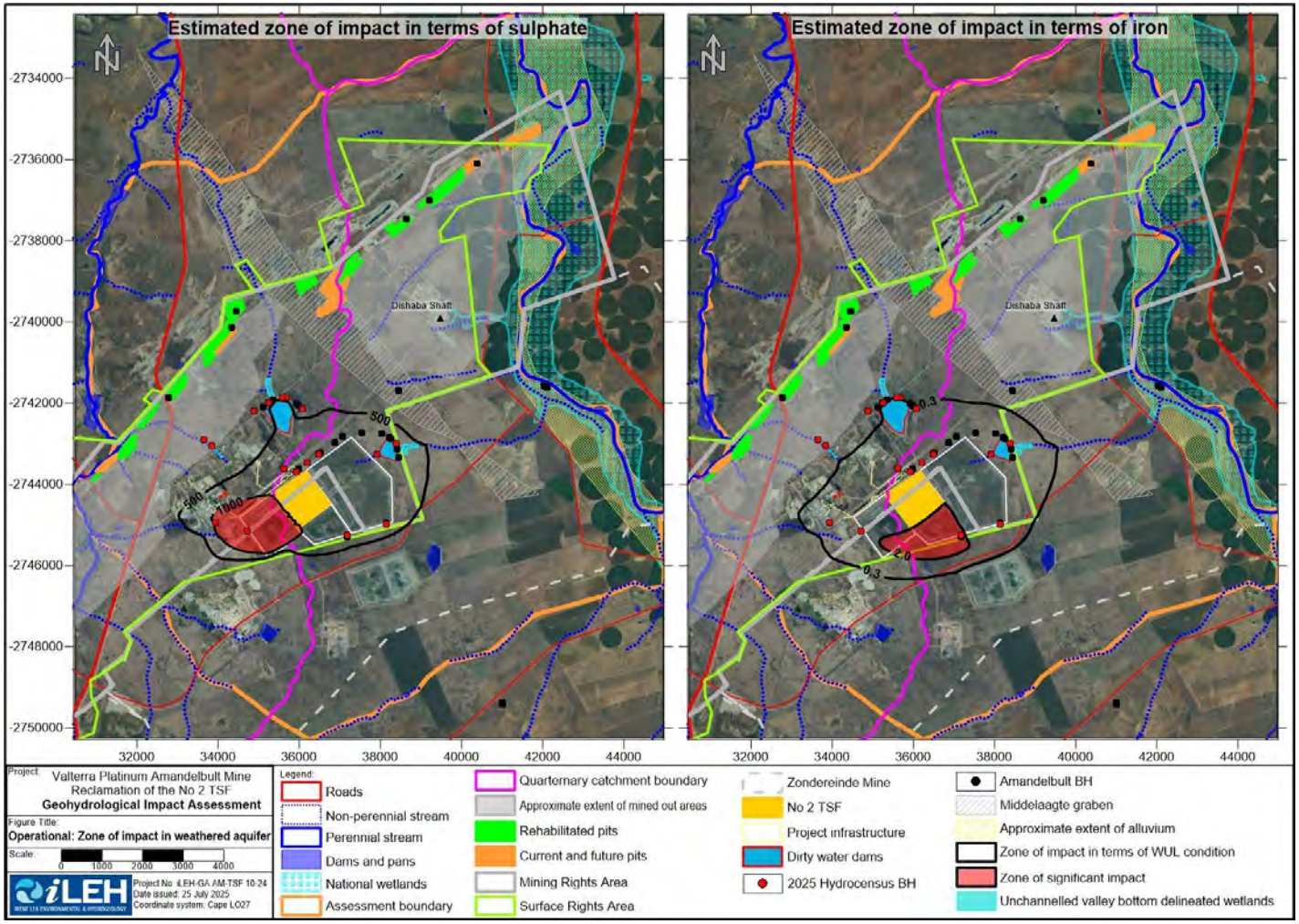

Figure 21. End of tailings re-deposition phase: estimated zone of impact on the weathered aquifer

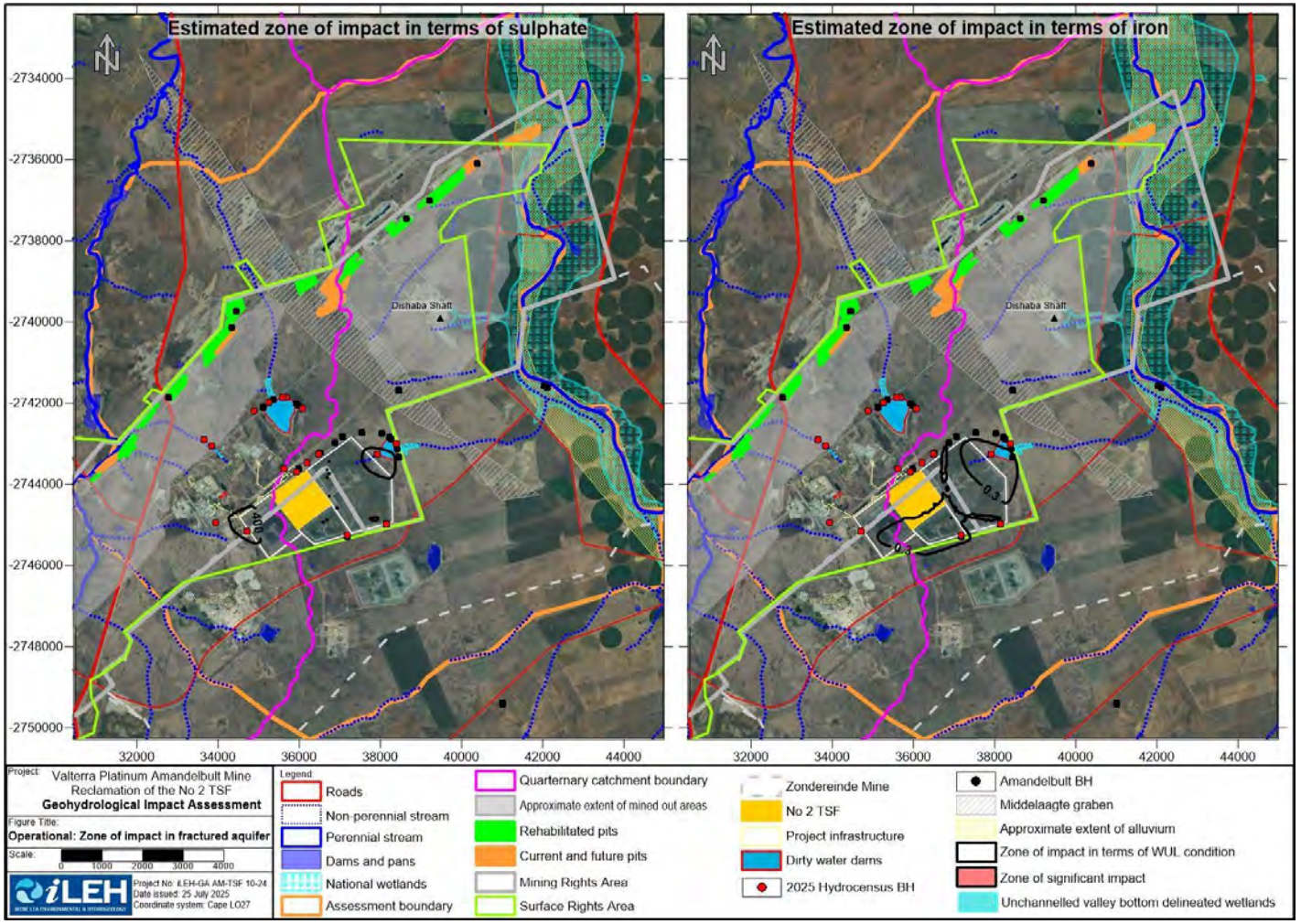

Figure 22. End of tailings re-deposition phase: estimated zone of impact on the fractured aquifer

14.2.3 Long-Term Impacts

To assess potential long-term impacts on groundwater quality, the model was run for a period of 100 years after the end of life of the Amandelbult TSF complex. During simulations, the Amandelbult rehabilitation plan for the TSFs were considered, which was incorporated as a reduction in the rate of infiltration of leachate post closure, as the TSFs start to dry out after tailings deposition ceases. It was further assumed that the RWD and Holding Dams will be cleaned and rehabilitated at closure. Three long-term scenarios were assessed, as discussed below.

14.2.3.1 Scenario 1: No Project Option

The extent of the zones of impact on the weathered and fractured aquifers are presented in Figure 23 and Figure 24 for this scenario.

The outcome is like that described for Scenario 2 below. This is mainly because the impact of other sources of contamination like TSF 1, TSF 3A and TSF 3B continue play a role in the long-term. In addition, the re-deposition of tailings on the TSF 2 footprint is expected to increase impacts on groundwater quality over the life of the project as operational tailings deposition will allow for higher infiltration of leachate compared to dormancy.

A comparison between the three scenarios tested is discussed at the hand of sulphate and iron breakthrough curves below.

14.2.3.2 Scenario 2: Reclamation and Re-deposition of Tailings

The potential long-term impacts on groundwater quality in the weathered and fractured aquifers, if the reclamation of TSF 2 does not go ahead, is presented in Figure 25 and Figure 26. To complete the assessment, it was assumed that active deposition on TSF 3B would continue until the end of life of the TSF complex and that TSF 1 and TSF 2 would remain dormant until then.

The results indicate that the plumes in the weathered zone are expected to recede towards the TSF complex in the long-term as they start to dry out. The sulphate plume is expected to migrate in a westerly direction towards the Bierspruit but is not expected to reach the river in the long-term.

The extent of the zone of significant impact in the weathered aquifer is however likely to remain in the weathered aquifer post closure and will be mainly associated with the footprint of TSF 1 for sulphate and TSF 3A for iron concentrations. The zone of significant impact in terms of sulphate is expected to migrate in a westerly direction, approximately 850 m from TSF 1 in the long-term. The zone of significant impact in terms of iron concentrations is expected to migrate in a north-easterly direction towards the Crocodile River but will not reach the river in the evaluation period.

The zone of impact in terms of WUL conditions will recede for sulphate concentrations in the weathered aquifer, to mainly within the Amandelbult Surface and Mineral Rights areas. The iron plume may however exceed the Surface and Mineral Rights Area along the easterly boundary over 960 m. There is a small risk that the iron plume may still reach the Middelaagte graben in the long-term, but it will not reach the alluvium in the Crocodile River floodplain.

The potential impact on the underlying fractured aquifer is however expected to increase with time. Even though the vertical movement of contamination is expected to be slower compared to horizontal flow, with time, the plumes are expected to migrate down to the fractured aquifer. Simulations

suggests that sulphate and iron concentrations are not expected to increase to above significant impact concentrations.

No private boreholes are in the zone of significant impact, in terms of sulphate or iron. The origins of the non-perennial streams are also outside the zone of significant impact, apart from the stream draining near TSF 1.

The sulphate and iron plumes are expected to migrate past the unchanneled valley bottom wetlands delineated down gradient of the Holding Dam. Sulphate and iron concentrations are expected to reduce slightly in the long-term compared to the end of the operational phase because of the rehabilitation measures implemented at closure. Despite the reduction, sulphate concentrations may exceed 550 mg/L and iron concentrations 0.6 mg/L in groundwater reaching this wetland. This is unlikely to result in significant impacts on the wetland from a groundwater perspective.

14.2.3.3 Scenario 3: Reclamation and Re-deposition of Tailings with Scavenger Boreholes

A scenario was included to test the possible effect of using scavenger boreholes for plume reduction during the operational phase, as described by Water Hunters (2023). To achieve this, abstraction of groundwater at the rates reported in the 10 scavenger boreholes identified was implemented over the remainder of the life of the operations. It was assumed that pumping would cease at mine closure. The scavenger boreholes considered include RWDP1, RWDP2, RWDP4, RWDP5 and RWDP8 around the RWD as well as HDP2, HDP4, HDP5 and HDP6 at the Holding Dam. Only one scavenger borehole (EMPR15) is indicated at the TSFs. The locations of these boreholes are indicated on Figure 8.

The outcome of the long-term impact on groundwater quality because of plume control during the operational phase is presented in Figure 27 and Figure 28. The results indicate that in the long-term groundwater abstraction from EMPR15, located south of TSF 3A is not expected to significantly affect the delineates zone of impact on groundwater quality. It is specifically noted that this abstraction is unlikely to affect groundwater qualities in the long-term around TSF 2 as the capture zone of EMPR15 is limited to the southern border of TSF 3A.

Groundwater abstraction is expected to reduce sulphate and iron concentrations, especially over the operational phase. This is discussed in more detail below.

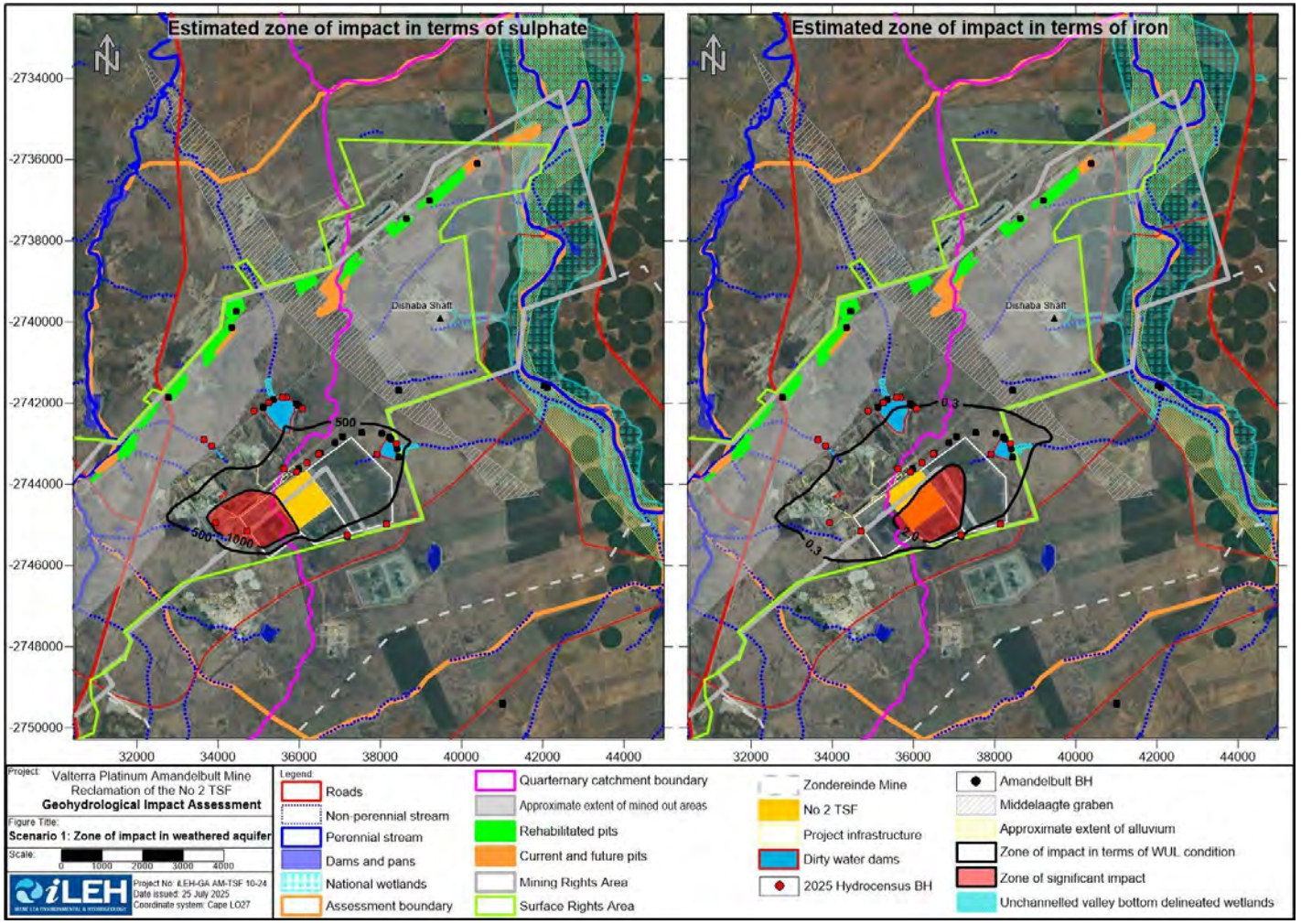

Figure 23. Long-term impacts on the weathered aquifer: Scenario 1 – Do Nothing Option

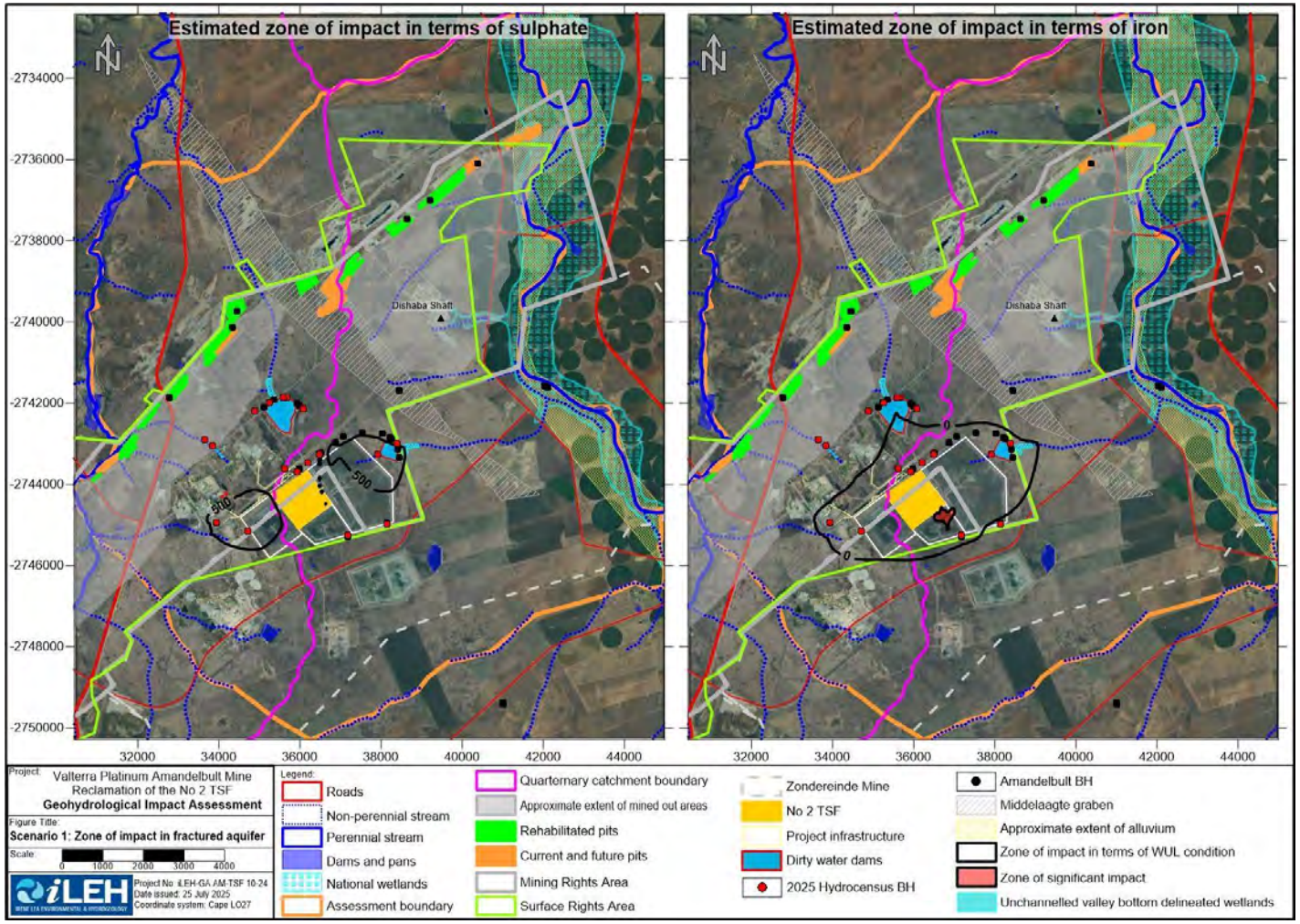

Figure 24. Long-term impacts on the fractured aquifer: Scenario 1 – Do Nothing Option

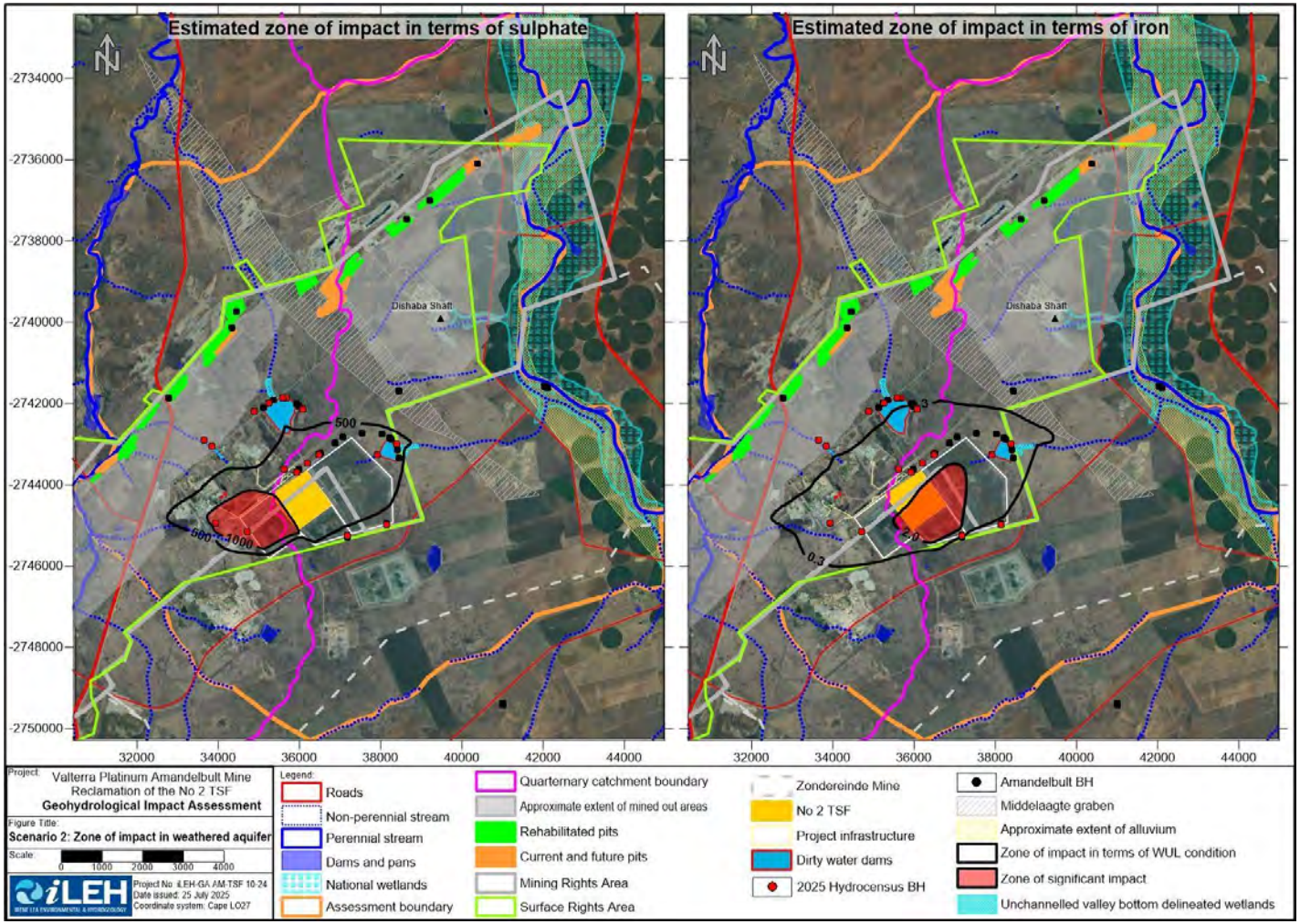

Figure 25. Long-term impacts on the weathered aquifer: Scenario 2 – Reclamation of TSF 2

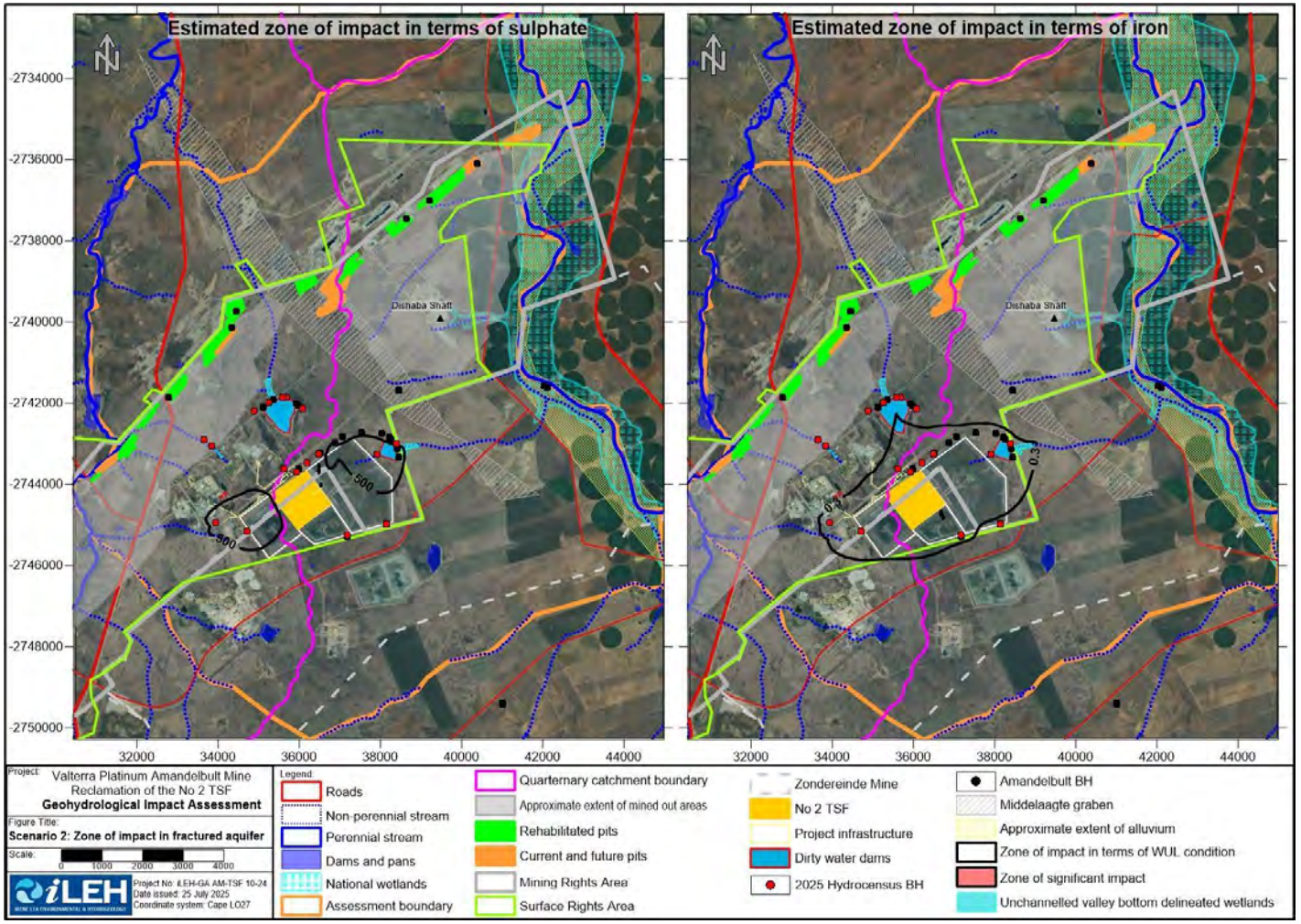

Figure 26. Long-term impacts on the fractured aquifer: Scenario 2 – Reclamation of TSF 2

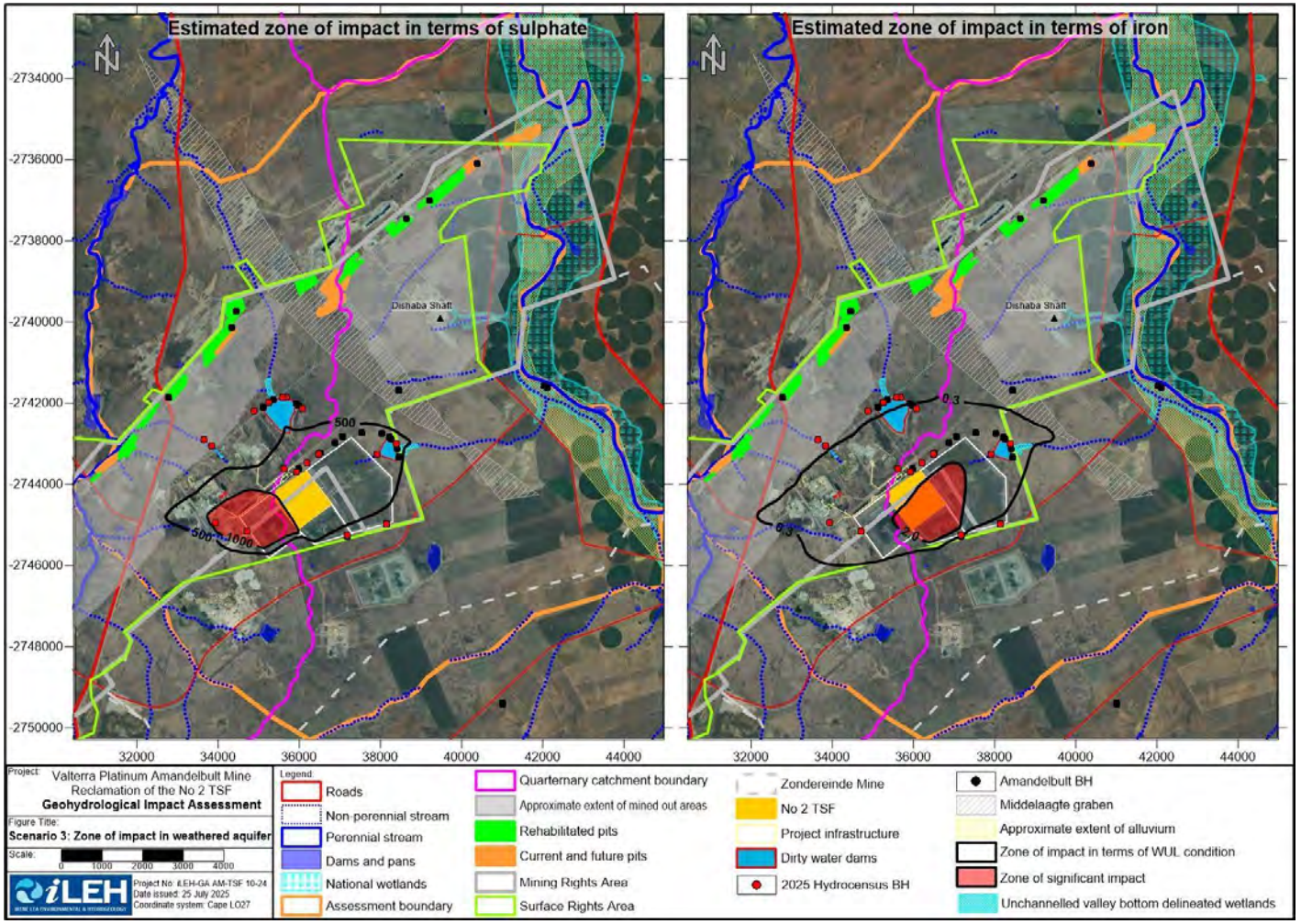

Figure 27. Long-term impacts on the weathered aquifer: Scenario 3 – Reclamation of TSF 2 and scavenger borehole remediation

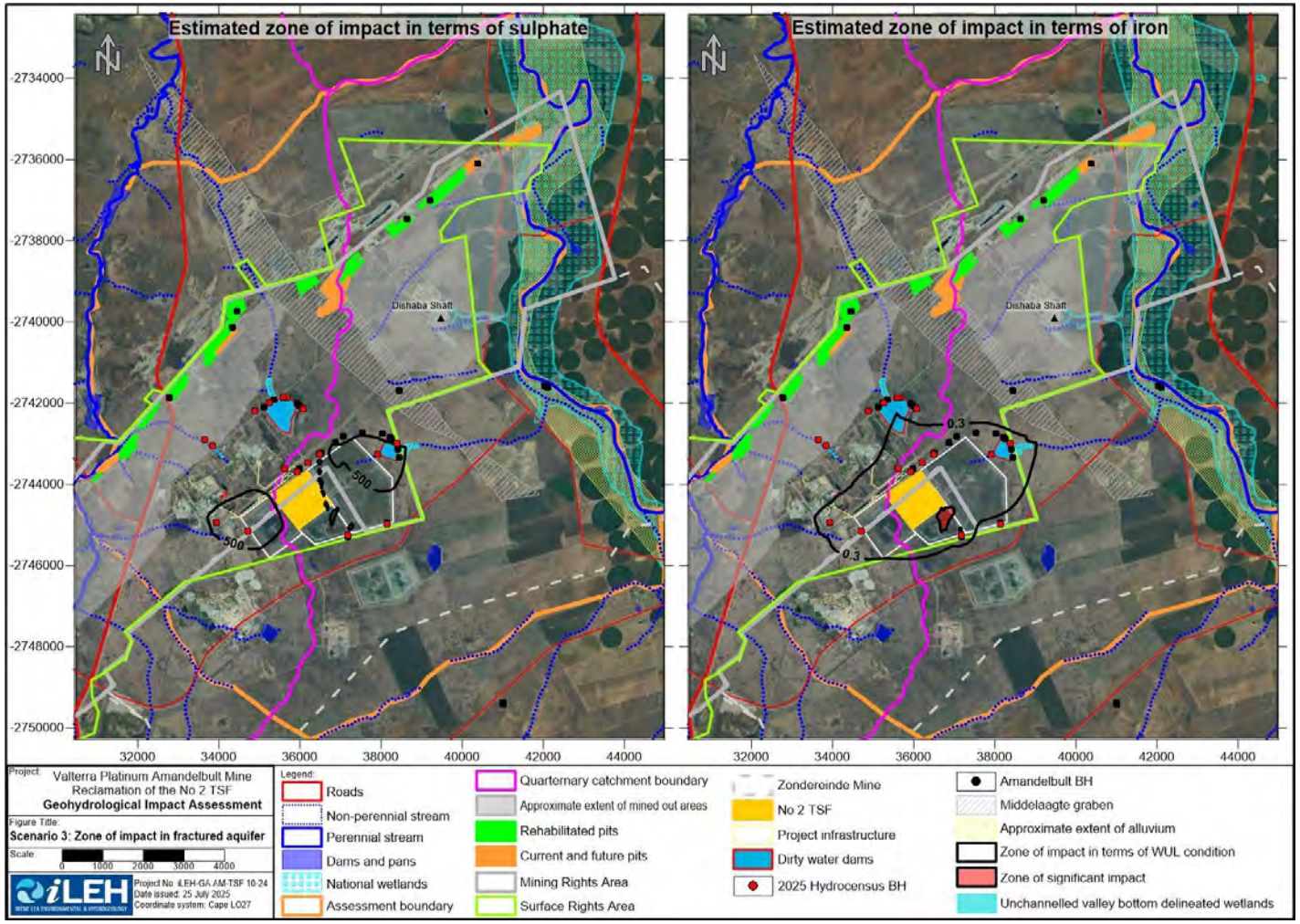

Figure 28. Long-term impacts on the fractured aquifer: Scenario 3 – Reclamation of TSF 2 and scavenger borehole remediation

14.2.4 Simulated Sulphate and Iron Concentration Time Series Evaluation

To present a comparison between the outcomes of the three long-term scenarios evaluated, simulated timeseries graphs for sulphate and iron were prepared for boreholes closest to TSF 2 (EMPR7 and EMPR8) as well as scavenger borehole EMPR15.

The graphs are shown in Figure 29 for sulphate and iron concentrations.

Fluctuations in concentrations are mainly a function of the location of the boreholes relative to the sources of contamination as well as the way in which the plumes migrate post closure. For example, iron concentrations in EMPR7 and EMP8 increase from around 1 mg/L to 1.4 mg/L in the long-term since the plume from TSF 3A migrates in a north-westerly direction with time. As discussed earlier, iron concentrations are not expected to increase to above 2 mg/L (the health risk limit) during the evaluation period.

Both sulphate and iron concentrations are expected to increase to within the WUL conditions at borehole EMPR15. This is not attributed to the impact of groundwater abstraction during the operational phase, but rather due to natural receding of the plumes as the TSFs dry out. The plumes are also not expected to move in a southerly direction post closure.

A comparison between simulated iron and sulphate concentrations indicates that there is very little difference between the three scenarios tested at borehole EMPR8, located closest to TSF 2. The results suggest that none of the scenarios tested are expected to reduce iron and sulphate concentrations immediately north of TSF 2, to below WUL conditions. In this area, sulphate concentrations are expected to remain between 700 and 800 mg/L in the long-term. Iron concentrations are expected to increase to between 1.3 mg/L and 1.4 mg/L, as discussed earlier, but not to exceed 2 mg/L.

The results indicate that the reclamation of TSF 2 and the re-deposition of tailings over the remainder of the operational phase is likely to have a similar long-term outcome compared to if the project does not go ahead. If scavenger boreholes are to be used to reduce long-term impacts, additional abstraction boreholes should be considered around the Amandelbult TSF complex, especially along the eastern boundary where the plumes are expected to migrate outside the Amandelbult Surface and Mineral Rights areas.

14.2.5 Risk of Decant

No risk of decant was identified for this project.

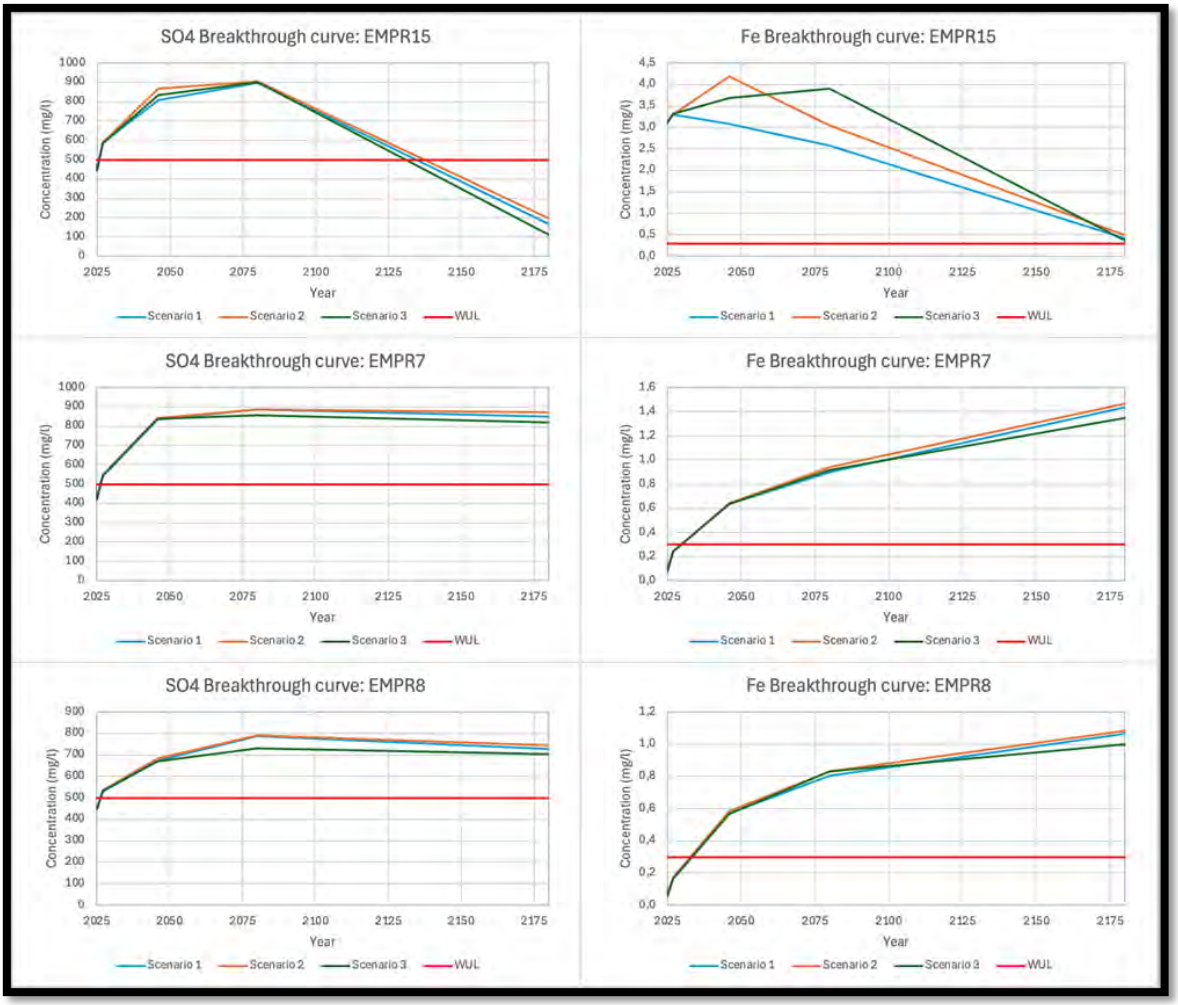

Figure 29. Simulated SO_4 and Fe timeseries graphs

15 GROUNDWATER IMPACT ASSESSMENT RATING

The impact significance rating process serves two purposes: firstly, it helps to highlight the critical impacts requiring consideration in the management and approval process; secondly, it shows the primary impact characteristics, as defined above, used to evaluate impact significance.

The impact significance rating system is presented in Table 15, Table 16 and Table 17 and involves three parts:

1. **Part A**: Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/ population and duration.
2. **Part B**: Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A.
3. **Part C**: Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from Part B) and the probability of occurrence.

15.1 Part A: Defining Consequence in Terms of Magnitude, Duration and Spatial SCALE

The definitions in Table 15 are used to define the consequence in Part B.

Table 15. Consequence rating methodology

IMPACT CHARACTERISTICS	DEFINITION	CRITERIA
Magnitude	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of impact are of conservation importance; or identified threshold often exceeded
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
Spatial scale or population	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g., cadastral, catchment, topographic
	National/ International	Nationally or beyond
Duration	Short-term	Up to 18 months
	Medium term	18 months to 5 years
	Long-term	Longer than 5 years

15.2 Part B: Determining Consequence Rating

Rate consequence based on definition of magnitude, spatial extent and duration (Table 16).

Table 16. Consequence rating methodology

			SPATIAL SCALE/ POPULATION		
			Site or Local	Regional	National/ international
MAGNITUDE					
Minor	**DURATION**	**Long-term**	Medium	Medium	High
		Medium term	Low	Low	Medium
		Short-term	Low	Low	Medium
Moderate	**DURATION**	**Long-term**	Medium	High	High
		Medium term	Medium	Medium	High
		Short-term	Low	Medium	Medium
Major	**DURATION**	**Long-term**	High	High	High
		Medium term	Medium	Medium	High
		Short-term	Medium	Medium	High

15.3 Part C: Determining Significance Rating

Rate significance based on consequence and probability (Table 17).

Table 17. Significance rating methodology

Probability (of exposure to impacts)	Consequence Negative			Consequence Positive		
	Low	Medium	High	Low	Medium	High
Definite	Medium	Medium	High	Medium	Medium	High
Possible	Low	Medium	High	Low	Medium	High
Unlikely	Low	Low	Medium	Low	Low	Medium

The impact assessment is based on the Kongiwe assessment methodology, as presented above. A detailed impact assessment has been presented in Chapter 14 and an impact assessment table with mitigation measures is presented in Appendix D. Groundwater management and mitigation options are presented in Chapter 17.

16 Cumulative Impacts

Cumulative impacts result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities (e.g., discharges of high salt or metal loads to a river that combine to cause a reduction in the use of the resource that is greater than the additive impacts of each pollutant). Cumulative impacts can

occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.

The Amandelbult TSF Reclamation and Processing Project is surrounded by historical and active tailings deposition sites, mining activities, a Processing Plant and agricultural activities. Cumulatively all these activities contribute to the surface and groundwater quality impacts identified during the Amandelbult Mine TSF 2 reclamation study and could also impact the groundwater resources, especially in terms of quality.

There is a risk that regional activities are likely to affect groundwater quality at Amandelbult TSF Reclamation and Processing Project during the operational phase as well as post closure in the long-term. It may not be possible in future to distinguish between impacts associated with the reclamation of TSF 2 and those associated with regional activities. The main objective of a detailed groundwater monitoring program is to prepare a dataset with which to isolate impacts relating to the TSF complex activities, compared to those of regional activities not associated with the Amendelbult TSF complex. Monitoring requirements are discussed below.

17 Groundwater Environmental Management Program

17.1 Groundwater Objectives and Targets

The following general objectives and targets are proposed for groundwater management at the operations:

- Implement a management plan aimed at reducing and/or eliminating adverse impacts on the receptors identified, including watercourses.
- Track and record the progress of implementation of all groundwater management measures.
- Implement sufficient monitoring procedures to measure the effectiveness of groundwater management measures within the delineated zones of influence.
- Analyse the information obtained from all monitoring programs against compliance targets to establish trends.
- Should the trends indicate adverse impacts on groundwater levels and/or quality, implement suitable measures within the shortest possible time to remediate and/or eliminate such adverse impacts identified.

17.2 Over-Arching Groundwater Management Measures

Several broad over-arching groundwater management measures should be implemented by Amandelbult to minimise impacts on groundwater for the TSF complex. It would be difficult to isolate impacts associated with TSF 2. Most of these form part of good house-keeping measures, as detailed in Table 18.

Table 18. General groundwater management measures

Construction Phase
The dedicated groundwater monitoring network must be maintained in the monitoring boreholes located around the TSF. Where boreholes are inaccessible, measures must be identified to gain access and continue monitoring. Of specific importance are boreholes EMPR05, EMPR08, EMPR15 and MBH16-04. The monitoring program is discussed below.
Make financial provision for sufficient groundwater level and quality monitoring to implement the groundwater monitoring program, before the reclamation starts.
Implement the stormwater runoff management measures developed for the project to ensure that all dirty runoff is contained and reused in the reclamation water balance. Avoid ponding of water over exposed areas.
Ensure that dirty water containment measures are designed to contain all dirty water generated during the project to prevent overflows and spillages.
Implement sound house-keeping measures to prevent and clean spills, address leaks and undertake regular inspections. Ensure that the record keeping procedure is in place and that instructions given are carried out.
Measure rainfall on site.
Operational Phase
Complete regular inspections of dirty water containment structures, specifically noting incidences of overflow and leakage. If the latter is identified, measures must be taken to rectify these immediately.
Maintain sound house-keeping measures to prevent spills and leaks.
Maintain the groundwater monitoring program, specifically in EMPR05, EMPR08, EMPR15 and MBH16-04.
Measure rainfall on site.
Record all groundwater-related complaints related to the reclamation project and deal with each complaint within the agreed timeframe.
Decommissioning and Closure Phase
Complete all rehabilitation to a satisfactory level, focusing specifically on stormwater management. Clean runoff must be diverted and dirty water captured. Measures must be put in place during TSF rehabilitation to prevent erosion.
Continue with the groundwater monitoring period for a minimum of two years after completion of the rehabilitation. The continued need for groundwater monitoring will depend on the outcome of the final closure assessment.

17.2.1 Measures to Reduce Impacts on Groundwater Availability

The project is not expected to have any impacts on groundwater availability. The following specific measures are however recommended to minimise and/or eliminate the impacts on groundwater levels and availability:

- None of the private boreholes are located within the zones of impact delineated as part of this assessment. It is however recommended that monitoring is continued in all private boreholes, especially those along the floodplain of the Crocodile River.
- Ensure that an effective surface water collection and retention system is in place to ensure that all flow and collected water is directed towards the cut-off trenches with sumps and not allowed to freely drain away from the various silt holding areas during reclamation.

17.3 Mitigation Measures to Address Impacts on Groundwater Quality

The following specific measures are recommended to minimise and/or eliminate the impacts on groundwater quality and the volume of leachate available for infiltration to the aquifers. With the

removal of the tailings material, an opportunity is presented to consider measures aimed at reducing long-term impacts on groundwater quality during the design of tailings re-deposition on the TSF 2 footprint area:

- To minimise negative long-term impacts associated with the project, it is important that tailings reclamation must be completed to soil level over the TSF 2 footprint.
- The base of the TSF 2 footprint must be shaped prior to tailings re-deposition to ensure that no ponding takes place and that the footprint is sufficiently drained to minimise long-term infiltration of leachate. In this regard, internal drainage systems like gravel, perforated pipes, equivalent seepage collection systems and toe drains can be considered. It is assumed that the footprint of TSF 2 will not be lined prior to re-deposition, as the surrounding TSFs are not lined.
- Ensure that clean and dirty water is separated at the reclamation and drying areas, and that dirty water is contained. Contain dirty water in adequately sized and lined sumps or dams.
- Prevent the uncontrolled runoff of dirty water from the TSF 2 footprint.
- All dirty water being pumped from the reclamation areas should be reused in the water balance or pumped off site to prevent unnecessary discharge into the natural environment.
- It is recommended that a geochemical assessment is undertaken on the tailings material to be deposited on the TSF 2 footprint, focussing on the risk of acidification as well as operational and long-term leachate qualities. This information must be used to update the risk assessment presented in this report, if it is materially different from the dataset used in this report.
- Valterra must maintain the existing water quality monitoring program during reclamation and re-deposition. The monitoring program must focus specifically on groundwater, TSF seepage and dirty water dam quality. The data must be analysed according to the monitoring program presented below and suitable actions must be implemented should trends indicate adverse impacts.
- The impact and risk assessment presented in this report must be updated if any component of the project changes to what was used in this study, or if additional information becomes available that deviates from that used.

18 Groundwater Monitoring Program

The key objectives of the groundwater monitoring program are to:

- Detect short and long-term groundwater level and quality trends;
- Recognise changes in groundwater quality and levels;
- Measure impacts and define mitigation measures; and
- Develop improved monitoring systems.

Groundwater monitoring must be undertaken to establish the extent of contamination in the shallow weathered and deeper fractured aquifers, during and after the reclamation activities.

18.1 Monitoring Locations

Monitoring must be maintained in all boreholes drilled around the Amandelbult TSFs as well as the RWD and Holding Dam, as is currently the case. Of specific importance is monitoring in boreholes

EMPR05, EMPR08, EMPR15 and MBH16-04 to ensure that groundwater quality down gradient of all the TSFs are considered.

Where access to these monitoring boreholes is flagged as a problem, Valterra must implement measures to rectify the causes of inaccessibility prior to the commencement of tailings reclamation.

18.2 MONITORING REQUIREMENTS

The proposed groundwater monitoring requirements are presented in Table 19.

Table 19. Monitoring requirements in all proposed monitoring positions

Monitoring parameter	Element for analysis	Monitoring frequency	Monitoring trigger-response criteria
Depth to groundwater level in existing boreholes	Groundwater level	Quarterly	Variations of more than 3 m for 2 consecutive months should be investigated.
Water quality analysis in all existing boreholes around the TSF complex as well as the RWD and Holding Dam	All elements included in the analyses completed as part of this assessment	Quarterly	Variations in concentrations of more than 15% for major cations and anions and more than 7% for metal concentrations for more than 2 consecutive months should be investigated. Any result that exceeds specified water quality objectives must be investigated when it occurs. Specific focus must be placed on monitoring positions that exceed the WUL conditions.
Water quality analysis of seepage water collected in the dirty water circuit during tailings reclamation	All elements included in the analyses completed as part of this assessment	Quarterly	Variations in concentrations of more than 15% for major cations and anions and more than 7% for metal concentrations for more than 2 consecutive months should be investigated. Any result that exceeds specified water quality objectives must be investigated when it occurs.
Rainfall	Rain depth (mm)	Daily on site	None

The monitoring trigger-response criteria listed in Table 19 must be reviewed on an annual basis and updated, based on the outcome of the monitoring program results. All monitoring information must be entered into a spreadsheet for record keeping and analysis. Copies of the certificates of analyses must be kept on file for inspection and comparison. Specific note must be taken of the laboratory reporting units. If significant exceedances are recorded during the monitoring program, the following actions should be taken:

- Log the exceedances in the incident reporting system within 24-hours of it occurring.
- Undertake an investigation to identify causes of the exceedances.
- Implement the necessary remedial actions according to the outcome of the investigation and consultation with the affected parties.
- Report significant exceedances to the Environmental Managers for action as well as to the regulatory authority and track the incident until completion.

The results of the monitoring program must be reported on a quarterly and annual basis for the purpose of internal Valterra water management. These reports must also be submitted to the authorities for review, according to the conditions of the WUL.

19 Post Closure Management

19.1 Remediation of Physical Activity

The project will entail removal of an identified source of contamination to groundwater. The reclamation of the tailings material is therefore considered one of the remediation outcomes for the project.

This project provides an opportunity to consider measures to reduce long-term impacts on groundwater quality during the planned future re-deposition of tailings on the reclaimed footprint. The groundwater management measures presented in this report should therefore be considered in the designs for future tailings re-deposition.

19.2 Remediation of Storage Facilities

Not applicable.

19.3 Remediation of Environmental Impacts

As discussed above.

19.4 Remediation of Water Resources Impacts

Not applicable.

19.5 Backfilling of Pits

Not applicable.

20 Reasoned Opinion

It is the opinion of the project hydrogeologist that the reclamation of the Amandelbult TSF 2 can proceed, if the outcome of the groundwater impact assessment as well as the groundwater management and monitoring measures proposed in this report are considered and implemented. Since TSF 2 forms part of a larger complex of TSFs, its reclamation in isolation is not expected to significantly affect long-term groundwater quality trends. The project does however provide an opportunity to incorporate measures to reduce long-term impacts on groundwater quality associated with future tailings re-deposition on the cleared footprint, which otherwise would not have been possible. Should the results of the proposed monitoring program indicate adverse impacts on groundwater quality over and above those already evident from historical impacts, immediate measures must be taken to rectify non-compliances.

21 Conclusions and Recommendations

AMB aims to reclaim and reprocess TSF 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs, using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of TSF 2, AMB will ensure the continued stability of the surrounding Dams

in the TSF complex for the continued operation of the remaining Dams. The reclamation of TSF 2 will also open additional space for tailings deposition in the future, without extensions onto greenfield areas.

The Amandelbult Tailings Storage Facility consists of four compartments, i.e. TSF 1, TSF 2, TSF 3A and TSF 3B. TSF 3A and TSF 3B are considered as "wet dams" with tailings being deposited mainly on TSF 3B. Tailings on TSF 2 originated from the Merensky and UG2 Concentrator Plants and deposition commenced during the early 2000s and ceased in 2022 (Kongiwe, 2025).

The return water dam was constructed during the operational period of TSF 1. TSF 3A was constructed in 2004 and TSF 3B, with the Holding Dam by 2008. Deposition of tailings to TSF 1 took place up to 2021 on an ad hoc basis. It is planned that the TSFs will be operational until 2080 (Anglo American Platinum, 2024). At present, tailings are only deposited on TSF 3B.

The AMB Concentrator consists of two operational plants, namely UG2-1 and UG2-2 that treat mainly UG2 Reef; and one non-operational plant, Merensky Concentrator Plant. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2-1 and UG2-2 Plants.

The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols.

Residual tailings waste material from these plants will be sent to the TSF Thickener Plant and then to an existing holding tank located at the main Amandelbult Plant before it is transported via existing pipelines to the existing licenced TSF 3B for deposition.

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation where hydraulic and mechanical reclamation would take place.

Environmental Setting:

Amandelbult TSF 2 is in the A24C quaternary catchment, associated with the Crocodile River, and forming part of the Limpopo Water Management Area. This catchment drains in a north-easterly direction towards the Crocodile River. The sub-catchment of TSF 2 is drained by a non-perennial tributary of the Crocodile River that is associated with the Holding Dam. A very small portion of the northwestern corner of the TSF is in the A24F quaternary catchment, associated with the Bierspruit.

Regionally, the geological setting comprises rock formations of the Rustenburg Layered Suite of the western limb of the Bushveld Igneous Complex. These formations include norite, pyroxenite, anorthosite and gabbro. The platinum and chrome reefs are hosted in the Rustenburg Layered Suite and sub-outcrop northwest of the Amandelbult TSFs.

Quaternary sand and alluvium and surficial deposits are associated with the floodplains of the rivers and streams.

Site Assessments:

A hydrocensus was completed by Groundwater Abstract during June 2025. Sixteen boreholes were identified, all on AMB properties. All hydrocensus boreholes visited are used for monitoring by AMB and none of the boreholes were fitted with pumps at the time of the hydrocensus. Borehole depths are shallow, varying between 21 m and 33 m.

Groundwater level measurements were possible from 15 of the 16 boreholes. The groundwater level below surface varied between 0.52 m bgl (borehole RWD PO3) and 11.98 m bgl for borehole WM08 (north of the Plant area and railway line). The boreholes adjacent to the RWS and the Holding Dam present groundwater levels that are shallower compared to the other boreholes. The rest groundwater levels in these boreholes are on average 1.4 m below surface. For most of the other boreholes the average depth to water table is 7.4 m below surface.

If the groundwater levels are viewed as elevation above sea level, then the highest water elevations (968 m amsl) can be found at boreholes close to the TSF complex footprint (e.g. EMPR05, EMPR07 and EMPR15). The lowest water table elevation is 945 mamsl, at borehole WM08, followed by EMPR04 and MB16-5. Locally, surface drainage and possibly groundwater flow will be towards the local drainages, but the regional groundwater flow direction will be in a north to north-easterly direction.

Groundwater quality monitoring is conducted at the Amandelbult Mine quarterly. The long-term groundwater quality data was used during this impact assessment.

Fieldwork undertaken by Groundwater Abstract for the project was completed June 2025, which represents dry season conditions.

Prevailing Groundwater Conditions:

Groundwater flow contours indicate the following:

- Groundwater flow is controlled by the position of the quaternary catchment divide. Flow from TSF 2 is in a north-easterly direction towards the Crocodile River. The groundwater flow gradient in this area is lower compared to other areas due to the impact of the water divide.
- Potential contamination associated with TSF 2 is therefore likely to migrate from the TSF in a north-easterly direction towards TSF 3B, the Holding Dam and the non-perennial stream associated with the dam and eventually towards the Crocodile River.
- Groundwater flow underneath the TSF 3A and TSF 3B is also in a north-easterly direction towards the Crocodile River at a similar gradient.
- The flow from TSF 1 is likely to be predominantly in a north-westerly direction towards the Bierspruit. Flow patterns in this area seem radial, which normally suggests active

recharge, but this is not the case at TSF 1 as the radial flow is attributed to the position of the water divide along the quaternary catchment boundary.

- A strong radial flow has developed around the RWD due to infiltration of water from the dam to the shallow weathered aquifer. As discussed above, groundwater levels around the dam are on average 0.58 m below surface and at least 5 m above regional trends.

The water quality data obtained from the 2025 hydrocensus was used to identify the indicator elements for the TSF 2 reclamation process. The dataset indicates that chloride and sulphate are the dominant major ions and iron and manganese the dominant metals. The following is concluded from the dataset evaluated:

- Sulphate will be considered as one of the indicator elements. The sample taken from Toe 27 indicates that the water draining from the TSF has higher sulphate concentrations compared to chloride. The sulphate originates from the oxidation of sulphide minerals exposed during mining. Sulphate is also present in concentrations above the WUL condition of 500 mg/L in the RWD and Holding Dam. In addition, elevated sulphate concentrations are recorded in some of the boreholes around the TSFs, especially EMPR05 located down gradient of TSF 1 and MBH16-04 located down gradient of TSF 3B.
- Boreholes around the TSFs have elevated sulphate concentrations compared to those in the plant area and down gradient of the RWD and Holding Dam. Of specific interest is that sulphate concentrations down gradient of the dormant TSFs are higher compared to the active TSF. This suggests and element of oxidation in the older tailings material. Sulphate concentrations down gradient of the RWD and Holding Dam are within the WUL condition based on the latest dataset.
- The second indicator element that will be considered is iron. Iron is also associated with the oxidation of sulphide minerals, for example pyrite. Although elevated manganese concentrations are also reported in groundwater, it is more likely that manganese is naturally occurring in the rock formations of the Upper Zone and therefore not necessarily an indicator element of the tailings material. Significantly elevated iron concentrations are reported in EMPR15, situated down gradient of TSF 2 and TSF 3A. The Holding Dam is also a source of iron, but to a lesser extent. Average iron concentrations in the RWD are below the WUL condition. The comparatively low iron concentrations in the dirty water dams are attributed to neutral pH conditions.
- It is noted that elevated iron concentrations are also present in the Holding Dam and in groundwater downgradient of TSF 1.
- Elevated cadmium and total chromium concentrations were also recorded in the RWD and Holding Dam. Due to potential health impacts associated with these elements, they were included in the assessment. The results indicate that the TSF 2 toe drain and groundwater around the TSFs fortunately do not have elevated Cd and Total Cr concentrations. For this reason, these elements will not be used as indicator elements in this assessment. The presence of elevated Cd and Total Cr in the dirty water dams is however flagged and should be carefully monitored to establish trends and avoid health risks.

Numerical Modelling – TSF 2 Reclamation:

The conceptual model discussed above was used to construct the numerical model for the project area. The modelling results are presented as estimated sulphate and iron concentrations in the weathered as well as the fractured rock aquifers for each scenario tested.

The WUL conditions for sulphate (<500 mg/L) and iron (<0.3 mg/L) were considered. The information presented in Table 14 suggests that sulphate concentrations exceeding 1000 mg/L and iron concentrations exceeding 2 mg/L could pose health risks. The plumes used to delineate the zones of impact on groundwater quality are defined in terms of exceedances of the WUL conditions as well as in terms of significant risk to health. For sulphate, these concentrations correspond to 500 mg/L (zone of impact in terms of WUL condition) and 1000 mg/L (zone of significant impact). For iron, the concentrations are 0,3 mg/L (zone of impact in terms of WUL condition) and 2 mg/L (zone of significant impact).

Since all the sources of contamination assessed in this report are on surface, the impact on the weathered aquifer will be more significant compared to the underlying fractured aquifer. The extent of the iron plume is generally larger compared to sulphate, mainly since much lower iron concentrations are considered.

The extent of the delineated unchanneled valley bottom wetlands for the project area is indicated on all maps that delineate the zones of impact on groundwater quality.

ANTICIPATED IMPACTS AT THE END OF THE OPERATIONAL PHASE OF TAILINGS RECLAMATION:

The objective of this scenario is to evaluate the impact of reclamation of tailings material deposited on TSF 2, as described by Kongiwe (2025). During this phase, the source of contamination will be gradually removed, but the rate of infiltration of potential leachate is expected to be higher because the tailings will be partially reclaimed using hydraulic methods.

During the reclamation of TSF 2, deposition on the other active TSFs will continue. Infiltration of leachate from TSF 1 as well as the RWD and Holding Dam will also continue to impact on groundwater quality.

The results indicate that the zones of significant impact on groundwater quality are only likely to manifest in the weathered aquifer and mostly only over the footprint area of the source areas. These are TSF 1 for sulphate and TSF 3A for iron.

The zone of impact in terms of the WUL conditions extend further from the sources and could in places exceed the Amandelbult Surface Rights and Mineral Rights Areas, especially in terms of iron. It is noted that the Amandelbult TSFs are on the border of these rights.

The zone of impact on the underlying fractured rock aquifer is expected to be much smaller compared to the weathered aquifer. In terms of sulphate, only a small portion underneath TSF 1 could be significantly affected. For iron, the zone of impact is expected to be limited to the footprint of TSF 3A.

The estimated zones of impact do not reach the Middelaagte graben, or the alluvial aquifer associated with the Crocodile River. It is recommended that the characteristics of the fault zone that extends from the graben to the TSF3A footprint are in the underground workings is confirmed in the

weathered and shallow fractured aquifers to determine whether it forms a preferential groundwater flow path. No private boreholes are located within the delineated zones of impact.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions, but not with the zones of significant impact.

It is likely that the plumes may reach the unchanneled valley bottom wetland down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 500 mg/L and iron concentrations above 0.3 mg/L in groundwater at this position. This impact is not considered significant.

ESTIMATED IMPACTS AT THE END OF RE-DEPOSITION OF TAILINGS:

A high-level assessment was completed to evaluate the potential impacts on groundwater quality at the end of life of the TSFs and after re-deposition of tailings on the TSF 2 footprint area. To achieve this, it was assumed that tailings would be deposited on an unlined footprint area, as the surrounding TSFs are unlined. Based on the outcome of model calibration, it is estimated that the volume of leachate that infiltrates during operational tailings deposition would be less than 250 m^3/d, over the 105-ha footprint of TSF 2. This is an estimated volume and for this reason, the level of confidence in this scenario is not considered high. It is therefore presented as an indicative scenario.

The zone of significant impact on the weathered aquifer for sulphate is expected to migrate in a westerly direction towards the Bierspruit, from the footprint of TSF 1. The zone of significant impact in terms of iron concentrations is expected to migrate in a southerly and westerly direction. The zone of significant impact is not expected to migrate vertically to the underlying fractured aquifer.

The zone of impact in terms of the WUL conditions expand in an easterly direction towards the Crocodile River, and northwards towards the RWD and the non-perennial stream draining from the dam as well as westwards towards the Bierspruit and to some extent southwards.

The sulphate plume does not reach the Middelaagte graben, but there is a small risk that the iron plume may reach this feature. The plumes do not reach the alluvium associated with the Crocodile River nor any of the private boreholes identified.

The extent to which the plume migrates outside the Amandelbult Surface and Mineral Rights areas expands slightly, especially in terms of iron concentrations. There is a small risk that the plume may reach the Zondereinde TSF complex to the south, but not significantly so.

The origins of the non-perennial streams draining the area around the Amandelbult TSF complex are all located within the zone of impact in terms of WUL conditions. The stream origins do not fall with the zones of significant impact except for the sulphate plume draining from the TSF 1. Where this occurs, sulphate concentrations exceeding 1000 mg/L may be present in the groundwater baseflow component to the stream. The impact is unlikely to result in significant impacts, mainly due to the very limited area over which it may manifest.

Over the life of the operations, the plumes are likely to extend past the unchanneled valley bottom wetland delineated down gradient of the Holding Dam. Sulphate concentrations are not expected to increase significantly above 700 mg/L and iron concentrations above 0.8 mg/L over the affected area.

Although concentrations in groundwater are likely to increase, the impact on this wetland is not considered significant from a groundwater impact perspective.

LONG-TERM IMPACTS:

To assess potential long-term impacts on groundwater quality, the model was run for a period of 100 years after the end of life of the Amandelbult TSF complex. During simulations, the Amandelbult rehabilitation plan for the TSFs were considered. Three long-term scenarios were assessed, as discussed below:

SCENARIO 1: NO PROJECT OPTION

The outcome is like that described for Scenario 2 below. This is mainly because the impact of other sources of contamination like TSF 1, TSF 3A and TSF 3B continue play a role in the long-term. In addition, the re-deposition of tailings on the TSF 2 footprint is expected to increase impacts on groundwater quality over the life of the project as operational tailings deposition will allow for higher infiltration of leachate compared to dormancy.

SCENARIO 2: RECLAMATION AND RE-DEPOSITION OF TAILINGS

It was assumed that active deposition on TSF 3B would continue until the end of life of the TSF complex and that TSF 1 and TSF 2 would remain dormant until then.

The results indicate that the plumes in the weathered zone are expected to recede towards the TSF complex in the long-term as they start to dry out. The sulphate plume is expected to migrate in a westerly direction towards the Bierspruit but is not expected to reach the river in the long-term.

The extent of the zone of significant impact in the weathered aquifer is however likely to remain in the weathered aquifer post closure and will be mainly associated with the footprint of TSF 1 for sulphate and TSF 3A for iron concentrations. The zone of significant impact in terms of sulphate is expected to migrate in a westerly direction, approximately 850 m from TSF 1 in the long-term. The zone of significant impact in terms of iron concentrations is expected to migrate in a north-easterly direction towards the Crocodile River but will not reach the river in the evaluation period.

The zone of impact in terms of WUL conditions will recede for sulphate concentrations in the weathered aquifer, to mainly within the Amandelbult Surface and Mineral Rights areas. The iron plume may however exceed the Surface and Mineral Rights Area along the easterly boundary over 960 m. There is a small risk that the iron plume may still reach the Middelaagte graben in the long-term, but it will not reach the alluvium in the Crocodile River floodplain.

The potential impact on the underlying fractured aquifer is however expected to increase with time. Even though the vertical movement of contamination is expected to be slower compared to horizontal flow, with time, the plumes are expected to migrate down to the fractured aquifer. Simulations suggests that sulphate and iron concentrations are not expected to increase to above significant impact concentrations.

No private boreholes are in the zone of significant impact, in terms of sulphate or iron. The origins of the non-perennial streams are also outside the zone of significant impact, apart from the stream draining near TSF 1.

The sulphate and iron plumes are expected to migrate past the unchanneled valley bottom wetlands delineated down gradient of the Holding Dam. Sulphate and iron concentrations are expected to reduce slightly in the long-term compared to the end of the operational phase because of the rehabilitation measures implemented at closure. Despite the reduction, sulphate concentrations may exceed 550 mg/L and iron concentrations 0.6 mg/L in groundwater reaching this wetland. This is unlikely to result in significant impacts on the wetland from a groundwater perspective.

SCENARIO 3: RECLAMATION AND RE-DEPOSITION OF TAILINGS WITH SCAVENGER BOREHOLES

A scenario was included to test the possible effect of using scavenger boreholes for plume reduction during the operational phase, as described by Water Hunters (2023). To achieve this, abstraction of groundwater at the rates reported in the 10 scavenger boreholes identified was implemented over the remainder of the life of the operations. It was assumed that pumping would cease at mine closure.

The results indicate that in the long-term groundwater abstraction from EMPR15, located south of TSF 3A is not expected to significantly affect the delineates zone of impact on groundwater quality. It is specifically noted that this abstraction is unlikely to affect groundwater qualities in the long-term around TSF 2 as the capture zone of EMPR15 is limited to the southern border of TSF 3A.

Groundwater abstraction is expected to reduce sulphate and iron concentrations, especially over the operational phase. This is discussed in more detail below.

SIMULATED SULPHATE AND IRON CONCENTRATION TIME SERIES EVALUATION

A comparison between simulated iron and sulphate concentrations indicates that there is very little difference between the three scenarios tested at borehole EMPR8, located closest to TSF 2. The results suggest that none of the scenarios tested are expected to reduce iron and sulphate concentrations immediately north of TSF 2, to below WUL conditions. In this area, sulphate concentrations are expected to remain between 700 and 800 mg/L in the long-term. Iron concentrations are expected to increase to between 1.3 mg/L and 1.4 mg/L, as discussed earlier, but not to exceed 2 mg/L.

The results indicate that the reclamation of TSF 2 and the re-deposition of tailings over the remainder of the operational phase is likely to have a similar long-term outcome compared to if the project does not go ahead. If scavenger boreholes are to be used to reduce long-term impacts, additional abstraction boreholes should be considered around the Amandelbult TSF complex, especially along the eastern boundary where the plumes are expected to migrate outside the Amandelbult Surface and Mineral Rights areas.

The groundwater monitoring requirements are presented in Section 18. If additional private boreholes are identified within a 1 km radius, they must be included in the monitoring program.

Recommendations listed in Table 18, plus Section 17 to Section 19 need to be followed.

22 REFERENCES

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Anglo American Platinum, 2024. GISTM Disclosure Report: Amandelbult Tailings Storage Facility, dated August 2024.

Aquatico, 2023 – 2024. Amandelbult Concentrator – Surface and Groundwater Monthly Water Quality Reports, January 2023 – June 2024.

Bredenkamp, DB, Botha LJ, Van Tonder GJ and Janse van Rensburg, H. 1995. Manual on Quantitative Estimation of Groundwater Recharge and Aquifer Storativity, Water Research Commission Project No 353, dated June 1995.

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DWS BPG A2, 2008. Best Practice Guideline A2: Water Management for Mine Residue Deposits, Best Practice Guidelines for Water Resource Protection in the South African Mining Industry, July 2008.

DWS BPG G4, 2008. Best Practice Guideline G4: Impact Prediction, Best Practice Guidelines for Water Resource Protection in the South African Mining Industry, December 2008.

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Hydrospatial, May 2025. Hydrological Study for the Proposed Reclamation of the Amandelbult Tailings Storage Facility Dam 2, Project Number KON040.

Kongiwe, 2025. Proposed project Description – Reclamation and processing of the tailings material from the Amandelbult TSF: Dam No.2. Project Description Memorandum, date 8 July 2025.

Parsons, 1995. A South African Aquifer System Management Classification, prepared for the Water Research Commission and the Department of Water Affairs and Forestry, WRC Report KV88/95, dated December 1995.

SANS 241-1:2015, 2015. South African National Standard – Drinking water – Part 1: Microbiological, physical, aesthetic and chemical determinants, ISBN 978-0-626-29841-8.

Shanko Projects, 2024 – 2025. Monthly Report - Concentrator – Surface and Groundwater Quality Monitoring, July 2024 – February 2025.

Water Hunters, June 2023. Anglo Amandelbult. Implementation of a Numerical Groundwater Flow Model for the simulation of the impact of the scavenger wells and anthropogenic aquifers.

WSP, 2023a. Hydrogeological model for Amandelbult using BP23 Mine Plans, Report No 41105633-358557-1, dated July 2023.

WSP, 2023b. Anglo American. Calibration Report. Amandelbult Mine Water Balance.

WSP, May 2024. Anglo American Platinum Future of Amandelbult Underground Mine Project – Geochemistry Study, Report No 41105633-REP-00017-DRAFT, dated October 2024.

WSP, 2024. Anglo American Platinum Future of Amandelbult Underground Mine Project – Geochemistry Study, Report No 41105633-REP-00017-DRAFT, dated October 2024.

Appendix A

CVs

Curriculum Vitae
Lucas Andries Smith (Pr. Sci.Nat)

Independent Hydrogeological Consultant

Principal Hydrogeologist

Based in:
Rietfontein
Tshwane

Mobile phone – 082 577 8439

lucas@wellsafrica.com

QUALIFICATIONS

MSc Geohydrology, IGS (UFS) Bloemfontein, South Africa, 2003.

Baccalaureus Technology Geology, Technicon Pretoria, South Africa, 1997.

National Diploma Geotechnology, Technicon Pretoria, South Africa, 1992.

EMPLOYMENT HISTORY

Department of Water and Sanitation – 17 years.

ERM Consulting – 3.5 years.

Digby Wells Environmental – 5.5 years.

ASST Group – 12 months.

Current – Director, Groundwater Abstract Pty Ltd

FIELDS OF SPECIAL COMPETENCE

- Water use assessments (hydrocensus)
- Geophysical investigations
- Borehole drilling and rehabilitation studies
- Aquifer testing
- Community water supply and resource management
- Mine dewatering, water supply and management programmes
- Groundwater quality assessments
- Groundwater, catchment and impact assessments
- Design and management of water monitoring programmes
- Integrated Water and Waste Management Plans
- Water Use License Applications and compliance assessments
- Geochemistry assessments and waste classification
- Staff management
- Project management

SUMMARY OF COMPETENCIES

Lucas has 33 years of experience in the field of hydrogeology. Before moving to environmental consulting, he was a principal hydrogeologist at the Department of Water Affairs and Forestry (now Dept. Water and Sanitation) (South Africa) where he devoted 17 years to groundwater research and exploration programmes; rural water supply-, larger municipal water supply-, and government water supply schemes projects; artificial groundwater recharge projects; as well as borehole and aquifer development and remediation projects.

He executed and managed different hydrogeological projects, focussing on aspects such as community water supply programmes, geophysical investigations, characterisation of aquifers, pollution studies, in-stream flow requirements, hydraulic fracturing, dolomite and karst investigations and monitoring, chemical borehole rehabilitation (biofouling) and hydro-chemical analyses.

Over the past 16 years Lucas' environmental consulting experiences include the Southern African and Central- and West African mining sectors, as well as Energy sectors (Eskom and alternatives) where he manages groundwater and surface water resource evaluations and interaction, as well as conceptualising and quantification of groundwater flow/contaminant transport, ultimately for input to Environmental and Social Impact Assessments (ESIA), Environmental Management Programme reports (EMPr), Feasibility Studies and mine water management. Integrated water management is key to any business, mine, industry, or communities to ensure a sustainable resource for the environment and local communities to benefit from.

At Digby Wells Environmental Lucas was part of the EXCO committee; where he managed a team of 14 surface and groundwater specialists and several projects.

He served on the H&S Committee at ERM and Digby Wells where he also served as Chairperson for the H&S Committee for 1 year.

Lucas is a dedicated employee, husband and farther; and passionate about managing and protecting our natural resources and the environment.

RECENT RELEVANT PROJECT EXPERIENCE

During the 33 years in the Water Geosciences industry Lucas was involved in many projects where he served as team member on many field works and research programmes; he managed staff and various projects throughout Africa and even as far as Pakistan, and played a prominent role in being the overall Sponsor on projects, as well as acting as key client manager for clients like Sasol and Universal Coal.

A list of clients and projects over the last couple of years can be provided on request, but due to the extent of the experience it has been omitted from this CV.

ABBREVIATED CV Irene Lea

Personal Information

Name:	Irene Melville Lea
Nationality:	South African
Address:	3 Herbert Baker Street, Sharon Park, South Africa
Telephone no:	011 363 2926
Fax no:	086 672 9900
Email:	irene@ileh.co.za

Employment

Current Position:

Consulting Hydrogeologist
Sole Proprietor, Irene Lea Environmental and Hydrogeology cc (ILEH)
September 2009 – Present

Previous Employment:

Pamodzi Gold and its predecessors – Group Environmental Manager (Dec 2002 – July 2009)
Groundwater Consulting Services – Water Unit Manager (Jan 1996 – Nov 2002)
CSIR – Staff Hydrogeologist (January 1992 – December 1995)

Professional Registration

Professional Natural Scientist (SACNASP, Reg. No. 400107/97)

Education

B.Sc. Geology and Mathematics, University of Stellenbosch, 1988 - 1990
B.Sc. (Hons) Geology, University of Stellenbosch, 1992
M.Sc. Geohydrology, Institute for Groundwater Studies, University of the Free State, 1996 - 1997

Experience

Irene Lea has 31 years' experience in the field of geohydrology. She has a M.Sc. in Geohydrology and is a registered Professional Natural Scientist. Her focus includes numerical groundwater flow and contaminant transport modelling, integrated water and waste management strategies, water and salt balances, rehabilitation and closure projects, the development of environmental management programmes and risk assessments. She has successfully completed projects over a broad range of fields, including mining, mineral processing, chemical industries, waste disposal, transport, agriculture and power generation. A project that she managed was nominated and short listed for a Nedbank Green Mining Award in 2006.

Recent Projects

Groundwater flow and contaminant transport modelling:

- AECI Modderfontein Industrial Complex, Groundwater Impact Assessment (SRK, 2012)
- Exxaro Arnot Colliery – Groundwater Impact Assessment (Golder and Associates, 2012)
- Transalloys Industrial site – Groundwater Impact Assessment (Jones & Wagener, 2012)
- Tschudi Copper Mine – Dewatering and groundwater supply (Jones & Wagener, 2012)
- Harmony Kalgold – Optimisation of abstraction boreholes and TSF EIA (Jones & Wagener, 2013)
- Fry Metals – Contaminant Transport Model to evaluate rehabilitation options (Rison, 2013)
- Assmang Chrome - Machadodorp Works Contaminant Transport Model (ESS, 2014)
- Sebilo Resources – Perth Manganese Numerical Groundwater Model (Sebilo Resources, 2014)
- Rand Gold Mali Loulo Mine – Updated Groundwater Impact Assessment (Digby Wells Environmental, 2015)
- South Deep – Numerical simulations for the closure of a Tailings Storage Facility (Rison, 2015)
- Dwarsrivier Mine – Groundwater flow and contaminant transport model (EnviroGistics, 2015)
- Withok Tailings Storage Facility – Numerical simulations for re-commissioning of TSF (Ergo Mining, 2015)
- Fry Metals – Contaminant Transport Model update (Rison, 2015)
- Tetra4 Virginia Gas Project – Groundwater specialist input and numerical modelling (EIMS, 2016)
- DRD Gold – Numerical groundwater model for Withok Tailings Storage facility (Beric Robinson Tailings, 2016)
- Tetra4 Virginia Gas Project – Follow-up numerical modelling (EIMS, 2017)
- City of Cape Town Kalbaskraal Waste Disposal Project – Numerical modelling (Cliffe Decker Hofmeyr, 2017)
- Lephalale Coal Mines – Geohydrological modelling (ASST, 2017)
- Dwarsrivier Mine – Follow-up numerical groundwater flow and contaminant transport model (Envirogistics, 2017)
- Prieska Copper Mine – Geohydrological impact assessment, including numerical modelling (ABS Africa, 2017)
- Umsimbithi eMakhazeni Project - Geohydrological impact assessment, including numerical modelling (Kongiwe, 2018)
- City of Cape Town Kalbaskraal Waste Disposal Project – Numerical modelling (Cliffe Decker Hofmeyr, 2018)
- Vardocube Mining – Geohydrological impact assessment, including numerical modelling (ABS Africa, 2018)
- Assmang Manganese Cato Ridge – Numerical groundwater flow and contaminant transport model (Assmang Manganese, 2018)
- eMakazeni Mining Project - Numerical groundwater flow and contaminant transport model (Kongiwe, 2018)
- Leslie 1 Project – Numerical groundwater flow and contaminant transport model (Kongiwe, 2018)
- City of Cape Town Kalbaskraal Waste Disposal Project – Numerical modelling (Cliffe Decker Hofmeyr, 2018)
- Dwarsrivier Mine –Numerical groundwater flow and contaminant transport model (Envirogistics, 2018)
- Assmang Chrome Machadodorp Works - Numerical groundwater flow and contaminant transport mod (Assmang, 2018)
- Kranspan Colliery – Numerical groundwater flow and contaminant transport model (ABS Africa, 2019)
- DRD Gold – Numerical groundwater flow and contaminant transport modeling: Soweto Cluster and Marievale Projects (Kongiwe, 2019)
- South32 – Wolvekrans Mega Project – Geohydrological specialist study (NTC Group, 2019-2021)
- AEMFC – Vlakfontein Mine North Block Geohydrological Risk Assessment (EIMS, 2019)
- Envirogistics – Groundwater impact assessment – Wonderstone operations (Assore, 2020)
- Dwarsrivier Chrome Mine – Groundwater impact assessment – Historical TSF removal project (Dwarsrivier Chrome Mine, 2020)
- Prieska Copper and Zinc Mine – Groundwater impact assessment – Brine management scenarios (ABS Africa, 2020)
- Universal Coal Ubuntu Colliery – Numerical groundwater flow and contaminant transport modelling (Groundwater Abstract, 2020)
- Assore – Numerical groundwater flow and contaminant transport model updates: RMDS and ZCM operations (Assore, 2021)
- Dwarsrivier Chrome Mine – Annual numerical groundwater model update (Dwarsrivier Chrome Mine 2020 – 2023)
- ARM Machadodorp Works - Numerical groundwater flow and contaminant transport model update (ARM, 2021)
- eMakazeni Mining Project – Update of numerical groundwater modelling (Groundwater Abstract, 2021)
- Dwarsrivier Chrome mine – Khulu Tailings Storage Facility Project (Envirogistics, 2021 - 2022)
- DRD Reclamation of several TSF – Geohydrological impact assessment (Groundwater Abstract, 2022)
- Dwarsrivier Chrome Mine – Scavenger Borehole Implementation Strategy (Dwarsrivier Chrome Mine, 2022)
- Orion Limited – Okiep Flat Mines Project Geohydrological Impact Assessment (ABS Africa, 2022)
- Hlagisa Wildfontein Mine Closure Application – Geohydrological Specialist Study (ABS Africa, 2022)
- Orion Flatmines Project, OKiep – Geohydrological Specialist Study (ABS Africa, 2023)
- Overlooked Colliery – Geohydrological Specialist Study (NTC, 2023)

- Assore – Driekuil Colliery Geohydrological Specialist Study – Revised mine plan update (Envirogistics, 2023)
- Ilima Kranspan Colliery – Geohydrological Specialist Study (ABS Africa, 2023)
- ERGO Mining – 4L39 TSF reprocessing EIA (Groundwater Abstraction.2023)
- ARM Machadodorp Smelter – Geohydrological model update (ARM, 2023)

Integrated Water and Waste Management:

- Sebilo Resources – Perth Manganese water use license application (Sebilo, 2014)
- Vantage Goldfields – Water Balance: Lily and Barboork Mines (Vantage Gold, 2015)
- Dwarsrivier Mine – Integrated Water Monitoring Programme (Assmang Chrome, 2015)
- RK Boerdery – Water balance for piggery (Batho Environmental, 2015)
- Sakura JV Indonesia – Groundwater study (Assmang Ltd, 2015)
- PMG Mining – Water balance of manganese mine (Globesight, 2016)
- Transnet – Confidential technical report review (DMT Kai Batla, 2016)
- Tswane Metropolitan Municipality – Tswane Agri-Hub Baseline Hydrogeological Study (DMT Kai Batla, 2016)
- Afrisam South Africa – Ulco Cement Factory Hydrogeological Investigation (MojaTerre, 2016)
- City of Cape Town – Kalbaskraal Waste Disposal Facility Geohydrological Modelling (Cliffe Decker Hofmeyer, 2017)
- Sebilo Resources – Perth Mine Waste Classification (Sebilo Resources, 2017)
- Zeerust Chrome Mine – Tailings Waste Classification Study (AMTIT, 2017)
- Lephalale Coal and Power Project – Numerical groundwater flow and contaminant transport model (ASST, 2017)
- Beeshoek Iron Ore Mine – Water and Salt Balance (Envirogistics, 2017)
- Beeshoek Iron Ore Mine – Water Conservation and Demand Management Plan (Envirogistics, 2017)
- Machadorp Smelter – Water and Salt Balance (Assmang Ltd, 2017)
- Dwarsrivier Chrome Mine – Water Conservation and Demand Management Plan (Envirogistics, 2017)
- Dwarsivier Chrome Mine – Waste Classificaiton Study (DCM, 2017)
- New Kleinfontein Mine – Water and Salt Balance (NTC Group, 2017)
- Rustenburg Minerals Development Corporation – Basic Assessment Report – Groundwater (Envirogistics, 2018)
- Dwarsrivier Chrome Mine – Water Balance Study (Envirogistics, 2018)
- Beeshoek Mine -Water Balance Study (Envirogistics, 2018)
- Gold One New Kleinfontein Mine – Water Balance Study (NTC, 2018)
- Beeshoek Mine – Water and Salt Balance and Water Conservation and Demand Management Plan (Envirogistics, 2019)
- Dwarsrivier Mine – Water Conservation and Demand Management Plant (Envirogistics, 2019)
- ARM Alloys – Machadodorp Works Water and Salt Balance (ARM Alloys, 2019)
- ESKOM Ash Facility – Review of validity of closure liability calculation (Markus Reichardt, 2020)
- Wonderstone Mine – Water and Salt Balance (Envirogistics, 2020)
- Beeshoek Iron Ore Mine – Water and Salt Balance (Envirogistics, 2020)
- ARM Machadorp Smelter – Water and Salt Balance (Envirogistics, 2020)
- RMIPPPP 50 MW Gas Power Project Basic Assessment Report (ABS Africa, 2020)
- Beeshoek Mine – Water and Salt Balance and Water Conservation and Demand Management Plan (Envirogistics, 2020 and 2021)
- Upper Jukskei River Catchment Management Plan for the City of Johannesburg – Geohydrology component (Fourth Element, 2021)
- The Mineral Corporation – Geohydrological Opinion, Phase 2 Technical Due Diligence – Waterberg Project (TMC, 2021)
- Eskom Majuba Power Station – Geohydrological Basic Assessment (EIMS, 2022)
- Lubambe Copper Mine Zambia Geohydrological and Water Management Assessment (The Mineral Corporation, 2022)
- Karo Platinum Project Zimbabwe high-level geohydrological assessment (The Mineral Corporation, 2022)
- Universal Coal – Kangala Colliery Water and Salt Balance (Groundwater Abstract, 2023)
- Beeshoek Mine – Water and Salt Balance and Water Conservation and Demand Management Plan (Envirogistics, 2023)
- Mopani Copper Mine – Water-related Due Diligence (The Mineral Corporation, 2023)
- ARM Machadodorp Smelter – Water and Salt Balance update (ARM, 2023)
- Project Rockford, Australia – Groundwater component of Due Diligence (The Mineral Corporation, 2023)
- ARM MAchadodorp Smelter – Groundwater model update ARM, 2023)

Environmental Management:

- Management of the construction of a river diversion (Pamodzi Gold, 2006)
- Minxcon Competent Person's Report (Bema Gold, 2006)
- Management of the construction and commissioning of a 10 ML/d mine water treatment plant (Pamodzi Gold, 2008/2009)
- Standard Bank Due Diligence (Pamodzi Gold, 2009)
- Environmental Baseline Assessment: Perth Manganese Prospect (Sebilo Resources, 2010)
- Prospecting Right EMP: Aquarius Chieftans and Valhallah Prospect (SRK Consulting, 2011)
- NI43-101 Technical Report - Hydrogeology: Homeland Energy (SRK Consulting, 2011)
- Zeerust Chrome Mine EMP Amendment (Assore, 2011)
- Northam Platinum Due Diligence – Hydrogeology (SRK, 2011)
- Mogale Gold Technical Assessment – Water-related issues (MSA Geoservices, 2011)
- Rustenburg Mineral Corporation EMP Amendment (Assore, 2011)
- Mogale Gold – Lancaster Dam Baseline Assessment (Mintails SA Ltd, 2011)
- Sebilo Resources – Perth Mining Right Application EMP (2012)
- Lebalelo Water Users Association – Olifants River Project (Anglo Platinum, 2012)
- Umlabu Colliery – Due Diligence (SRK, 2012)
- Keegan Resources - Esaase Gold Project, Ghana – Gap Analysis and ESIA (Epoch Resources, 2013)
- Pembani Group – Evaluation of the Carolina Operations water related liabilities (Pembani, 2014)
- Glencore & Royal Bafokeng Holdings – Boschfontein Slag Dump Groundwater Risk Assessment (EIMS, 2014)
- RK Boerdery – Baseline geohydrological study for piggery (Batho Environmental, 2015)
- Gold mining industry – Groundwater component of a confidential Due Diligence (EBS, 2015)
- Sungu Sungu Gas – Groundwater specialist input – Scoping and EIA (EIMS, 2016)
- Kao Diamond Mine Lesotho – Groundwater specialist input – Scoping and EIA (EIMS, 2016)
- The Mineral Corporation – Mukulu Project Competent Persons Report Technical Review (TMC, 2016)
- Black Mountain Mine – Groundwater Basic Assessment Report (The MSA Group, 2016)
- Tetra4 – Virginia Gas Project Baseline Hydrogeological Study (Tetra4, 2016)
- DRD Gold – Tailings reprocessing offset evaluation (DRD Gold, 2016)
- Hlagisa – Wildfontein Section 102 application (ESS, 2017)
- Dwarsrivier Chrome Mine – Assessment of Quantum for Rehabilitation (Assore, 2018)
- African Mining Trust – Wonderstone Quantum for Rehabilitation evaluation (Assore, 2020)

Appendix B

Water Laboratory Certificates

aquatico Laboratories (Pty). Ltd.

ilac-MRA sanas Testing Laboratory T0685

Test Report

Client: Groundwater Abstract Pty Ltd GWA
Address: 828 20th Avenue , Rietfontein, Pretoria, 0084
Report no: 224244
Project: Amandelbult

Date of report: 13 June 2025
Date accepted: 06 June 2025
Date completed: 13 June 2025
Date received: 06 June 2025

Lab no:					262983	262984	262985
Date sampled:					05-Jun-25	05-Jun-25	05-Jun-25
Aquatico sampled:					No	No	No
Sample type:					Water	Water	Water
Locality description:					EMPR 08	EMPR 15	Toe 27
		Analyses		**Unit**	**Method**		
A	AQL	pH @ 25°C		pH	ALM 20	7.86	6.69	8.44
A	AQL	Electrical conductivity (EC) @ 25°C		mS/m	ALM 20	287	403	432
A	AQL	Total dissolved solids (TDS)		mg/l	ALM 26	2039	2632	3114
A	AQL	Total Alkalinity		mg $CaCO_3$/l	ALM 01	375	180	622
A	AQL	Chloride (Cl)		mg/l	ALM 02	513	969	770
A	AQL	Sulphate (SO_4)		mg/l	ALM 03	634	689	941
A	AQL	Nitrate (NO_3) as N		mg/l	ALM 06	0.220	0.266	0.279
A	AQL	Ammonium (NH_4) as N		mg/l	ALM 05	0.906	0.223	4.70
A	AQL	Orthophosphate (PO_4) as P		mg/l	ALM 12	<0.009	<0.009	0.083
A	AQL	Fluoride (F)		mg/l	ALM 08	<0.263	<0.263	<0.263
A	AQL	Calcium (Ca)		mg/l	ALM 30	180	129	30.8
A	AQL	Magnesium (Mg)		mg/l	ALM 30	244	288	407
A	AQL	Sodium (Na)		mg/l	ALM 30	198	438	486
A	AQL	Potassium (K)		mg/l	ALM 30	2.63	4.92	64.3
A	AQL	Aluminium (Al)		mg/l	ALM 31	<0.002	<0.002	<0.002
A	AQL	Iron (Fe)		mg/l	ALM 31	0.034	4.33	<0.004
A	AQL	Manganese (Mn)		mg/l	ALM 31	0.264	0.660	0.143
A	AQL	Total Chromium (Cr)		mg/l	ALMT 31	<0.010	<0.010	<0.010
A	AQL	Chromium (Cr)		mg/l	ALM 31	<0.003	<0.003	<0.003
N	AQL	Trivalent Chromium (Cr^{3+})		mg/l	ALM 26	<0.010	<0.010	<0.010
A	AQL	Hexavalent chromium (Cr^{6+})		mg/l	ALM 09	<0.002	<0.002	<0.002
A	AQL	Copper (Cu)		mg/l	ALM 31	0.010	0.011	0.015
A	AQL	Nickel (Ni)		mg/l	ALM 31	<0.002	<0.002	<0.002
A	AQL	Zinc (Zn)		mg/l	ALM 31	<0.002	<0.002	<0.002
A	AQL	Cobalt (Co)		mg/l	ALM 31	<0.003	<0.003	<0.003

A = Accredited N = Not accredited Sub = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine ATR = Alternative test report ; Results relate only to the items received and tested ; Results reported against the limit of detection; Results marked "Not SANAS Accredited" in this report are not covered by the Scope of Accreditation for this laboratory; Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation; The report shall not be reproduced except in full without approval of the laboratory

Test Report

Client: Groundwater Abstract Pty Ltd GWA
Address: 828 20th Avenue , Rietfontein, Pretoria, 0084
Report no: 224244
Project: Amandelbult

Date of report: 13 June 2025
Date accepted: 06 June 2025
Date completed: 13 June 2025
Date received: 06 June 2025

Lab no:					262983	262984	262985
Date sampled:					05-Jun-25	05-Jun-25	05-Jun-25
Aquatico sampled:					No	No	No
Sample type:					Water	Water	Water
Locality description:					EMPR 08	EMPR 15	Toe 27
		Analyses	**Unit**	**Method**			
A	AQL	Cadmium (Cd)	mg/l	ALM 31	<0.002	<0.002	<0.002
A	AQL	Lead (Pb)	mg/l	ALM 31	<0.004	<0.004	<0.004
A	AQL	E.coli	CFU/100ml	ALM 40	<1	<1	<1
A	AQL	Total coliform	CFU/100ml	ALM 40	2	<1	<1
A	AQL	Turbidity	NTU	ALM 21	67.9	306	1.03
A	AQL	Total hardness	mg $CaCO_3$/l	ALM 26	1454	1510	1755
A	AQL	Sodium Adsorption Ratio	SAR	ALM 26	2.26	4.90	5.04
A	AQL	Chemical oxygen demand (COD)	mg/l	ALM 10	34.6	40.4	47.8
A	AQL	Total suspended solids (TSS)	mg/l	ALM 25	51	108	14
N	AQL	Dissolved oxygen (DO)	mg/l	ALM 28	7.92	6.96	8.55
A	AQL	Arsenic (As)	mg/l	ALM 34	<0.006	<0.006	<0.006
A	AQL	Selenium (Se)	mg/l	ALM 34	<0.002	<0.002	<0.002
A	AQL	HNO3-Microwave digestion	mg/l	ALM 90	Yes	Yes	Yes

A = Accredited N = Not accredited Sub = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine ATR = Alternative test report ; Results relate only to the items received and tested ; Results reported against the limit of detection; Results marked "Not SANAS Accredited" in this report are not covered by the Scope of Accreditation for this laboratory; Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation; The report shall not be reproduced except in full without approval of the laboratory

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Appendix C

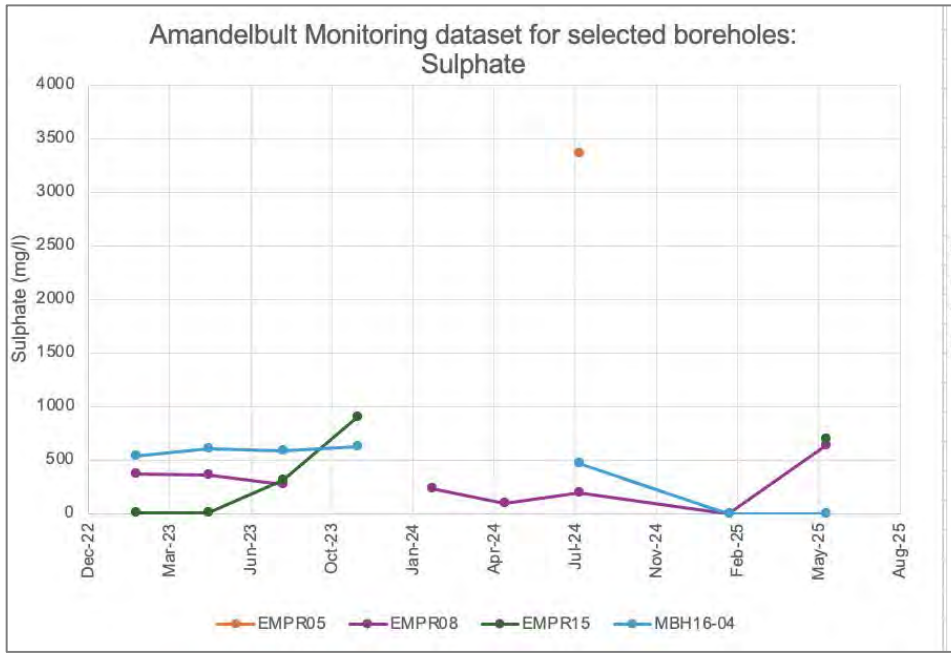
Surface and groundwater monitoring data used in this report

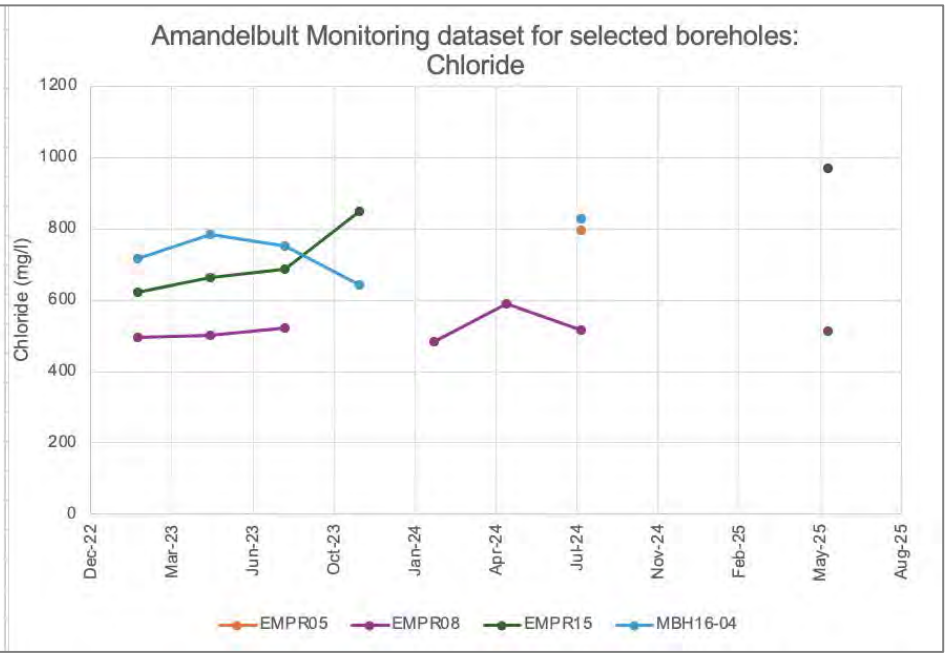
Surface and groundwater monitoring data used in this report

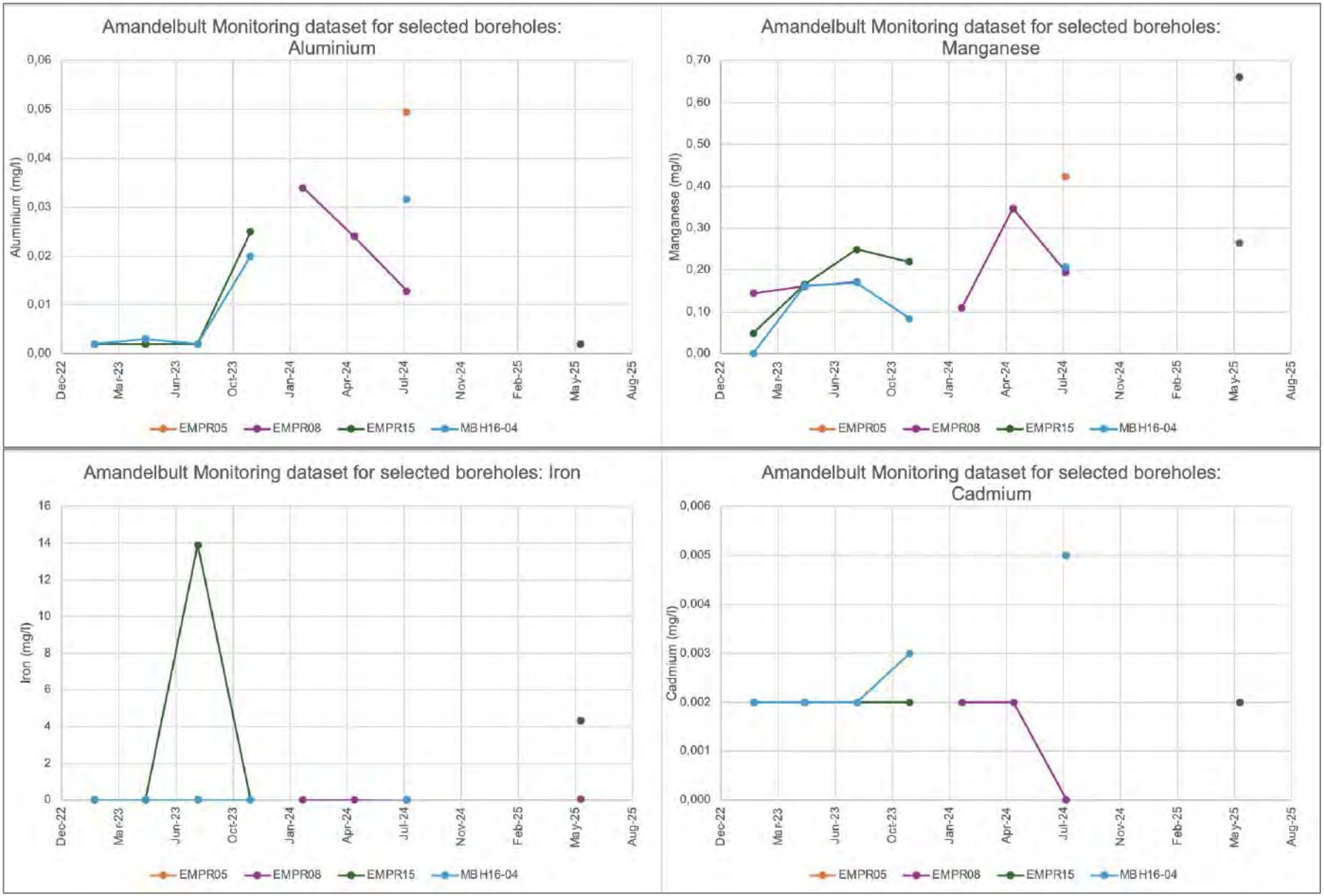
Groundwater Dataset

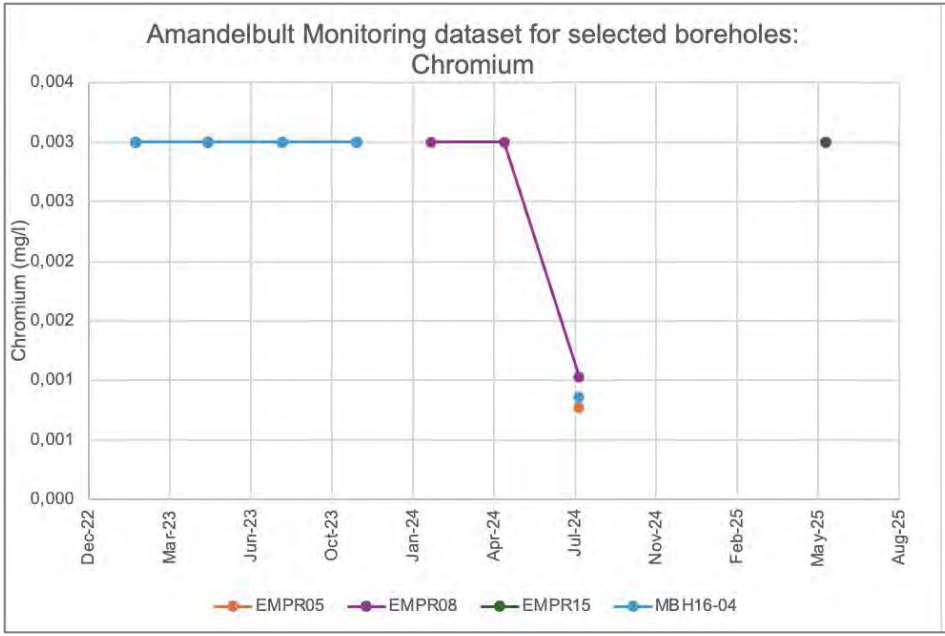
Element	Feb-23	May-23	Aug-23	Nov-23	Feb-24	May-24	Aug-24	Feb-25	Jun-25
	EMPR05								
GW level (m)	No access	No access	No access	No access	No access	No access	No data	Inaccessible	6,83
SO4							3362		Not sampled
Cl							797		
Al							0,049		
Mn							0,423		
Fe							0,0004		
Cd							0,005		
Cr							0,001		
	EMPR08								
GW level (m)	9,21	8,99	8,86	Not sampled	8,68	9,04	9,6	9,18	8,15
SO4	369	356	272		232	95	196	Inaccessible	634
Cl	497	503	523		483	589	517		513
Al	0,002	0,002	0,002		0,034	0,024	0,013		0,002
Mn	0,144	0,161	0,171		0,110	0,347	0,194		0,264
Fe	0,004	0,004	0,004		0,004	0,004	0,003		0,034
Cd	0,002	0,002	0,002		0,002	0,002	0,00001		0,002
Cr	0,003	0,003	0,003		0,003	0,003	0,001		0,003
	EMPR15								
GW level (m)	8,29	7,99	7,22	7,12	Bees	No access	Bees	Bees	7,4
SO4	4,2	3,27	314	897					689
Cl	621	663	686	849					969
Al	0,002	0,002	0,002	0,025					0,002
Mn	0,049	0,165	0,249	0,219					0,660
Fe	0,004	0,004	13,900	0,004					4,330
Cd	0,002	0,002	0,002	0,002					0,002

Element	Feb-23	May-23	Aug-23	Nov-23	Feb-24	May-24	Aug-24	Feb-25	Jun-25
Cr	0,003	0,003	0,003	0,003					0,003
	MBH16-04								
GW level (m)	0,84	0,98	0,92	1,36	Blocked	No access	0,66	1,09	0,87
SO4	534	608	588	622			468	Inaccessible	Not sampled
Cl	716	784	751	642			828		
Al	0,002	0,003	0,002	0,020			0,032		
Mn	0,001	0,162	0,170	0,084			0,207		
Fe	0,004	0,004	0,004	0,004			0,009		
Cd	0,002	0,002	0,002	0,003			0,005		
Cr	0,003	0,003	0,003	0,003			0,001		






Amandelbult Monitoring dataset for selected boreholes: Aluminium
Aluminium (mg/l)
0,06
0,05
0,04
0,03
0,02
0,01
0,00
Dec-22
Mar-23
Jun-23
Oct-23
Jan-24
Apr-24
Jul-24
Nov-24
Feb-25
May-25
Aug-25
EMPR05
EMPR08
EMPR15
MBH16-04
Amandelbult Monitoring dataset for selected boreholes: Manganese
Manganese (mg/l)
0,70
0,60
0,50
0,40
0,30
0,20
0,10
0,00
Amandelbult Monitoring dataset for selected boreholes: Iron
Iron (mg/l)
16
14
12
10
8
6
4
2
0
Amandelbult Monitoring dataset for selected boreholes: Cadmium
Cadmium (mg/l)
0,006
0,005
0,004
0,003
0,002
0,001
0,000


Amandelbult Monitoring dataset for selected boreholes: Chromium
Chromium (mg/l)
0,004
0,003
0,003
0,002
0,002
0,001
0,001
0,000
Dec-22
Mar-23
Jun-23
Oct-23
Jan-24
Apr-24
Jul-24
Nov-24
Feb-25
May-25
Aug-25
EMPR05
EMPR08
EMPR15
MBH16-04

Return Water and Holding Dams Dataset

Element	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25
	AMD J (AMC02): Return Water Dam													
SO4	535	723	731	632	652	646	570	870	574	595	609	670	604	320
Cl	478	539	663	533	589	592	482	547	539	603	621	670	550	390
Al	0,002	0,002	0,161	0,002	0,020	0,002	0,013	0,010	0,100	0,130	0,100	0,100	7,740	0,184
Mn	0,001	0,024	0,001	0,001	0,003	0,001	0,002	0,040	0,025	0,025	0,025	0,025	14,090	0,039
Fe	0,004	0,004	0,004	0,004	0,004	0,004	0,009	0,001	0,025	0,025	0,025	0,025	0,490	0,114
Cd	0,002	0,002	0,002	0,002	0,002	0,002	0,005	0,002	0,001	0,001	0,001	0,001	1,850	0,001
Cr	0,003	0,003	0,003	0,003	0,006	0,003	0,003	0,002	0,025	0,025	0,025	0,025	2,060	0,025
	AMD U (AMC01): Holding Dam													
SO4	557	683	663	623	No access	625	600	915	613	622	628	646	595,86	362
Cl	458	526	605	527		535	492	506	540	610	625	658	514	412
Al	0,002	0,002	0,284	0,002		0,002	0,017	0,151	0,370	0,265	0,162	0,191	24,150	0,100
Mn	0,001	0,034	0,002	0,001		0,001	0,001	0,004	0,042	0,025	0,025	0,025	1,410	0,025
Fe	0,004	0,004	0,004	0,004		0,004	0,009	0,035	0,141	0,040	0,031	0,122	5,920	0,025
Cd	0,002	0,002	0,002	0,002		0,002	0,005	0,002	0,001	0,001	0,001	0,001	1,860	0,001
Cr	0,003	0,003	0,003	0,003		0,003	0,001	0,0001	0,025	0,025	0,025	0,045	0,460	0,025
Lab used	Aquatico	Aquatico	Aquatico	Aquatico	Aquatico	Aquatico	BioSel Lab *	BioSel Lab *	Waterlab	Waterlab	Waterlab	Waterlab	Waterlab	Waterlab

* BioSel Lab reported the metal concentrations in ug/l. These were converted to mg/l in this assessment

Appendix D

Impact Assessment Table

No.	Affected Environment	Activity	Impact Description	BEFORE MITIGATION						Cumulative Impact	Mitigation measures / Recommendations	AFTER MITIGATION					
				Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE			Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE
	Construction																
1	Groundwater	Site clearing and infrastructure development	**Quantity** - Quantity impacts are not expected during Construction.	*Minor -*	*Short Term < 18 months*	*Site or Local*	Low	*Possible*	Low	Yes	Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time.	*Minor +*	*Short Term < 18 months*	*Site or Local*	Low	*Possible*	Low
2	Groundwater	Site clearing and infrastructure development	**Quality** - Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.	*Minor -*	*Short Term < 18 months*	*Site or Local*	Low	*Possible*	Low	Yes	- Continue with the groundwater monitoring program at AMB before reclamation starts. - Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. - Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.	*Minor +*	*Short Term < 18 months*	*Site or Local*	Low	*Possible*	Low
	Operation																
3	Groundwater	TSF 2 reclamation	**Quantity** - The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying formations, but the additional recharge should be neglectable.	*Minor -*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Possible*	Low	Yes	Continue with the groundwater monitoring network, monthly and according to the Licence conditions. More important - the monitoring data is required to assess possible impacts on the local surface water and groundwater environments, plus to monitor the impacts on the local groundwater users identified. Also refer to Sections 17 to 19 in the groundwater impact assessment report.	*Minor +*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Possible*	Low
4	Groundwater	TSF 2 reclamation	**Quality** - Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.	*Major -*	*Long Term > 5 years*	*Site or Local*	High	*Possible*	High	Yes	- Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCDs. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. - Commit to remove all tailings material and to monitor the quality of soils in the footprint areas. If soil monitoring suggests unacceptably high salt and metal concentrations, soil amelioration must be considered. - Monitor groundwater quality in all boreholes identified. The groundwater monitoring network efficiency must be assessed and new monitoring boreholes drilled, if required. Additional mitigation measures need to be implemented if pollution is found migrating off site. - Ensure that PCDs can contain all dirty water generated during the reclamation process to prevent overflows and spillages.	*Moderate -*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium
	Decomissioning and Closure																
5	Groundwater	Break down and remove all infrastructure	**Quantity** - Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected.	*Minor +*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Definite*	Medium	Yes	Monitor the water table.	*Minor +*	*Medium Term > 18 months < 5 years*	*Site or Local*	Low	*Definite*	Medium
6	Groundwater	Break down and remove all infrastructure	**Quality**: The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.	*Minor +*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium	Yes	- Monitor groundwater quality in all boreholes. - Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs	*Minor +*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium
	Post- Closure																
7	Groundwater	No activities	**Quantity** - No impacts forseen	*Minor +*	*Short Term < 18 months*	*Site or Local*	Low	*Definite*	Medium	Yes	Monitor the groundwater table.	*Minor +*	*Short Term < 18 months*	*Site or Local*	Low	*Definite*	Medium
8	Groundwater	No activities	**Quality**: The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed	*Minor +*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium	Yes	- Monitor groundwater quality in all boreholes. - Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs	*Minor +*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium

Appendix D4
Air Quality Impact Assessment

Wednesday, December 17, 2025

Department of Mineral and Petroleum Resources (DMPR)
101 Dorp Street
Polokwane
0699

Attention: Ms Reshoketswe Mphaphuli
By Email: Reshoketswe.Mphaphuli@dmre.gov.za

Air Quality Impact Assessment for the Reclamation and Processing of the Amandelbult Tailing Storage Facility (TSF) – Limpopo Province (LP) 30/5/1/2/3/2/1(00048) EM.

Dear Ms Mphaphuli,

Gondwana Environmental Solutions International (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd to undertake an Air Quality Impact Assessment (AQIA) that forms part of the Scoping and Environmental Impact Assessment (EIA) for the proposed Reclamation and Processing of the Amandelbult Tailings Storage Facility (TSF): Dam 2 (Proposed Project).

The Air Quality Impact Assessment (AQIA) was undertaken based on the project infrastructure and layout defined during the preliminary design phase. This included both hydraulic and mechanical mining activities and a worst-case scenario was modelled for dispersion. During the Environmental Impact Assessment (EIA) phase, the project methodology and layout were optimised, resulting in a reduced overall infrastructure footprint with predominantly hydraulic reclamation. Our finding as the independent environmental assessment practitioner (EAP) is that the revised layout will decrease both the extent and intensity of potential air quality impacts relative to those assessed in the AQIA. This therefore represents a conservative, worst-case assessment of potential impacts.

The impact assessment and associated mitigation measures prepared by the specialist prior to the selection of the final optimised project infrastructure and layout remain applicable, as the specialist assessment was based on a worst-case scenario. These impacts and mitigation measures are reflected in the Final Environmental Impact Assessment (EIA), with the prescribed mitigation measures incorporated into the Environmental Management Programme (EMPr).

Your faithfully,

Umeshree Naicker
Environmental Assessment Practitioner

Air Quality Impact Assessment for the Reclamation and Processing of the Amandelbult TSF Dam 2

GONDWANA
ENVIRONMENTAL SOLUTIONS

DOCUMENT CONTROL	
CLIENT:	KONGIWE
PROJECT NUMBER:	2025-GESI-0942
REPORT TITLE:	Air Quality Impact Assessment for the Reclamation and Processing of the Amandelbult TSF Dam 2
REPORT NUMBER:	RN_2505301
REVISION NUMBER:	03
DATE SUBMITTED:	26 August 2025
AUTHORS:	Anja van Basten Martin van Nierop Njabulo Luyanda Mahlobo
MANAGEMENT AUTHORISATION:	Martin van Nierop
CONTACT DETAILS:	Gondwana Environmental Solutions International (Pty) Ltd 562 Ontdekkers Road, Florida, P.O Box 158, Florida Hills, 1716 Tel: +27 11 472 3112; Fax: +27 11 674 3705; E-mail: info@gesza.co.za Web: www.gondwanagroup.co.za
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Executive Summary

Gondwana Environmental Solutions International (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd to undertake an air quality impact assessment (AQIA) for the proposed reclamation and processing of the Amandelbult Tailings Storage Facility (TSF) Dam 2. The objective of the AQIA is to evaluate the impact of the mechanical and hydraulic reclamation, as well as the subsequent processing of the TSF material on the ambient air quality of the surrounding areas. A significant amount of particulate matter is expected to be emitted into the air as a result of construction activities, reclamation and handling of the TSF material and hauling of material on site. Particulate matter with an aerodynamic diameter of less than 2.5 micrometres (µm) ($PM_{2.5}$) and particulate matter with an aerodynamic diameter of less than 10µm (PM_{10}) have potential health impacts and represent the main pollutants of concern for this proposed project.

Particulate matter is the most significant pollutant that is generated from construction activities. The proposed project will include the construction of a scrubber/repulping plant, a new PGM (Platinum Group Metal) Processing plant, a new Chrome Recovery plant, a new Services plant and a new tailings thickening plant. Water pipelines, powerlines and other electrical reticulation (TSF Mini Substation) will also be required. However, dust emissions will vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing meteorological conditions. The order and timing of construction activities were not known at the time of preparing this report. Making worst-case assumptions would unnecessarily exaggerate the impact of these activities. Wet suppression and wind speed reduction are the two most common methods used to control open dust sources at construction sites, and these techniques should be used whenever possible during construction activities for the proposed AMB reclamation and processing project.

The TSF material will undergo two sets of processes to recover minerals from the TSF material. The first will be concentration of PGMs and the second will be recovery of the chrome. Both of these will be wet processes; therefore, emissions of particulate matter will be minimal. The tailings thickening plant reduces the water content of the material, but does not dry it, therefore, no particulate emissions are expected. The PGM concentrate will be in the form of dewatered filter cakes, therefore particulate emissions from this area are expected to be low. The final chrome product stockpiles will be semi-wet, with a 20% moisture content, thus no particulate matter emissions are expected there.

A combination of two reclamation methods is planned for TSF Dam 2. The first is mechanical reclamation which entails the digging of ‘dry’ tailings material by the truck and shovel method. The digging, loading and unloading of the TSF material will cause substantial emissions of particulate matter to the air. Furthermore, the TSF material will be moved to a

scrubber by haul trucks which will also cause significant emissions to air. The second method of reclamation is hydraulic reclamation. All vegetation from a strip of the TSF is cleared by means of graders. This increases exposure to wind and disturbs the cohesion between particles, thus increasing wind erosion. High-pressure water monitors (hydraulic cannons) are then used to dislodge and suspend the TSF material in a slurry.

$PM_{2.5}$ and PM_{10} are criteria pollutants with potential health impacts. Ambient air concentrations of these particles are of significance in terms of their potential to impact human health and the broader environment. Maximum permissible ambient air concentrations of these pollutants have been prescribed in the National Ambient Air Quality Standards (NAAQSs) (Government Notice No. 1210, 2009; Government Notice No. 486, 2012). To estimate ambient air concentrations of $PM_{2.5}$ and PM_{10} resulting from the proposed project, air dispersion modelling was undertaken using AERMOD, which is recommended by the South African Modelling Regulations Code of Practice (Government Notice No. R533, 2014) for Level 2 assessments, and is the United States Environmental Protection Agency's preferred regulatory model for both simple and complex terrain. Three scenarios were modelled:

1. Status quo scenario.

The first scenario modelled illustrates current, undisturbed emissions from TSF Dams 1, 2, 3A and 3B or the 'status quo' scenario.

2. Worst-case emission scenario from reclamation operations.

This scenario includes wind erosion from the 3 adjacent TSF dams (1, 3A and 3B), with the added emissions from the 30-metre-wide by 1 000-metre-long band of the tailings stripped by graders in preparation for the hydraulic reclamation process at Dam 2. The strip has been modelled near the rear end of Dam 2, specifically to represent the worst-case scenario. At this transition time between mechanical and hydraulic reclamation, there may still be emissions from trucks transporting material from the mechanical reclamation process. Therefore, to illustrate the worst-case emissions possible during the reclamation process, trucks hauling TSF material along the length of the strip and then along the north-eastern side of Dam 2 have been included. Materials handling at the workface and at the scrubber/repulping plant are also included.

3. Mitigated scenario

This scenario represents the same sources as the worst-case scenario, with the emissions from the haul roads mitigated by spray-on surface treatments to reduce emissions by 40% and the number of transfers of material reduced from three to two.

The modelling simulations indicate the following:

- Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM_{10} and $PM_{2.5}$ in downwind areas on windy days. The highest expected

concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below 25% of the PM_{10} and $PM_{2.5}$ NAAQS.

- The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF Dam 2. The mine settlement around the Rethabile Primary School will be the most affected by the increase in emissions.
- The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of the Rethabile Primary School by approximately 30%.

The Amandelbult TSF Dam 2 is situated within the Waterberg-Bojanala Priority Area for air quality where particulate matter is one of the pollutants of concern. Therefore, mitigation measures should include the following:

- Wet suppression and wind speed reduction to control open dust sources at construction sites.
- All soil stockpiles should be covered with vegetation as soon as possible to prevent wind erosion.
- Spray-on mitigation measures on the haul roads must be regularly and efficiently applied.
- A strict speed limit of 40 km/hr must be enforced on all haul roads.
- Mechanical materials handling must be kept to a minimum.
- Drop height at materials transfer points must be kept to a minimum.
- The use of temporary storage piles must be kept to a minimum.
- The area of land stripped of vegetation for hydraulic reclamation must be restricted to a maximum size of approximately 30 000 m^2 at any point in time.
- All tailings material must be removed down to 'red earth' as the area of work progresses and all remnants of tailings material which could be exposed to wind erosion should be removed.

The proportion of the two reclamation methods was not known at the time of preparing this assessment. Emissions from hydraulic reclamation are far lower than those from mechanical reclamation, with emissions from haul trucks and materials handling representing the biggest sources. The further into Dam 2 that mechanical reclamation takes place, the longer the haul roads and hence the greater the emissions. This report has assessed the worst-case scenario, in line with the mandate for regulatory modelling, of the highest proportion of mechanical reclamation together with the lowest possible proportion of hydraulic reclamation. This means that any increase in the proportion of hydraulic reclamation will reduce the emissions,

with complete hydraulic reclamation representing the best-case scenario for air quality impacts.

Dustfall monitoring should be conducted to demonstrate that mitigation measures are being strictly implemented. If the measured dustfall shows a marked increase from pre-reclamation phase levels, and particularly if the measured dustfall rates exceed the regulated dustfall rate, urgent measures must be undertaken to further mitigate emissions to protect the health of the surrounding communities as far as possible.

The evaluation of the air quality impacts from mine tailings is based on a series of assumptions. Whilst care has been taken to assess the potential air pollution impact from the proposed reclamation of TSF Dam 2, further research on tailings emission rates or continuous on-site monitoring of PM_{10} and $PM_{2.5}$ may result in different conclusions.

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List of Abbreviations

AQIA	-	Air Quality Impact Assessment
AQMP	-	Air Quality Management Plan
CRP	-	Chrome Recovery Plant
GDARD	-	Gauteng Department of Agricultural and Rural Development
NAAQS	-	National Ambient Air Quality Standard
NAQI	-	National Air Quality Index
NEM: AQA	-	National Environmental Management: Air Quality Act (Act No. 39 of 2004)
PGMs	-	Platinum Group Metals
PM_{10}	-	Particulate matter with an aerodynamic diameter of less than 10 µm
$PM_{2.5}$	-	Particulate matter with an aerodynamic diameter of less than 2.5 µm
Ppb	-	Parts per billion
Ppm	-	Parts per million
SAAQIS	-	South African Air Quality Information System
SAWS	-	South African Weather Service
Tonne	-	Metric unit of mass equivalent to 1 000 kg
TSF	-	Tailings Storage Facility
TSP	-	Total Suspended Particulates
µg/m³	-	Micrograms per cubic metre
U.S. EPA	-	United States Environmental Protection Agency
WBPA	-	Waterberg-Bojanala Priority Area
WHO	-	World Health Organisation
WRF	-	Weather Research and Forecasting Model

1 FACILITY AND MODELLER'S INFORMATION

1.1 Project Identification and Information

The Rustenburg Platinum Mines Ltd Amandelbult Mine (AMB), is proposing to reclaim and reprocess chrome and platinum group metal residues from the Amandelbult mine tailings storage facility (TSF) Dam 2. The mine is situated approximately 22 km south-south-west of Thabazimbi, in the Thabazimbi Local Municipality (Thabazimbi LM). Kongiwe Environmental (Pty) Ltd (Kongiwe) is undertaking the Scoping and Environmental Impact Assessment process which evaluates the environmental impacts associated with the proposed project as part of an application for Environmental Authorisation. Kongiwe has appointed Gondwana Environmental Solutions International (Pty) Ltd (Gondwana) to undertake an air quality impact assessment (AQIA) in support of the applications for the required approvals. Brief CVs of the specialists working on the AQIA, and their declarations of independence are included in Appendix C and Appendix D.

1.2 Project Background

1.2.1 Objectives of the Assessment

The objective of the AQIA is to evaluate the impact of the mechanical and hydraulic reclamation of the TSF, as well as processing of the material, on the ambient air quality of the surrounding areas.

Particulate matter is the most significant air pollutant that is generated from construction activities. The proposed project will include the construction of a scrubber/repulping plant, a new PGM (Platinum Group Metal) Processing plant, a new Chrome Recovery plant, a new Services plant and a new tailings thickening plant. The scrubber/repulping plant will be located adjacent to TSF Dam 2, while the proposed new plants will be located on a disturbed, existing projects laydown area located near the existing Amandelbult Concentrator plant. Water pipelines, powerlines and other electrical reticulation (TSF Mini Substation) will also be required.

Particulate emissions will also be generated from the stripping of vegetation for the reclamation of the TSF; mechanical digging; loading and unloading of material; and from entrainment of dust by vehicles on on-site roads. There will also be cumulative impacts from the ongoing wind erosion of particulate matter from exposed areas of the TSF Dams 1, 2, 3A and 3B.

Small particles (particles with an aerodynamic diameter smaller than 10µm (PM_{10}) and smaller than 2.5µm ($PM_{2.5}$)) are subsets of the total suspended particulates (TSP). PM_{10} and

$PM_{2.5}$ are a health concern because these fine particles can be breathed into the lungs. The larger particles of TSP, on the other hand, are primarily a nuisance factor. $PM_{2.5}$ and PM_{10} are criteria pollutants. Maximum permissible ambient air concentrations of these pollutants have been prescribed in the National Ambient Air Quality Standards (NAAQS) (Government Notice No. 1210, 2009; Government Notice No. 486, 2012). This assessment will, therefore, focus on PM_{10} and $PM_{2.5}$.

1.2.2 Overview of the Project Activities

The anticipated lifespan of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation where hydraulic and mechanical reclamation would take place (Kongiwe, 2025).

AMB aims to reclaim the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, using both hydraulic and mechanical reclamation processes, and reprocess the material with the objective of recovering Chrome and PGMs.

The proposed mechanical reclamation process will entail the removal of 'dry' tailings material from the Amandelbult TSF Dam 2 using a truck and shovel method of removal. The material will then be transported to a transitory stockpile area next to the repulping plant and systematically fed through the system. The repulping plant will screen out vegetation, woodchips and oversize material from the dry/mechanically removed material. The screened-out vegetation from the plant will be stockpiled next to the repulping plant, in a designated stockpile area, whereafter, it will be taken to the composting facility on site. This plant will then convert the dry TSF material into a slurry, which will then be fed into the system and follow the pipelines to the processing plant. The removed oversize material will be broken down and fed through the repulping plant to the processing plant (Kongiwe, 2025).

The proposed hydraulic reclamation method, which will be used to remove some of the TSF material, uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow toward a collection area located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry to the scrubber plant for further processing (Kongiwe, 2025).

The proposed project will additionally include the construction of a new PGM processing plant, chrome recovery plant (CRP), Services plant to service the PGM and CRP plants and a

new tailings thickening plant. The reclaimed material from TSF Dam 2 will be pumped from the scrubber plant to the new PGM processing plant and the new CRP where the PGMs and chrome will be extracted. The product generated here will then be collected from product stockpiles at the PGM processing plant and from the new chrome stockpile/stacker next to the existing CRP stock pad for further processing offsite. Two possible options are being investigated for the Chrome stockpile areas. One to the north of the existing stock pad and one adjacent, east to the existing stock pad. These stock pads will be situated near the existing railway for ease of logistics (Kongiwe, 2025).

Residual tailings waste material from these plants will be sent to the TSF thickener plant and then to an existing holding tank located at the main Amandelbult plant before it is transported via existing pipelines to the TSF 3B dam for deposition (Kongiwe, 2025).

1.3 Project Layout and Location

1.3.1 Project Layout

Amandelbult TSF Dam 2 is situated near the middle of a group of four adjoining TSF Dams. A scrubber/repulping plant will be built to the north-west of Dam 2 (Figure 1).

The starting point of the hydraulic reclamation was unknown at the time of preparing this report. Therefore, as a worst-case scenario it is possible that there may still be trucks transporting material for mechanical reclamation, when the first stripped band is cleared for hydraulic reclamation. During this time, haul trucks are expected to represent the greatest emission source. Since the longer the distance travelled by the haul trucks the higher the emissions will be, the 30 m by 1 000 m stripped band for hydraulic reclamation in the hypothetical worst-case scenario has been situated near the far end of the dump, where haul trucks would travel long distances and, therefore, emissions would be greatest (Figure 1).

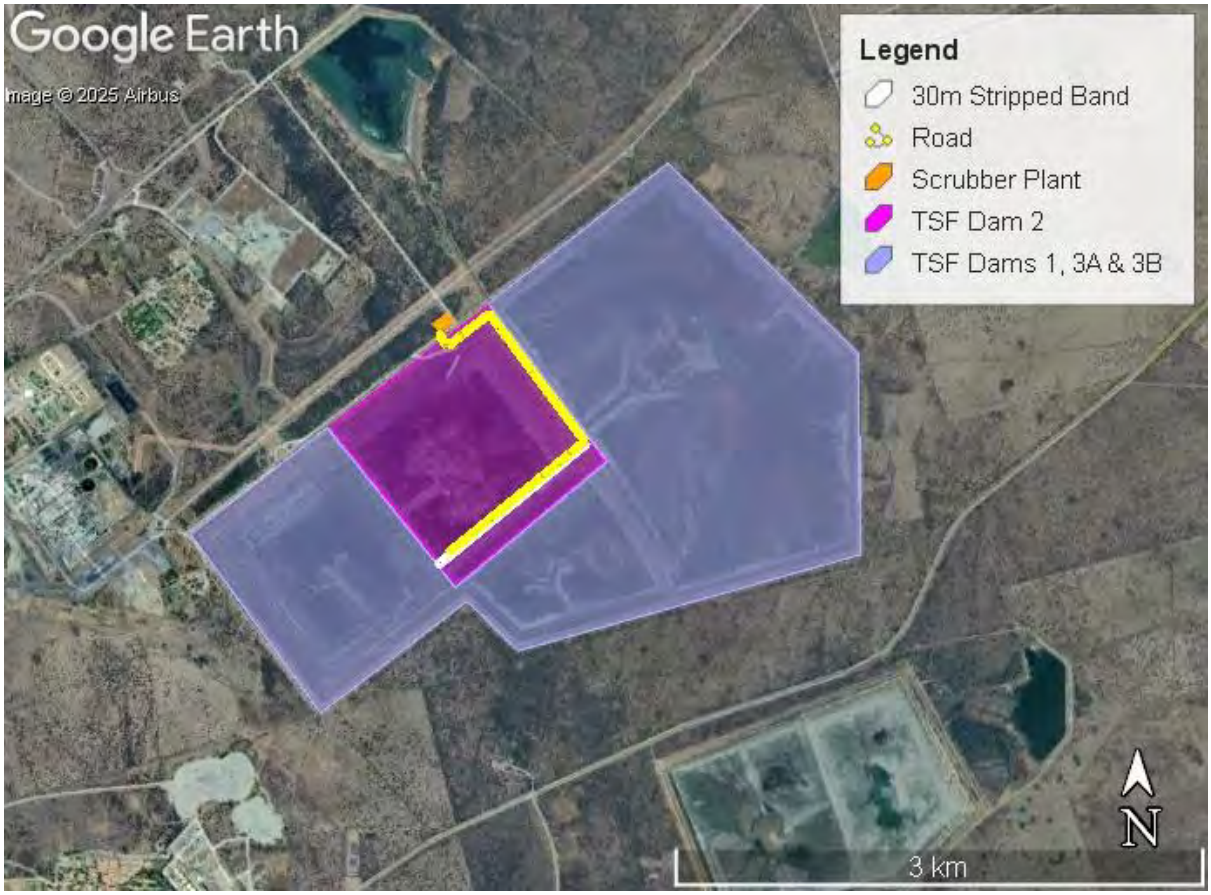

Figure 1: Project layout including the position of the modelled reclamation strip and haul road.

1.3.2 Area Maps

The Amandelbult TSF Dam 2 is situated in the Limpopo Province approximately 22 km south-south-west of Thabazimbi, and approximately 135 km north-west of Pretoria (Figure 2).

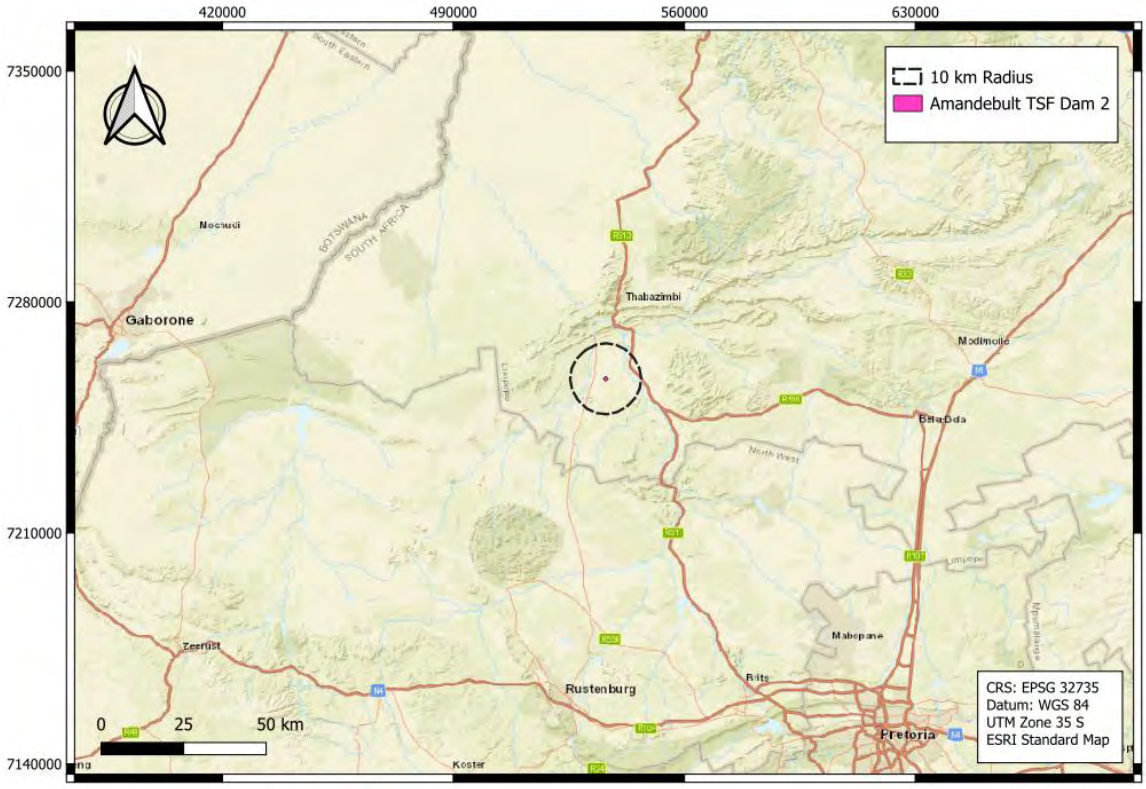

Figure 2: Location of the Amandelbult TSF Dam 2.

The location of the Amandelbult TSF Dam 2 in relation to residential settlements in the area is illustrated in Figure 3. Some residential dwellings of the mine settlements lie to the west-north-west of the TSF, with the closest dwellings approximately 1 km from the TSF. Residential dwellings of Setaria lie approximately 3.5 km to east of the TSF. The remainder of the land within a radius of approximately 5 km from the TSF is predominantly open ground, game-farm land, agricultural land, mine dumps, tailings storage facilities and mining infrastructure.

Schools are considered to be sensitive receptors in terms of air pollution (Government Notice No. R533, 2014).The Rethabile Primary School, situated approximately 1 km west-north-west of the TSF in the mine settlement, is the closest school (Figure 3). There are two more schools within a 10 km radius as well as a clinic and a hospital (Figure 4).

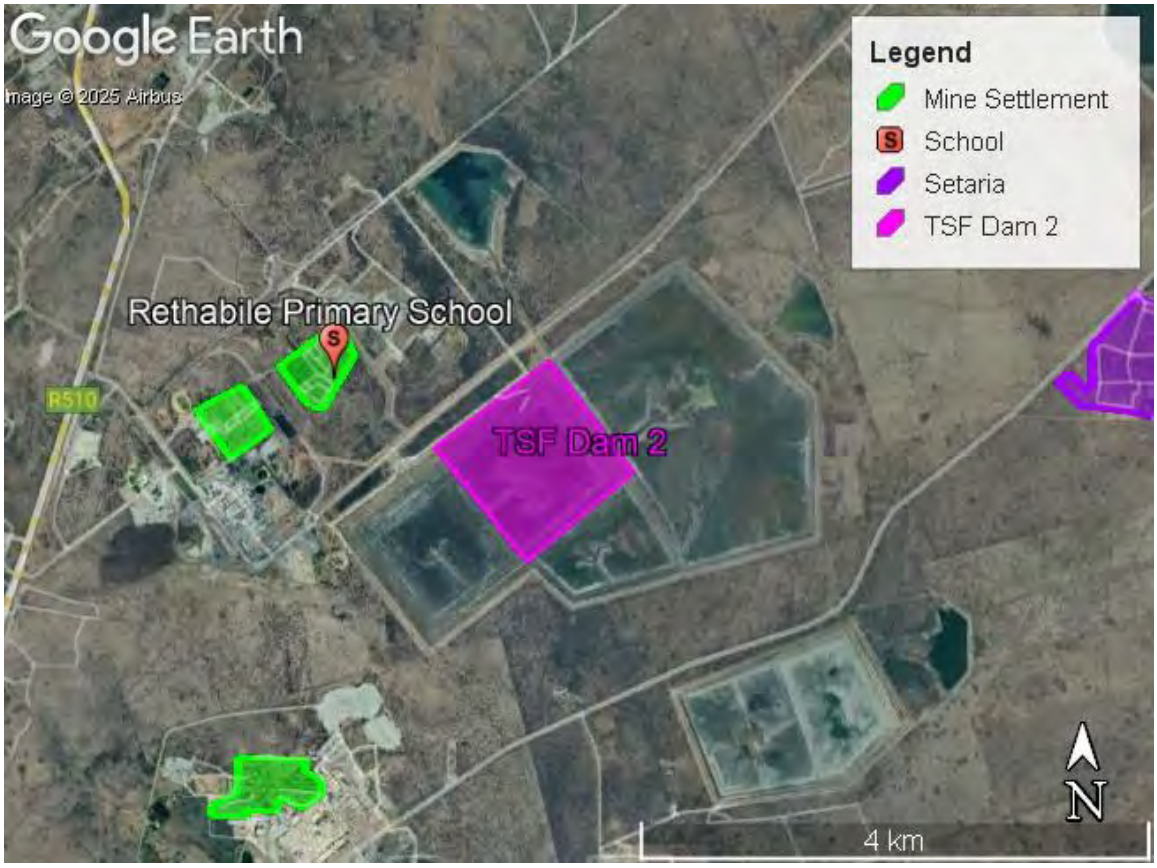

Figure 3: Location of the Amandelbult TSF Dam 2 in relation to surrounding residential areas.

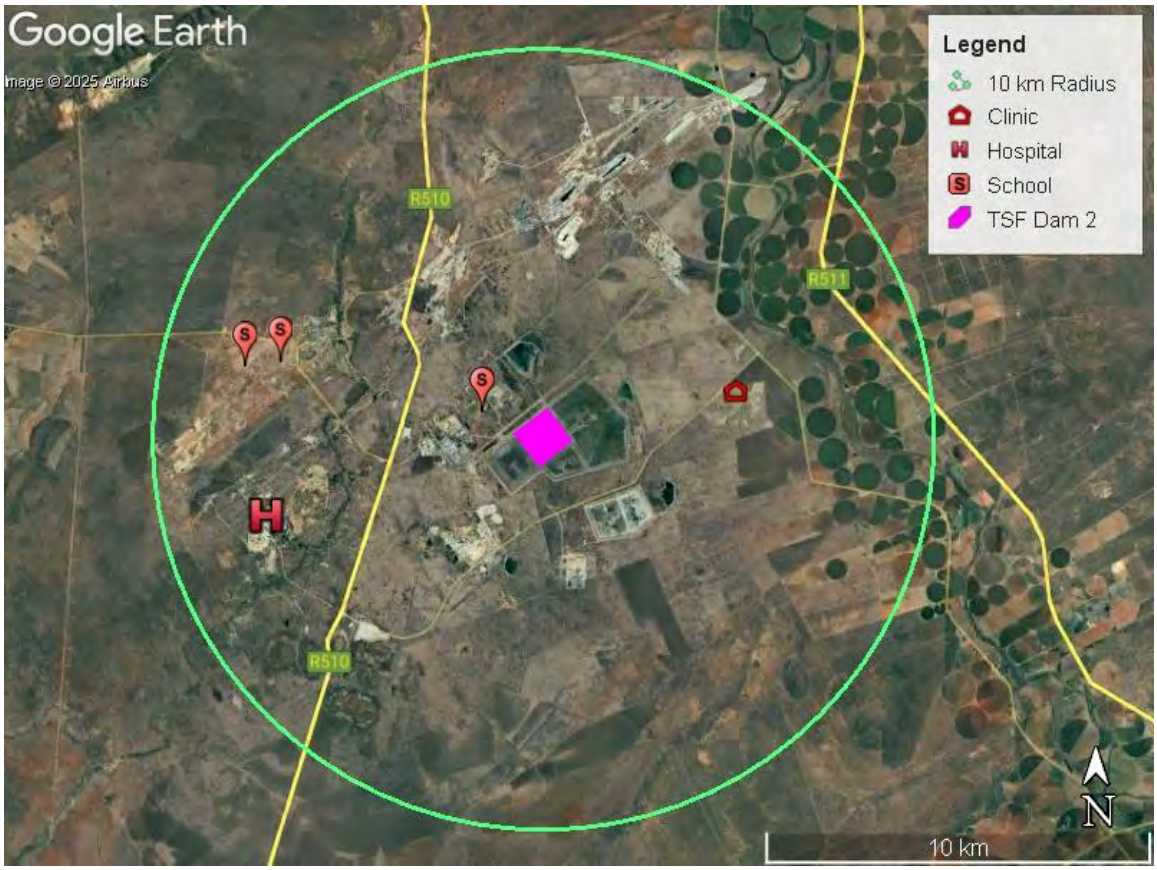

Figure 4: Sensitive receptors located within a radius of 10 km from the Amandelbult TSF Dam 2.

Other potentially large sources of particulate matter within a radius of 10 km from the Amandelbult TSF Dam 2 include several, mine dumps, quarries and TSFs all of which contribute to the baseline levels of particulate matter in the air (Figure 5).

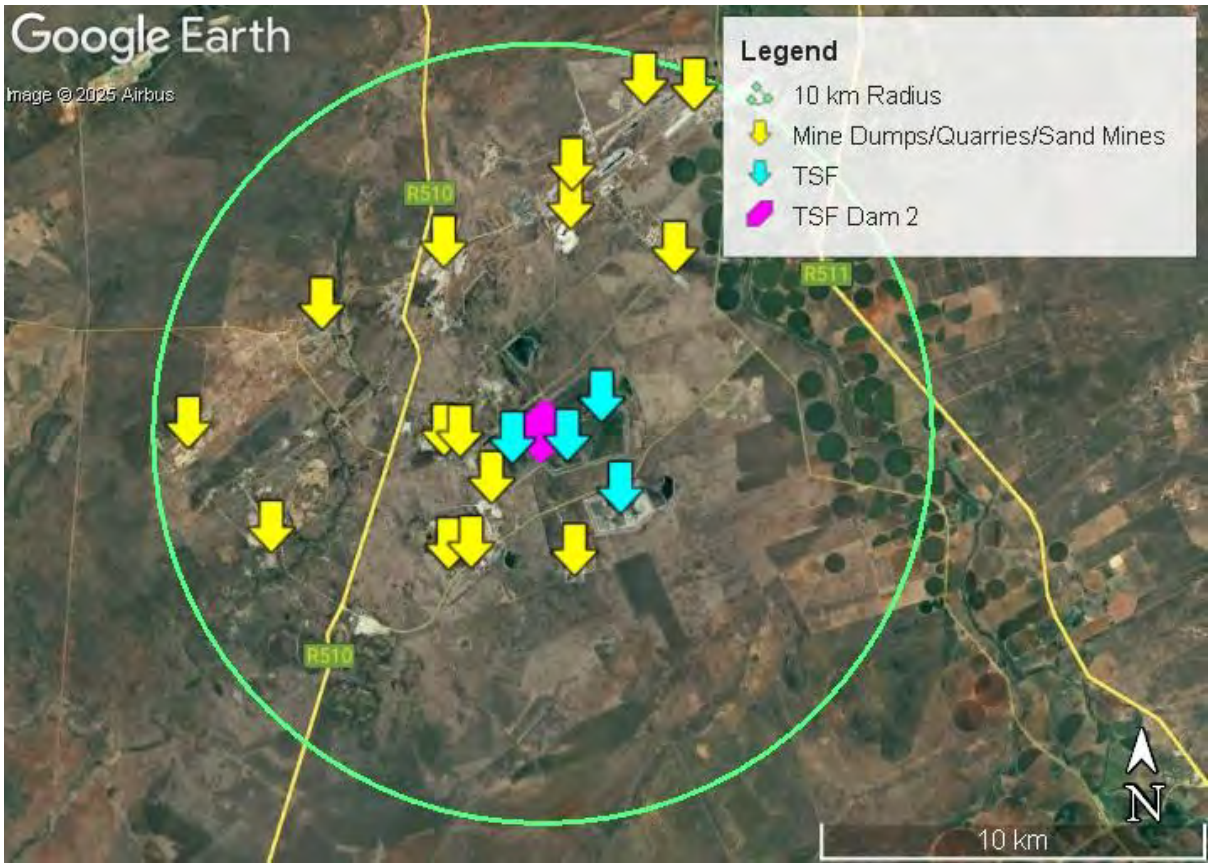

Figure 5: Large sources of airborne particulate matter in the vicinity of the Amandelbult TSF Dam 2.

Beyond a 10-km radius from the TSF, there are several rows of ridges running from west to north, and a prominent mountainous area to the east of the TSF. The Bierspruit River flows to the west of the TSF, while the Crocodile River flows to the east of the TSF (Figure 6). The elevation of the project area is approximately 970 m above mean sea level.

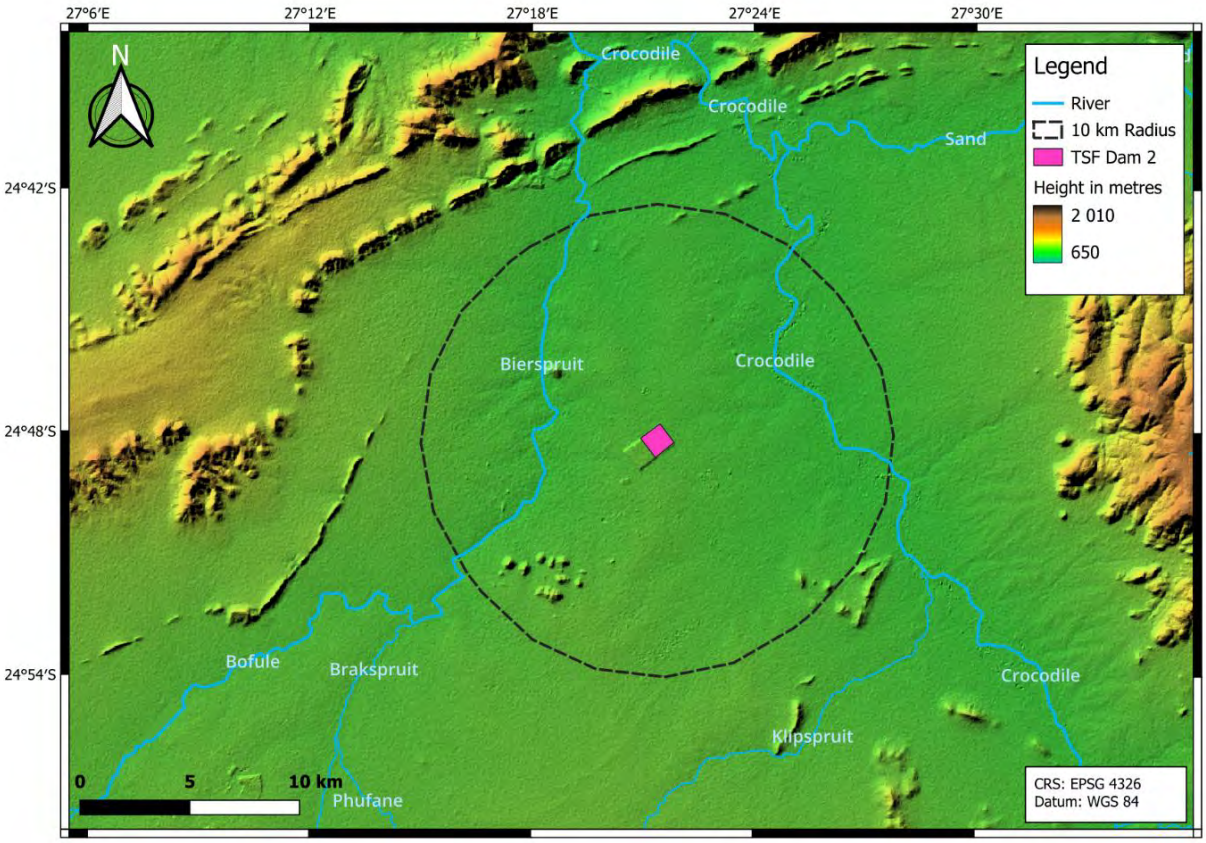

Figure 6: Topography of the area surrounding the Amandelbult TSF Dam 2.

1.4 Geophysical Data

Urban or rural classification for the modelling domain is important because dispersion rates differ between urban and rural areas. The South African Modelling Code of Practice (Government Notice No. R533, 2014) recommends the Auer method (Auer Jr., 1978) as the preferred method for determining the urban/rural classification. The Auer land-use categories are presented in Table 1.

The modelling Code of Practice recommends that if more than 50% of an area within a 3-km radius of the facility is classified as rural, then rural dispersion coefficients (the default setting in AERMOD) are to be used in the dispersion modelling analysis. Conversely, if more than 50% of the area is urban, urban dispersion coefficients are used. This method is in line with US EPA modelling guidelines (US EPA, 2005).

Table 1: Identification and classification of land-use types (Auer Jr., 1978).

Urban Land Use			
Type	**Use and Structures**	**Vegetation**	**Percentage Vegetation Cover**
I1	Heavy Industrial Major chemical, steel, and fabrication industries.	Grass and tree growth extremely rare.	<5%
I2	Light-moderate industrial Rail yards, truck depots, warehouses, industrial parks, minor fabrications; generally, 1-3 story buildings, flat roofs.	Very limited grass, trees almost absent.	<5%
C1	Commercial Office and apartment buildings, hotels; >10 story heights, flat roofs.	Limited grass and trees.	<15%
R2	Compact Residential	Limited lawn sizes and shade trees.	<30%
R3	Compact Residential	Limited lawn sizes, old established shade trees.	<35%
Rural Land Use			
Type	**Use and Structures**	**Vegetation**	**Percentage Vegetation Cover**
R1	Common Residential Single family dwellings.	Abundant grass lawns and light-moderately wooded.	>70%
R4	Estate Residences Expansive family dwellings on multi-acre tracts.	Abundant grass lawns and lightly wooded.	>80%
A1	Metropolitan Natural Major parks, golf courses, cemeteries, campuses.	Nearly total grass and lightly wooded.	>95%
A2	Agricultural Rural	Crops.	>95%
A3	Undeveloped Uncultivated wasteland.	Mostly wild grasses and weeds, lightly wooded.	>90%
A4	Undeveloped Rural	Heavily wooded.	>95%
A5	Water surfaces		

The area surrounding Amandelbult TSF Dam 2, within a 3-km radius, is comprised of approximately 86% open ground and game-farm land (which equates to rural land use type category A3 in the Auer classification). Therefore, the default setting in AERMOD is considered appropriate for this modelling application.

1.5 Elevation Data

AERMOD requires elevation data that conveys the features of the surrounding terrain to calculate its effect on the dispersion of pollutants. Shuttle Radar Topography Mission (SRTM) 1 arc second Digital Elevation Terrain Data - Global was downloaded from the U.S. Geological Survey website for this project. The data is in GeoTIFF format with 1 arc second (approximately 30-metre) postings and 1° x 1° tiles. The NASA SRTM obtained elevation data on a near-global scale using radar interferometry. The NASA Version 3.0 SRTM Global 1 arc second product is void-filled using elevation data from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Global Digital Elevation Model 2 (GDEM2), the USGS Global Multi-resolution Terrain Elevation Data (GMTED) 2010, and the USGS National Elevation Dataset (NED).

2 EMISSIONS CHARACTERISATION

2.1 Emissions Inventory

An emissions inventory lists all sources that would generate pollutants of concern. $PM_{2.5}$ and PM_{10} are the criteria pollutants of concern expected from the Amandelbult TSF Dam 2 reclamation and processing project. The activities and the associated emissions are outlined below together with potential mitigation measures. Because the Amandelbult project area lies within the declared Waterberg-Bojanala Priority Area (WBPA) where particulate matter is one of the major pollutants of concern (DEA, 2014), all aspects of the reclamation project should be mitigated to keep emissions to a minimum.

2.1.1 Construction activities

It is expected that there will be minimal construction activities associated with the TSF reclamation part of the project. A scrubber/repulping plant will be constructed, and the materials handling areas cleared. Topsoil stripped from the construction areas will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m^2. Topsoil will be stockpiled to a height of 3 m. An existing haul road will be upgraded to facilitate movement between the TSF and the plant area. Other new facilities will include powerlines, electrical reticulation and water booster stations (Kongiwe, 2025).

For the processing part of the project, a new PGM processing plant, Chrome Recovery plant, Services and Tailings thickening plant will be built. The Proposed location is an existing projects laydown area next to the current CRP PGM processing plant.

Construction of infrastructure is a source of dust emissions that may have a substantial temporary impact on local air quality. However, dust emissions often vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing

meteorological conditions. The order and timing of construction activities were not known at the time of preparing this report. Making worst-case assumptions would unnecessarily exaggerate the impact of these activities.

Mitigation measures

Wet suppression and wind speed reduction are the two most common methods used to control open dust sources at construction sites (WRAP, 2006).

Topsoil stripped from the construction areas will be stockpiled in an area just north of the TSF Laydown Area. This soil stockpile should be covered with vegetation as soon as possible to prevent wind erosion.

2.1.2 Processing emissions

The TSF material will undergo two sets of processes to recover minerals from the TSF material. The first will be concentration of PGMs and the second will be recovery of the chrome. Both of these will be wet processes; therefore, emissions of particulate matter will be minimal. The tailings thickening plant reduces the water content of the material, but does not dry it, therefore, no particulate emissions are expected here either.

2.1.3 Vehicle-entrained dust emissions

Dust emissions caused by haul trucks moving across unpaved roads represent the largest source of emissions for the Amandelbult TSF Dam 2 reclamation project. When a vehicle travels on an unpaved road, the force of the wheels on the road surface causes pulverization of surface material. The main source of emissions is from the suspension of this loose material on the road surface as particles are lifted and dropped from the rolling wheels and kept in suspension by the turbulent air caused by the passing vehicle (US EPA, 1995 (Updated 2011) c13s2.2). Most of the emissions from haul trucks at the proposed Amandelbult project will be between the TSF Dam 2 and the scrubber/repulping plant during the mechanical reclamation process. Emissions from this source have been quantified and evaluated in this report. There will also be vehicle-entrained dust emissions from haul trucks carrying product off site, however, the emissions from this source will not represent an increase from the present off-site hauling emissions due to the fact that the re-mining processing throughput will replace the gap in throughput left when the Merensky plant was stopped.

Mitigation measures

The haul roads for the mechanical reclamation process will move as the area of reclamation moves progressively. Wet suppression and chemical surface treatments are best suited to such temporary haul roads.

Regular, light watering of the road is needed for water spraying to be effective in reducing particulate emissions. Under typical summer conditions, with a large rear-dump truck running

at an average speed of 40km/h on a well built and maintained (untreated) haul road, re-watering is required at approximately 30-minute intervals. Under winter conditions, the re-application interval extends to approximately 60 minutes (Thompson & Visser, 2000). One of the parameters that has the strongest influence on the effectiveness of wet suppression of unpaved roads is soil moisture content. An indicator of the soil moisture content is given in the Thornthwaite precipitation-evaporation (PE) index. According to a revision of Thornthwaite's map for South Africa by Leyland and Paige-Green (2009), the majority of South Africa can be considered to be water deficient, with 85 per cent of the country having a water demand (loss by evapotranspiration) exceeding the water supply (by precipitation). In Figure 7, Thornthwaite's Moisture Index values of less than zero are indicative of water deficient areas with deep water tables. According to this figure, the Amandelbult project area has a PE of between -40 and 0. Therefore, wet suppression will only have a short-term mitigating effect due to evaporation, and water will have to be reapplied regularly to be effective.

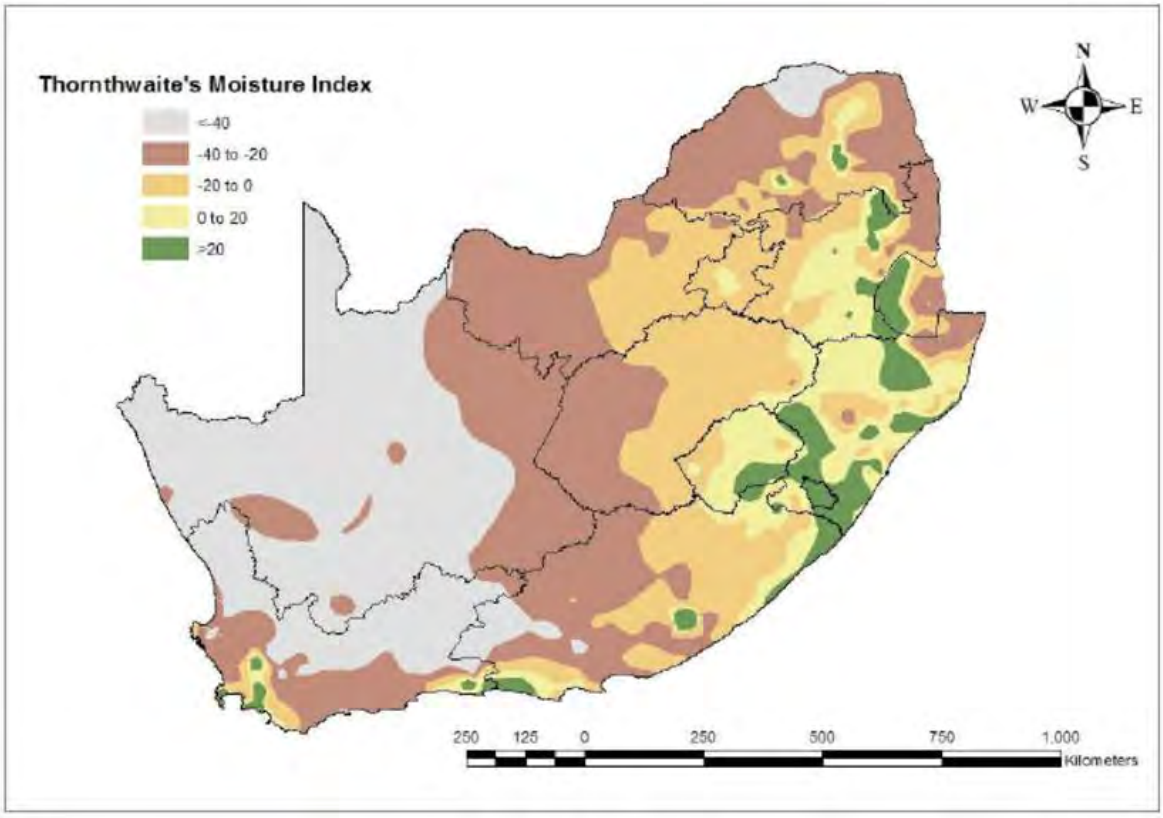

Figure 7: Thornthwaite's moisture index for South Africa (Leyland & Paige-Green, 2009).

Other surface treatments include the use of chemicals such as calcium chloride or magnesium chloride. These chemicals attract moisture – drawing moisture out of the air during periods of high humidity and also reducing the evaporation rate of water during hot periods. Some products contain surfactants which act as wetting agents. These not only reduce the amount of water required for wetting the roads but also have slight binding properties. Another

approach to dust control involves the application of organic or synthetic compounds that physically bind the dust particles together.

A decrease of 50-80% can be achieved by surface treatments (US EPA, 2013). Field testing of emissions from controlled unpaved roads has shown that dust suppressants can provide a PM_{10} control efficiency of about 80% when applied at regular intervals (US EPA, 1995 (Updated 2011) c13s2.2). Thompson and Visser also evaluated the efficiency of different palliative measures on coal mine haul roads in South Africa. Control efficiency varied for the different types of control measure. Generally, for spray-on palliative applications, the average degree of palliation hovered in the 40% to 60% range for the first two weeks, then decreased rapidly with time, whilst for the classes of palliatives using mix-in techniques for establishment, the average degree of palliation hovered in the 60% to 70% range for the first 7 weeks, then decreased at a slower rate with time (Thompson & Visser, 2007).

A mitigation efficiency of 40% was assumed for the mitigated scenario of the roads in the modelling. This is the worst-case end of the range for spray-on palliatives.

To further ensure that emissions from vehicle entrainment are kept to a minimum, strict speed control of all vehicles on site to a maximum of 40 km/hr should be enforced. In a study by Countess Environmental (WRAP, 2006), it was found that limiting speeds on unpaved roads to 40 km/hr demonstrated a control efficiency of 44%.

2.1.4 Tailings emissions

Mine tailings are made up of fine particles generated by the grinding and processing of ore. These fine, dry particles can be a source of serious dust problems on windy days. Low levels of organic matter and available nutrients, as well as unfavourable texture and structure are limitations to the revegetation of most tailings (Hossner & Hons, 1992). Aerial images show that the vegetation on the Amandelbult TSF Dams 1, 2, 3A and 3B is characterised by fairly dense grass and shrubs across most of the top of the TSFs, with some areas of sparse vegetation areas along the access walkways at the tops of the TSFs as well as along the sides of the TSFs.

Wind erosion will increase when the tailings material is disturbed. This will particularly occur when a band is stripped of vegetation in preparation for hydraulic reclamation.

Mitigation measures

The area of the band stripped of vegetation should be kept to a minimum. Furthermore, all tailings material should be removed down to ‘red earth’ as the area of work progresses – remnants of tailings material should not be left behind since these would have been disturbed and hence would be particularly susceptible to wind erosion.

2.1.5 Emissions from materials handling operations

Particulate matter emissions are caused every time dry material is moved/handled, but emissions are greatest when the material is dropped e.g., front-end loaders dropping material into haul trucks; or haul trucks dropping material onto a stockpile; or front-end loaders dropping material onto a conveyor etc.

'Dry' TSF material will be handled several times in the mechanical reclamation process. First, there will be mechanical digging. The TSF material will then be loaded onto 35-ton ADTs, transported to the repulping plant and then unloaded onto a transitory stockpile. This stockpile will be managed with machinery. From there it will be picked up by front-end loaders and fed into the vibrating feeders which will lead onto a conveyor belt and into the repulping plant.

For the modelling, it was assumed that the tailings material would be dug out from the workface and dropped directly into the haul trucks. Furthermore, it was assumed that the material would then be dropped onto stockpiles at the scrubber plant and then be picked up again and dropped onto vibrating feeders into the repulping plant. This accounts for three sets of materials handling. If the material is loaded and unloaded more times, emissions will be proportionally higher, and similarly, if the material is unloaded once directly onto the vibrating feeders at the scrubber/repulping plant, emissions will be lower (this is what was assumed for the mitigated modelling scenario).

At the repulping plant the 'dry' material will be converted into a slurry. The scrubber plant will 'wet' screen out vegetation, woodchips and oversize material from both the mechanically removed material and the hydraulically removed material. Any material/vegetation greater than 2 mm will be screened out. From here the material will be fed into the pipelines that will connect to the processing plant. Because the material is wet, emissions of particulate matter will be minimal.

Ore storage after the PGM and CRP processing plants will be located close to the various processing facilities. The PGM processing plant will have various storage silos/bins to store dry concentrate which will be collected by trucks and taken to the Anglo American Platinum smelters at Polokwane or Waterval. The PGM concentrate will be in the form of dewatered filter cakes, therefore particulate emissions from this area are expected to be low. The final chrome product will be stockpiled at the new chrome stockpile/stacker with an option of railway/truck transportation, both options already operational on site (Kongiwe, 2025). The recovered met-grade chrome will be semi-wet, with a 20% moisture content, thus no particulate matter emissions are expected from the new chrome stockpile/stacker.

Mitigation measures

Every time material is moved particulate matter emissions are increased. Therefore, the use of temporary storage piles should be avoided wherever possible. Furthermore, particulate matter emissions are increased by an increase in drop height. This factor should be kept in mind in the design of all materials transfer points to keep the material drop height to a minimum. If it is found that there are emissions emanating from the stockpiles at the scrubber plant, these should be mitigated with wet suppression.

2.2 Operating Scenarios

Conditions simulated in the modelling study:

1. Status quo scenario.

The first scenario modelled illustrates current, undisturbed emissions from TSF Dams 1, 2, 3A and 3B or the 'status quo' scenario.

2. Worst-case emission scenario from reclamation operations.

This scenario includes wind erosion from the 3 adjacent TSF dams, with the added emissions from the 30-metre-wide by 1 000-metre-long band of the tailings stripped by graders in preparation for the hydraulic reclamation process at Dam 2. The strip has been modelled near the rear end of Dam 2, specifically to represent the worst-case scenario. At this transition time between mechanical and hydraulic reclamation, there may still be emissions from trucks transporting material from the mechanical reclamation process. Therefore, to illustrate the worst-case emissions possible during the reclamation process, trucks hauling TSF material along the length of the strip and then along the north-eastern side of Dam 2 have been included. Materials handling at the workface and at the scrubber/repulping plant are also included (Figure 1).

3. Mitigated scenario

This scenario represents the same sources as the worst-case scenario, with the emissions from the haul roads mitigated by spay-on surface treatments to reduce emissions by 40% and the number of transfers of material reduced from three to two.

2.3 Source and Emission Parameters

To determine the significance of the potential for impacts, it is necessary to quantify atmospheric emissions and predicted airborne pollutant concentrations occurring as a result of each emission source identified in the emissions inventory. Both emission factors and empirically derived predictive emission factor equations are used for this purpose. Emission factors require activity rates to quantify the pollutant released into the atmosphere. Predictive emission factor equations require inputs of parameters that are specific to the site being evaluated as well as activity rates to quantify emissions. The parameters used for the modelling are documented in Table 2. The background to the selection of the particle density used is outlined below.

Table 2: Parameters used for the modelling.

Site parameters	Units	Total
Silt content of the haul roads[a] (particles between 2 µm - 75 µm)	%	61.30
Average particle density for tailings emissions	g/cm^3	2.86
Mass fraction of $PM_{2.5}$ used for modelling PM_{10} of tailings emissions	%	29
35-ton ADT empty weight	kg	16 200
35-ton ADT total rated load	kg	51 200
35-ton ADT transport height	m	2.30
Maximum TSF material moved per month	t	330 000
Working days in a year	days	365
Single shift, daylight hours only	hrs	8
Haul road width	m	9
Haul road width of plume modelling volume source	m	15.00
Haul road modelling top of plume height volume source	m	3.91
Haul road modelling volume source release height	m	1.96
Initial σy parameter	m	6.98
Initial σz parameter	m	1.82

a. Based on a the Amandelbult TSF Dams particle size distribution (Appendix F).

Particle density

The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000 (Kongiwe, 2025). UG2 occurs below Merensky and above UG1 stratigraphic layer forming part of the Upper Group (Upper Critical zone).

The Merensky Reef chromitites formed between 20 and 400 m above the UG2 chromitite, which, in turn, lie above the UG1 stratigraphic layer. Although large variations occur in thickness and composition, the Merensky Reef comprises a pegmatoidal feldspathic pyroxenite (which has a density between 2.9 and 3.3 g/cm^3), bound above and below by thin chromitite seams (which have a density between 4.5 and 4.8 g/cm^3). It is generally underlain by anorthosite (with a density between 2.7 and 2.73 g/cm^3) and overlain by pyroxenite (which has a density between 3.0 and 4.0 g/cm^3) (Science Direct, 2025).

The UG2 chromitite and its coarse-grained footwall rocks are underlain and overlain by plagioclase pyroxenite (which has a density around 3.3 g/cm^3). The UG2 chromitite itself is a thick layer composed of 75 to 90 percent chromite with plagioclase (which has a density

between 2.61 and 2.76 g/cm^3) as the dominant interstitial mineral. Immediately beneath the chromitite is the so-called mixed layer, consisting of intimately mixed chromite-bearing pegmatoidal pyroxenite (which has a density between 3.5 and 4.2 g/cm^3) and chromitite (which has a density between 4.5 and 4.8 g/cm^3) (Mathez & Mey, 2005).

The density of the particles in the TSF Dam 2 tailings material will, therefore, probably range between 2.61 g/cm^3 and 4.8 g/cm^3. The density of the particles affects the distance of dispersion. Two models were, therefore, run - one using an average particle density of 2.86 g/cm^3 and one using an average particle density of 4.0 g/cm^3. The results showed that the less dense particles may travel up to 100 m further in the areas up to 1km beyond the TSF footprints. The modelling results using the lower particle density are, therefore, presented as the results for this project to indicate the worst-case scenario.

2.4 Emissions Rates

2.4.1 Emission Rates from the TSF Dams

Estimating wind erosion from mine tailings is fraught with uncertainty. The Australian National Pollutant inventory (NPi, 2006) emission factor for tailings facilities does not account for differences in stabilisation by vegetation, particle size or moisture content. This makes it difficult to compare the emissions from TSFs from different mineral processing activities; emissions from TSFs with different degrees of revegetation; and emissions prior to and during the reclamation process.

The tops of the Amandelbult TSF Dams 1, 2, 3A and 3B are characterised by fairly dense grass and shrubs across most of the top of the TSFs, with some areas of sparse vegetation such as areas along the access walkways at the tops of the TSFs as well as along the sides of the TSFs. This is a common vegetation coverage for many TSFs. However, the particle size distribution for the Amandelbult TSF Dam 2 (Appendix F) indicates that the particles are generally larger than those for a goldmining TSF (Appendix E). At Amandelbult, particles smaller than 25 µm represent only 35% of the total mass of all particles, while for a goldmining TSF this fraction is approximately 60%. The NPi emission factor was, therefore, reduced by 45% to reflect the specific particle size distribution of the Amandelbult site. The resulting emission rates are presented in (Table 3).

Table 3: Emission rates.

Activity	Unit	PM_{10}	$PM_{2.5}$
NPi emission factor with 45% correction for Amandelbult specific TSF particle size distribution.	g m^{-2} s^{-1}	3.05E-06	8.71E-07
Wind erosion of the stripped band on the TSF after grader removal of all vegetation for the reclamation process.	g m^{-2} s^{-1}	3.05E-05	8.71E-06

2.4.2 Emission Rates from the Stripped Bands

Vegetation reduces wind erosion by the effect of roots binding the particles together, as well as increasing the surface roughness which controls the wind shear stress. Stripping the vegetation from a band of TSF in in preparation for hydraulic reclamation thus reduces the surface roughness as well as disturbing the particles, which increases the effects of wind erosion. To account for this, the adjusted NPi emission rate was increased by a factor of 10 based on calculations from a study by Marticorena and Bergametti (1995) in which emission rates from desert dust sources is related to the size distribution of the erodible surface and vegetation cover.

2.4.3 Emission Rates from the Haul Roads

Fugitive dust emissions from unpaved roads depend on traffic volumes, average vehicle speed, mean vehicle weight, road surface silt content, and road surface moisture. For vehicles traveling on unpaved surfaces at industrial sites, emissions can be estimated from the following equation (US EPA, 1995 (Updated 2011) c13s2.2):

$$E = k\left(\frac{s}{12}\right)^{a}\left(\frac{W}{3}\right)^{b}$$

Where: k, a and b are empirical constants

k = 0.15 for $PM_{2.5}$, 1.5 for PM_{10}, 4.9 for TSP

a = 0.9 for $PM_{2.5}$ and for PM_{10}, 0.7 for TSP

b = 0.45

E = size specific emission factor (lb/VMT)

s = surface material silt content (%)

W = mean vehicle weight (tons)

According to the Udden–Wentworth scale (Wentworth, 1922), silt particles range between 3.9 and 62.5 µm, that is, larger than clay but smaller than sand particles. ISO 14688 grades silt between 2 and 63 µm. An average silt content of 61.30% was assumed for the emission rate calculations from all haul roads in the project area based on the particle size distribution of the TSF (Appendix F).

The weight of the haul trucks was taken as the operational weight of a 35-ton ADT (Table 2).

Haul roads were modelled as adjacent volume sources as recommended by the US EPA haul road workgroup for all haul roads, except for cases where ambient air receptors are within the volume's exclusion zone i.e. ((2.15 x Sigma Y) + 1 meter) from the center of the volume (US EPA, 2012). The following configuration was used, as recommended by the workgroup:

- Top of Plume Height – 1.7 x Vehicle Height.
- Volume Source Release Height – 0.5 x Top of Plume Height.
- Width of Plume – Vehicle Width + 6m for single lane roadways / Road Width + 6m for two lane roadways.
- Initial Sigma Z – Top of Plume / 2.15 (AERMOD User's Guide, Table 3-1 for use when modeling multiple volumes).
- Initial Sigma Y – Width of Plume / 2.15 (AERMOD User's Guide, Table 3-1).
- Emissions input as g/s.

The values of parameters used in the modelling are given in Table 2.

A mitigation efficiency of 40% was assumed for the mitigated scenario of the roads in the modelling. This is the worst-case end of the range for spray-on palliatives. The calculated emissions are presented in (Table 4).

Table 4: Emission rates from truck hauling of TSF material.

Activity	Unit	PM_{10}	$PM_{2.5}$
Annual emission rate from resuspended haul road surface material.	t $year^{-1}$	2 769.20[a]	276.92[a]
Annual emission rate from mitigated haul roads	t $year^{-1}$	1 661.52	166.15

Note:

a. Based on the US EPA emission factor equation for vehicles travelling on unpaved roads at industrial sites (US EPA, 1995 (Updated 2011) c13s2.2).

2.4.4 Emission Rates from Materials Handling

TSF material will be handled several times in the reclamation process. There will be mechanical digging, as well as loading and unloading of material into trucks and onto stockpiles. The US EPA emission factor of 0.03 kg/Mg for uncontrolled material handling and transfer of all low moisture ore minerals processing was used (US EPA, 1982 ch11s24).

The US EPA (US EPA, 1995) generalized particle size distribution recommends that, for emissions generated through either the movement of the material or the interaction of the material with mechanical devices, 15% of the PM_{10} is in the size range of $PM_{2.5}$. This yields a $PM_{2.5}$ emission factor of 0.005 kg per Megagram of materials handled.

For the mitigated scenario, it was assumed that the TSF material would be unloaded from the haul trucks directly into the scrubber/repulping plant, instead of forming stockpiles of material that need to be transferred once more into the plant. The difference in emissions is shown in Table 5.

Table 5: Emission rates from materials handling.

Activity	Unit	PM_{10}	$PM_{2.5}$
Annual emission rate from TSF material handling at the TSF, scrubber stockpiles, and transfer into the scrubber plant.	t $year^{-1}$	356.40[a]	53.46[a]
Mitigated annual emission rate from TSF material handling at the TSF and transfer into the scrubber plant.	t $year^{-1}$	237.60[a]	35.64[a]

Note: a) Based on the US EPA emission factor for uncontrolled material handling and transfer all low moisture ore minerals processing (US EPA, 1982 ch11s24).

2.4.5 Emission Rates Summary

Hauling of TSF material from the workface to the scrubber/repulping plant represents the largest source of emissions from the reclamation part of the project (Figure 8). Emissions from the TSF Dams are caused by wind erosion and will continue regardless of whether the reclamation project takes place or not – this source is included here to give a perspective of the different sources in relation to each other. Materials handling is a significant source of emissions even though it results in far less emissions than the emissions caused by haul trucks. Both the materials handling and haul truck emissions only occur during work hours; thus, the comparative impacts will be increased during the day. Emissions from the stripped band for hydraulic reclamation results in the lowest emissions (This is assuming that the area stripped of vegetation is kept to a maximum size of approximately 30 000 m^2 – if the cleared area is increased, emissions will increase). The hydraulic reclamation process, therefore, will have a far lower air quality impact than the mechanical reclamation process.

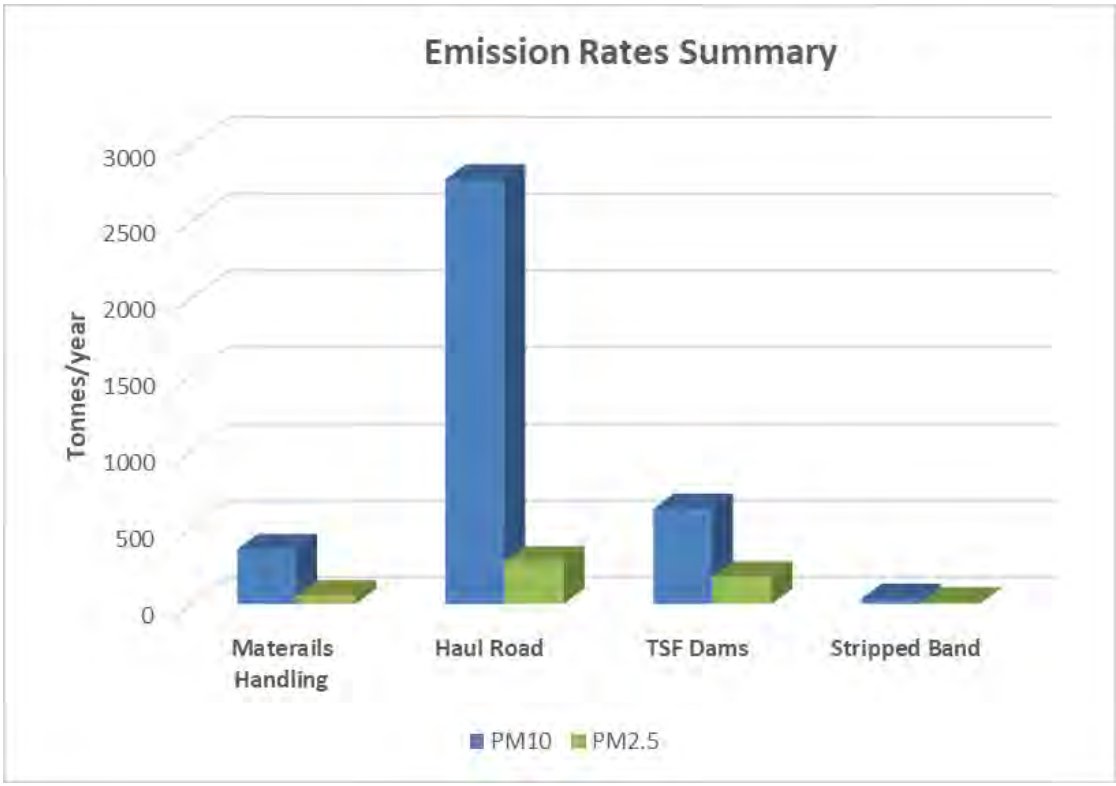

Figure 8: Annual emission rates from the major sources in the Amandelbult TSF Dam 2 reclamation project.

3 METEOROLOGICAL DATA

Horizontal dispersion of atmospheric pollutants is a function of the prevailing wind characteristics at any site, while the vertical dispersion of pollution is largely a function of the stability of the atmosphere and the depth of the surface mixing layer. By day, vertical mixing due to incoming solar radiation is most efficient at dispersing pollutants. At night a surface temperature inversion may develop which decreases the dispersion potential. Pollutants tend to accumulate near the point of release under these conditions, particularly if they are released close to ground level.

Similarly, the dispersion potential is generally poorer on winter nights than on summer nights. In summer, solar radiation and unstable atmospheric conditions result in mixing of the atmosphere and rapid dispersion of pollutants. Summer rainfall also aids in removing pollutants through wet deposition. In contrast, winter is characterised by atmospheric stability caused by the persistent high-pressure system over South Africa. This dominant high-pressure system results in subsidence, causing clear skies and a pronounced temperature inversion over the central plateau region. This inversion layer traps the pollutants in the lower atmosphere, which results in reduced dispersion and a poorer ambient air quality. Preston-Whyte and Tyson (Preston-Whyte & Tyson, 1998) describe the atmospheric conditions in the winter months as highly unfavourable for the dispersion of atmospheric pollutants.

Mechanical turbulence is another contributor to dispersion of pollutants. Mechanical turbulence is a function of a combination of wind speed and surface roughness. Thus, higher wind speeds facilitate the vertical dilution of pollutants as well as the distance of downwind transport.

3.1 Surface Data

The preferred data for modelling would be data collected on site. This, however, is very seldom feasible given that three years of both surface and upper air meteorological data is required. To substitute for, or supplement, measured data, data from numerical models may be used. For this project AERMET pre-processed Weather Research and Forecasting Model (WRF) meteorological data has been used.

The WRF is a next-generation mesoscale numerical weather prediction system designed for both atmospheric research and operational forecasting applications which reflects recent advances in physics, numerics, and data assimilation contributed by developers from the expansive research community. WRF data is one of the datasets recommended by the Modelling Regulations Code of Practice (Government Notice No. R533, 2014). AERMET (version 23132) was used to pre-process the data for input into AERMOD (version 23132).
AERMOD contains routines that allow the model to handle missing meteorological data in the processing of short-term averages. The model treats missing meteorological data and calms by setting the concentration values to zero for that hour. It calculates the short-term averages according to the EPA's calms policy, as set forth in the Guideline. Calms and missing values are tracked separately for the purpose of flagging the short-term averages. An average that includes a calm hour is flagged with a 'c', an average that includes a missing hour is flagged with an 'm', and an average that includes both calm and missing hours is flagged with a 'b'. If the number of hours of missing meteorological data exceeds 10 percent of the total number of hours for a given model run, a cautionary message is written to the main output file (US EPA, 2016).

Wind roses graphically present wind conditions over a period of time at a specific location. Wind roses for the project are presented in Figure 9 to Figure 11 below. In the wind roses, the length of each spoke represents the percentage of time that the wind blew from that direction during the period. The percentage scale is presented on the concentric grey lines (the circle scale increment is indicated on each of the wind roses). Each spoke is divided by colour into wind speed ranges.

The predominant winds at the Amandelbult TSF site (as given by the WRF data for the period from 2021 to 2023) are from a south-south-easterly direction for approximately 13 % of the time (Figure 9). The highest number of winds with speeds greater than 6 m/s are expected from the north and north-north-westerly directions. The average hourly wind speed predicted

by the WRF model is approximately 2.3 m/s. Calm conditions (wind speeds below 0.5 m/s) are predicted for approximately 0.8 % of the time.

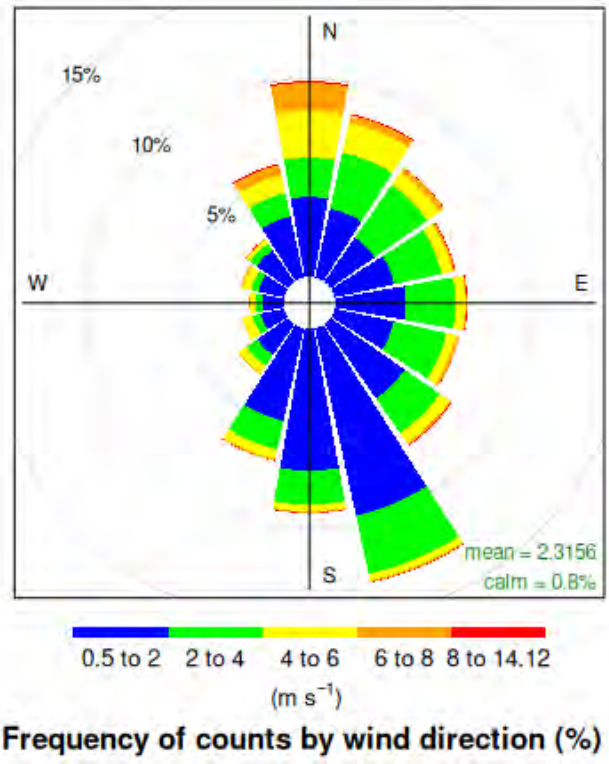

Figure 9: Wind rose of the average winds produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

There is a clear diurnal variation in the predominant wind direction. During the day, most winds originate from the north, while at night most winds blow from the south-south-easterly direction. However, winds with the highest speeds during the night are not aligned with the predominant direction, while they are aligned with the predominant wind direction during the day. Most frequent winds with speeds above 6 m/s are expected from a northerly direction during the day and night. On average, wind speeds are higher during the day and there are also more incidences of calm conditions during the day than at night (Figure 10).

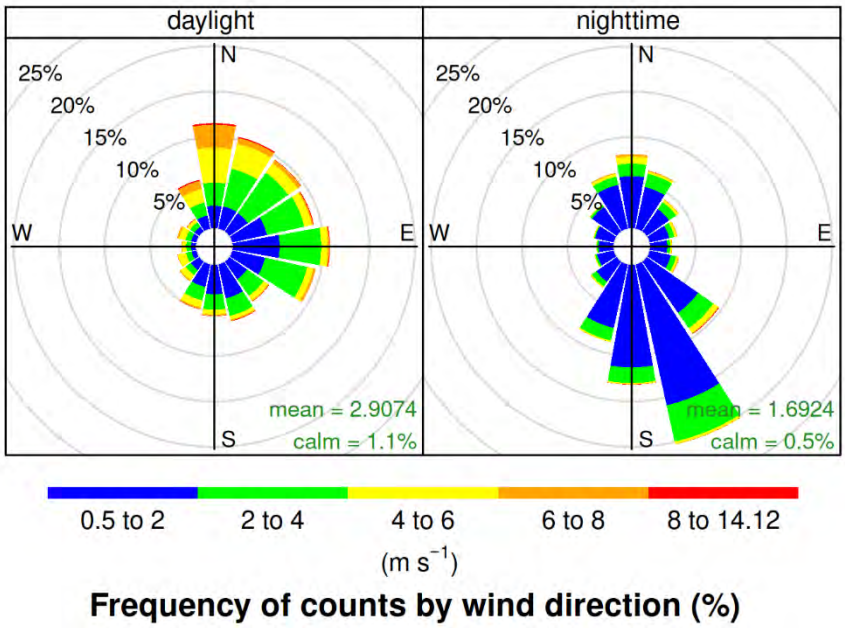

Figure 10: Diurnal wind roses produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

The seasonal variations in wind direction for the Amandelbult TSF Dam 2 are illustrated in Figure 11. During summer and autumn, the predominant wind direction is from the south-south-easterly direction. In spring and winter, the predominant winds originate from the north and south respectively. Across all four seasons the highest number of winds with speeds above 6 m/s originate from the north. Average wind speeds are highest in spring, and most of the calm conditions are experienced in autumn.

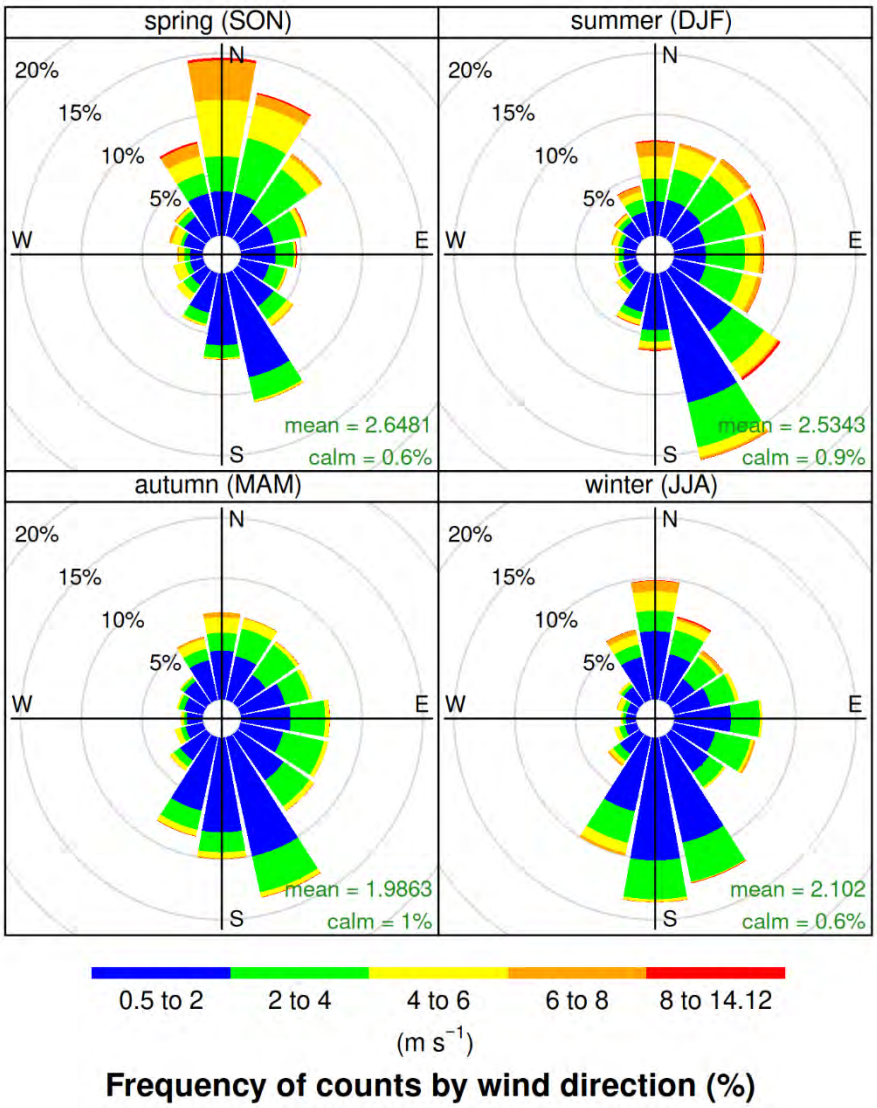

Figure 11: Seasonal wind roses produced by the WRF model for the Amandelbult TSF Dam 2 for the years 2021-2023.

3.2 Upper Air Data

The preferred data for modelling would be data collected on site. This, however, is very seldom feasible given that three years of both surface and upper air meteorological data is required. To substitute for, or supplement, measured data, the Modelling Regulations Code of Practice (Government Notice No. R533, 2014) recommends the use of data from numerical models. For this project Weather Research and Forecasting Model (WRF) meteorological data was used.

4 AMBIENT AIR QUALITY

4.1 Air Quality Legislation and Standards

Air quality in South Africa is governed under the National Environmental Management: Air Quality Act, Act 39 of 2004 (NEM: AQA) (RSA Government, Act No. 39 of 2004). The main objective of the act is to ensure the protection of the environment and human health through reasonable measures of air pollution control within the sustainable (economic, social and ecological) development framework. The NEM: AQA shifted some of the approach of air quality management from source-based control to receptor-based control. With receptor-based control the ambient air quality of receptors is the factor which is used to determine the compliance of the emission source. The measured, or expected, ambient air quality of receptors is compared to National Standards. These standards prescribe the maximum ambient concentrations of pollutants permitted (and the number of exceedances allowed) during a specified time period in a defined area. If the air quality standards are exceeded, the ambient air quality is poor and the potential for health effects is greatest. The ambient air quality standards, therefore, provide a basis for protecting public health from adverse effects of air pollution and for eliminating, or reducing to a minimum, those contaminants of air that are known, or likely, to be hazardous to human health and wellbeing (WHO, 2000). The South African NAAQS for PM_{10} were published in 2009 (Government Notice No. 1210, 2009) in terms of Section 9(1) of the NEM: AQA. The NAAQS for $PM_{2.5}$ were published in 2012 (Government Notice No. 486, 2012) (Table 6).

In terms of the NEM: AQA, local government is responsible for air quality management, control and enforcement. This includes the control of all major sources, including mining, industrial, vehicle and domestic sources, in terms of ambient air concentrations. District and Metropolitan Municipalities are the licensing authorities. Provincial government is primarily responsible for ambient monitoring and ensuring municipalities fulfil their legal obligations. National government is primarily the policy maker and co-ordinator.

Table 6: National Standards for Ambient Air Quality for PM_{10} (Government Notice No. 1210, 2009) and for $PM_{2.5}$ (Government Notice No. 486, 2012).

National Ambient Air Quality Standards for Particulate Matter (PM_{10})			
Averaging Period	**Concentration ($\mu g/m^3$)**	**Frequency of Exceedance**	**Compliance Date**
24 hours	75	4	1 January 2015
1 year	40	0	1 January 2015
The reference method for the determination of the PM_{10} fraction of suspended particulate matter shall be EN 12341.			

National Ambient Air Quality Standards for Particulate Matter ($PM_{2.5}$)			
Averaging Period	**Concentration (µg/m³)**	**Frequency of Exceedance**	**Compliance Date**
24 hours	40	4	1 January 2016 – 31 December 2029
24 hours	25	4	1 January 2030
1 year	20	0	1 January 2016 – 31 December 2029
1 year	15	0	1 January 2030
The reference method for the determination of the $PM_{2.5}$ fraction of suspended particulate matter shall be EN 14907.			

The acceptable dustfall rates as set out in the National Dust Control Regulations (Government Notice No. 517, 2018) are shown in Table 7.

Table 7: National Dust Control Regulations (Government Notice No. 517, 2018).

Restriction Areas	Dustfall Rate (D) (mg/m²/day) (30-days average)	Permitted Frequency of Exceeding Dustfall Rate
Residential area	D < 600	Two within a year, not sequential months.
Non-residential area	D ≤ 1 200	Two within a year, not sequential months.

International standard practice prohibits or avoids locating residential areas closer than 500 m from TSFs (Kneen, Ojelede, & Annegarn, 2015). In 2003 the Gauteng Department of Agriculture, Conservation and Environment, now the Gauteng Department of Agricultural and Rural Development, developed a set of buffer zones to demarcate safe distances for development around mine residue areas. The two buffers were devised with windblown dust as the determining factor. At a distance of 500 m from mining waste disposal facilities such as slimes dams and ash dumps, dust levels are generally acceptable, and the dust can no longer be distinguished from ambient dust pollution. Beyond a distance of 1 000 m, dust from mining areas cannot be detected (Bobbins, Trangos, Phasha, Butcher, & Munakamwe, 2018; GDARD, 2009).

Both the amount of fine dust and the chemical and mineralogical composition of the dust will dictate the potential for health impacts (Schwegler, 2006). Metalliferous mine dusts may contain potentially toxic elements such as arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, uranium and zinc. Epidemiological and toxicological studies have indicated that there are many complex factors that play a role in the associated toxic, carcinogenic or

other health effects (Entwistle, Hursthouse, Marinho Reis, & Stewart, 2019). As a result, causal links between ambient air concentrations of metalliferous dust and health impacts from exposure have not yet been quantified in such a way that control can be legislated.

4.2 Ambient Air Quality / Background Concentrations

The Amandelbult TSF Dam 2 is located in the Thabazimbi LM which Is one of the five local municipalities that fall within the Waterberg District Municipality. Thabazimbi LM is situated within the declared WBPA. The minister declared the WBPA on 15 June 2012 as the third National Priority Area for air quality (Government Notice No. 154, 2013). According to the WBPA Air Quality Management Plan (DEA, 2014), particulate matter is one of the major pollutants of concern in the priority area, primarily from mining and industry.

There are two South African Air Quality Information System (SAAQIS) ambient air quality monitoring stations located within 10 km from the TSF, the Smashblock monitoring station and the Mobile-Norplats monitoring station (Figure 12). Although both of these stations are located too far from the Amandelbult TSF Dams to be directly linked to emissions from the mine, they do confirm that baseline particulate matter concentrations are concerning.

The Mobile-Norplats station has both PM_{10} and $PM_{2.5}$ monitors with most of the data for the three-year period from August 2023 to April 2025 available (Figure 13 and Figure 15). The graph of the measured PM_{10} ambient concentrations indicates approximately six exceedances of the 24-hour NAAQS of 75 $\mu g/m^3$ in the area over the 2-year period. The highest ambient concentrations were recorded in winter when atmospheric conditions are most unfavourable for the dispersion of air pollutants (Preston-Whyte & Tyson, 1998).

Figure 14 and Figure 16 illustrate the measured PM_{10} and $PM_{2.5}$ ambient concentrations at the Smashblock monitoring station for 2025 (Data from earlier years is incomplete, likely due to sensors malfunctioning during those periods). Six exceedances of the of the 24-hour NAAQS of 75 $\mu g/m^3$ have been recorded at the Smashblock station in 2025 thus far. In terms of the NAAQS, only 4 exceedances of the 24-hour averages are permissible per year.

Figure 12: Air Quality Monitoring stations near the Amandelbult TSF Dam 2.

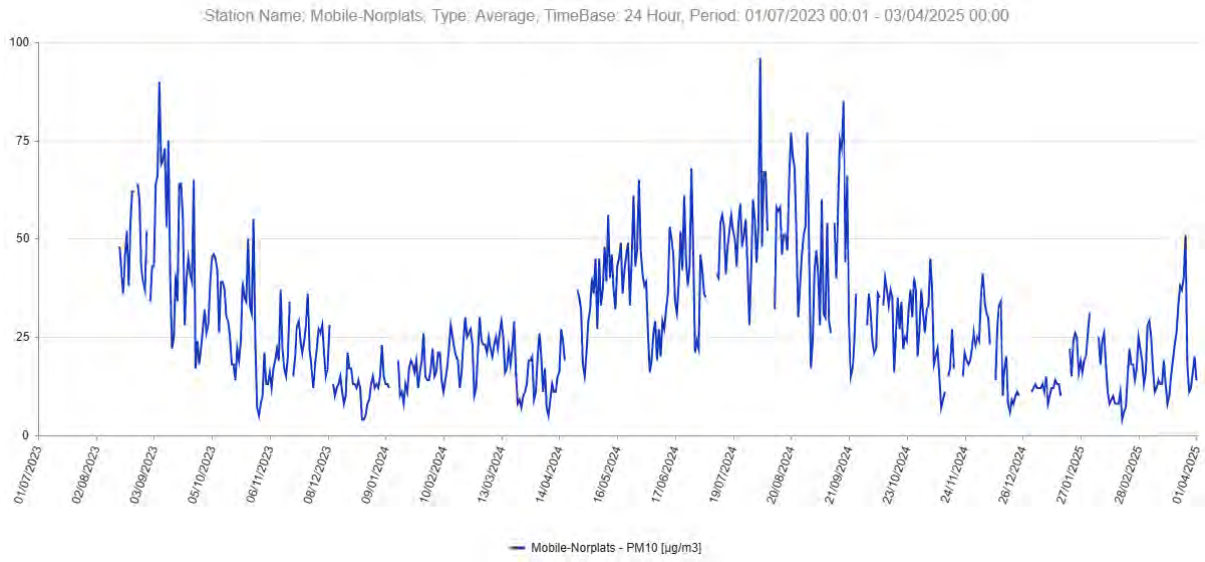

Figure 13: Daily average PM_{10} concentrations for the Mobile-Norplats Station for the period 2023 to 2025 (SAAQIS, 2025).

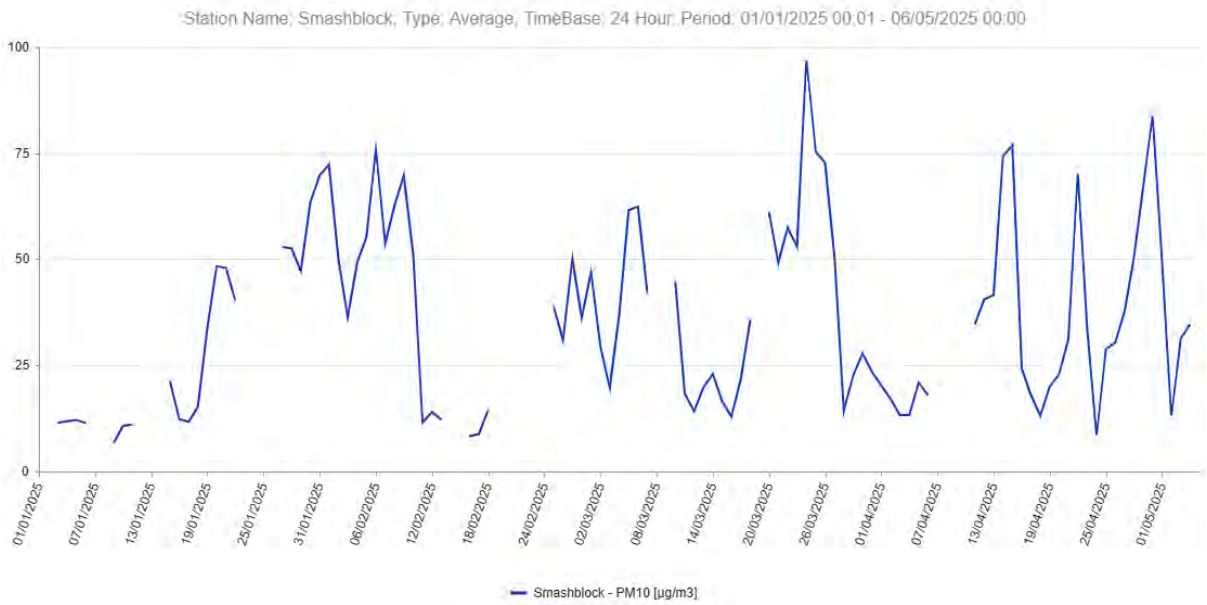

Figure 14: Daily average PM_{10} concentrations for the Smashblock Station for 2025 (SAAQIS, 2025).

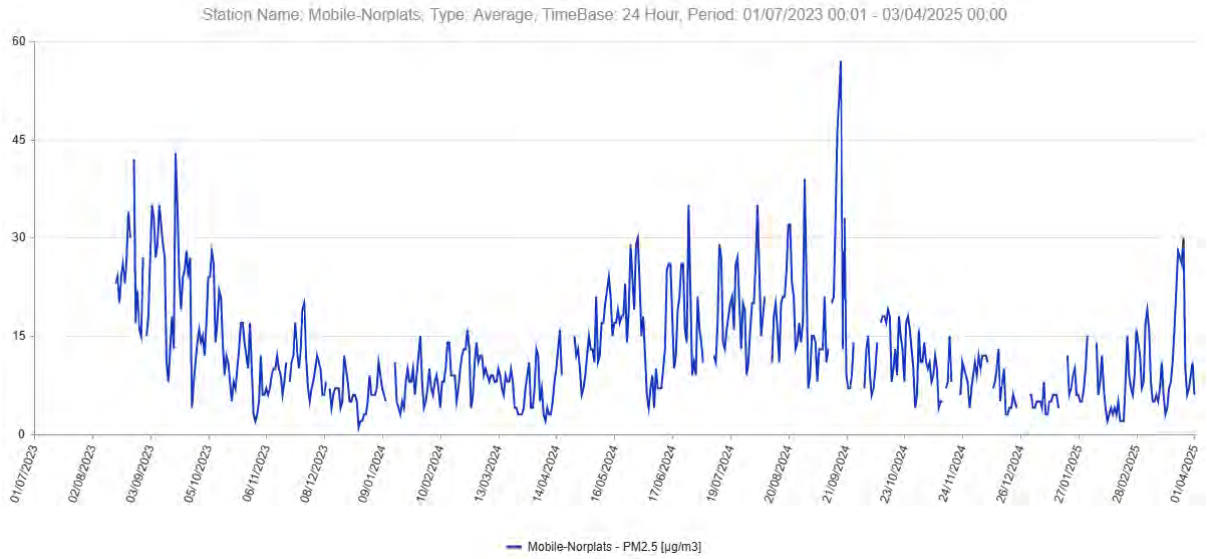

Figure 15: Daily average $PM_{2.5}$ concentrations for the Mobile-Norplats Station for the period 2023 to 2025 (SAAQIS, 2025).

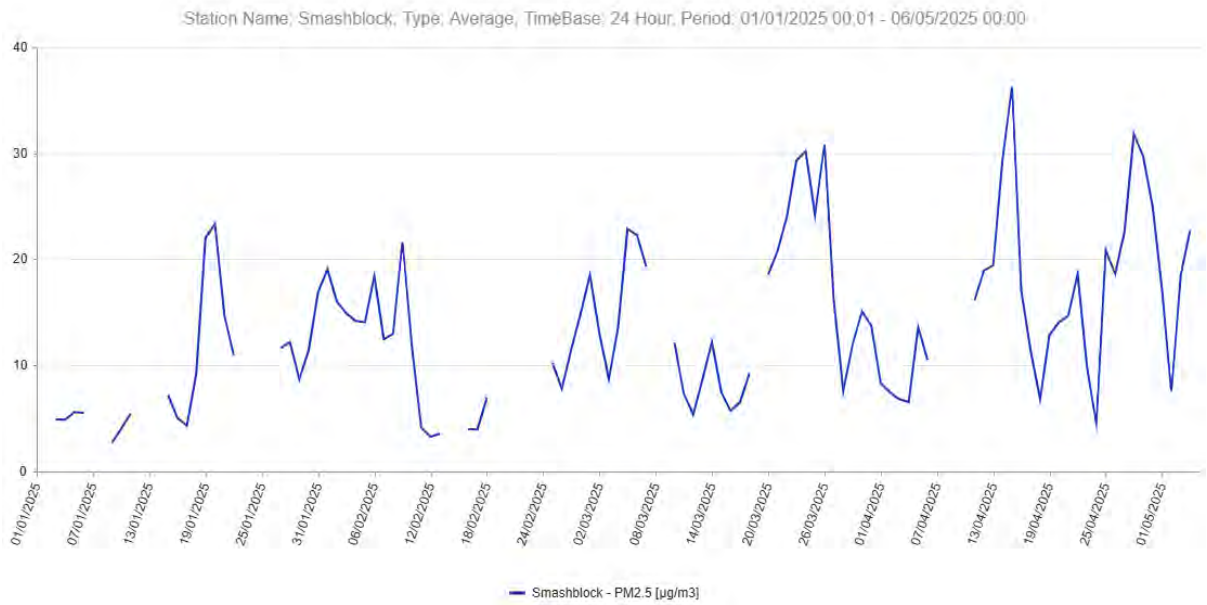

Figure 16: Daily average $PM_{2.5}$ concentrations for the Smashblock Station for 2025 (SAAQIS, 2025).

5 MODELLING PROCEDURES

5.1 Model Overview

Dispersion models are used to predict the ambient-air concentrations of pollutants emitted to the atmosphere from a variety of processes. Ambient concentrations are computed as a function of source configurations, emission strengths and meteorological characteristics, thus providing a useful tool to ascertain the spatial and temporal patterns in the ground level concentrations arising from the emissions of various sources. Increasing reliance has been placed on concentration estimates from models as the primary basis for environmental and health impact assessments, risk assessments and emission control requirements.

Three Levels of Assessment are defined in the Regulations Regarding Air Dispersion Modelling (Government Notice No. R533, 2014). The assessment of impacts resulting from emissions from this project was considered to fall within the scope of a Level 2 assessment. Level 2 assessments are used for air quality impact assessments in standard/generic licence or amendment processes where: The distribution of pollutant concentrations and depositions are required in time and space; Pollutant dispersion can be reasonably treated by a straight-line, steady-state, Gaussian plume model with first order chemical transformation; and Emissions are from sources where the greatest impacts are in less than 50 km downwind.

AERMOD is a steady-state plume dispersion model developed by The American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC). It has been adopted as the EPA's preferred regulatory model for both

simple and complex terrain. AERMOD incorporates air dispersion based on planetary boundary layer (PBL) turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. AERMOD is the recommended model for Level 2 assessments in the Code of Practice (Government Notice No. R533, 2014). The modelling system consists of one main program (AERMOD) and two pre-processors (AERMET and AERMAP). The versions of these programs used in this project are: AERMAP version 18081, AERMET version 23132 and AERMOD version v23132.

AERMOD requires elevation data that conveys the features of the surrounding terrain to calculate its effect on the dispersion of pollutants. Shuttle Radar Topography Mission (SRTM) 1 arc second Digital Elevation Terrain Data – Global was downloaded from the U.S. Geological Survey website for this project. AERMAP uses this data to establish the base elevation at each source and receptor. It then searches for the terrain height and location that has the greatest influence on dispersion for each individual receptor. This height is referred to as the hill height scale. Both the base elevation and hill height scale data are produced by AERMAP as a file or files which can be directly inserted into an AERMOD input control file. The elevation data is used by AERMOD to capture the essential physics of dispersion in complex terrain when calculating air pollutant concentrations at individual receptors (Cimorelli, et al., 2004).

AERMOD is designed to run with a minimum of observed meteorological parameters. The purpose of AERMET is to use basic meteorological measurements, representative of the modelling domain, to compute certain boundary layer parameters. Surface characteristics in the form of albedo, surface roughness and Bowen ratio, plus standard meteorological observations (wind speed, wind direction, temperature, and cloud cover), are input to AERMET. AERMET then calculates the PBL parameters: friction velocity, Monin-Obukhov length, convective velocity scale, temperature scale, mixing height, and surface heat flux. AERMET uses these parameters to generate the profiles of wind, turbulence and temperature required by AERMOD (Cimorelli, et al., 2004).

Modelled data from the Weather Research and Forecasting (WRF) Model was used to initialize the AERMET pre-processor in this project. Electronic input and output files for the modelling for AERMAP, AERMET and AERMOD have been submitted with this report. A list of these files is included in Section 6.

5.2 Emission Scenarios Modelled

Conditions simulated in the modelling study:

- Status quo scenario.
- Worst-case emission scenario from reclamation operations.
- Mitigated haul roads and materials handling scenario.

5.3 Model Settings

The US EPA regulatory default model settings were used. These include:

- Elevated terrain algorithms requiring input of terrain height data.
- Calms processing routines.
- Missing data processing routines.

Other settings:

- Albedo (Generated by WRF): 0.24
- Bowen ratio by month (Generated by WRF): 3.31, 1.97, 2.51, 2.38, 3.48, 4.64, 5.68, 6.77, 7.44, 7.24, 6.46, 5.00.
- Surface roughness length (Generated by WRF): 0.01, 0.01, 0.01, 0.04, 0.06, 0.06, 0.06, 0.06, 0.06, 0.03, 0.01, 0.01.

5.4 Receptor Grids

A cartesian receptor grid was used for the modelling the Amandelbult TSF Dam 2. Receptors were spaced at 100 m intervals up to 5 000 m from the centre point. The UTM coordinates of the centre point are: 536065.00 m E 7256716.96m S.

Three discrete receptors were included in the modelling to illustrate the impact of emissions from Amandelbult TSF Dam 2 on the surrounding populations. The location of the modelled discrete receptors is shown in Figure 17, with their elevation and coordinates presented in Table 8.

Receptor 1 represents the closest school (Rethabile Primary School) to the west-north-west of the Amandelbult TSF Dam 2 in a mine settlement. Receptor 2 represents the closest house to a mine settlement south-west of the Amandelbult TSF Dam 2. Receptor 3 represents the closest house to the east of the Amandelbult TSF Dam 2.

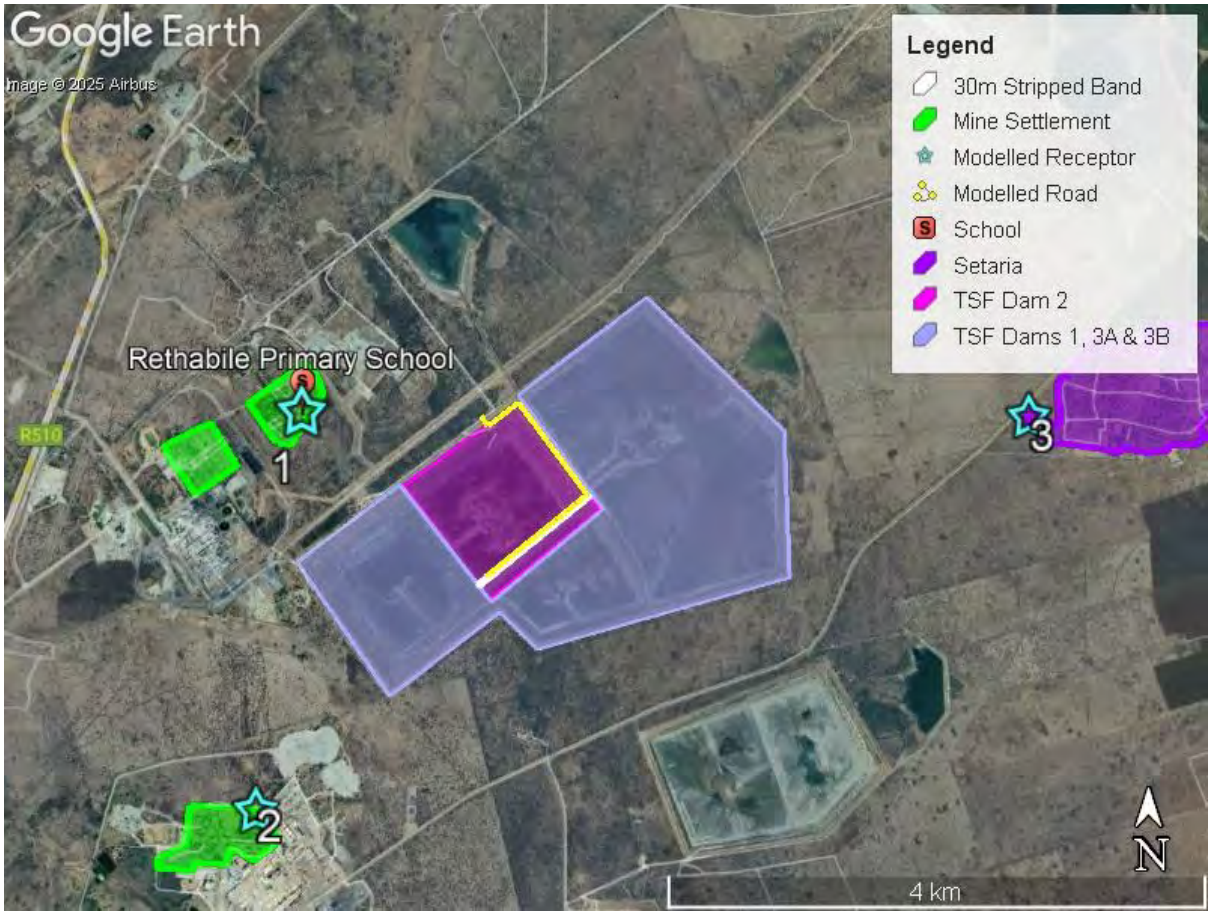

Figure 17: Position of the modelled reclamation strip, haul road and discrete receptors.

Table 8: UTM coordinates and elevation of modelled receptors.

Modelled Receptor	Description	UTM Coordinates	Elevation (m)
1	Closest school west-north-west of Amandelbult TSF Dams 1, 2, 3A and 3B	534478.00 m E 7257436.00 m S	970.69
2	Closest house south-west of Amandelbult TSF Dams 1, 2, 3A and 3B	534230.00 m E 7254419.00 m S	985.38
3	Closest house east of Amandelbult TSF Amandelbult TSF Dams 1, 2, 3A and 3B	540207.00 m E 7257386.00 m S	949.91

5.5 Assumptions and Limitations

- It was assumed that since the starting point of hydraulic reclamation is unknown, it is possible that trucks may still be hauling material while the first stripped band is being cleared.

- It was assumed that the face being removed by the jets of high-pressure water will be wet on a regular basis, therefore emissions will not be increased from this area, even though the tailings material is 'disturbed'.
- For the materials handling emissions, it was assumed that the tailings material would be dug out from the workface and dropped directly into the haul trucks. Furthermore, it was assumed that the material would then be dropped onto stockpiles at the scrubber plant and then be picked up again and dropped onto a conveyor or other means of transporting the material into the repulping plant. This accounts for three sets of materials handling. If the material is loaded and unloaded more times, emissions will be proportionally higher, and similarly, if the material is unloaded once at the scrubber/repulping plant (as assumed in the mitigated modelled scenario), emissions will be lower.
- For the mitigated scenario, it was assumed that dust suppression on the haul roads would be applied regularly to ensure its effectiveness.

6 AIR QUALITY IMPACT ASSESSMENT RESULTS

Dispersion simulations were undertaken to determine ambient concentrations of $PM_{2.5}$ and PM_{10} resulting from the reclamation of the Amandelbult TSF Dam 2. Three scenarios were simulated – a status quo scenario showing the current emissions from all of the Amandelbult TSF Dams before the start of the reclamation process; a worst-case scenario; and a mitigated scenario. The dispersion of particulate matter was modelled up to a distance of 5 km from a central point.

The isopleths of the modelling results for $PM_{2.5}$ and PM_{10} are presented in Figure 18 to Figure 25 below. The red isopleths represent the NAAQS, therefore, all areas on the maps that lie within the red coloured isopleth can be expected to experience exceedances of the relevant National Standards. It should be noted that isopleth plots reflecting the 24-hour averaging periods contain the 99^{th} percentile or the average of the fifth-highest predicted ground level concentrations, over the three-year period for which simulations were undertaken. This is in line with the NAAQS which allows for four exceedances per year. Concentrations are presented in $\mu g\ m^{-3}$.

6.1 Status Quo Ambient Impact Results

6.1.1 Figures Showing Isopleths of the Status Quo Concentrations

The isopleths of the status quo modelling results are given in Figure 18 to Figure 21 below.

Status Quo Modelling Results

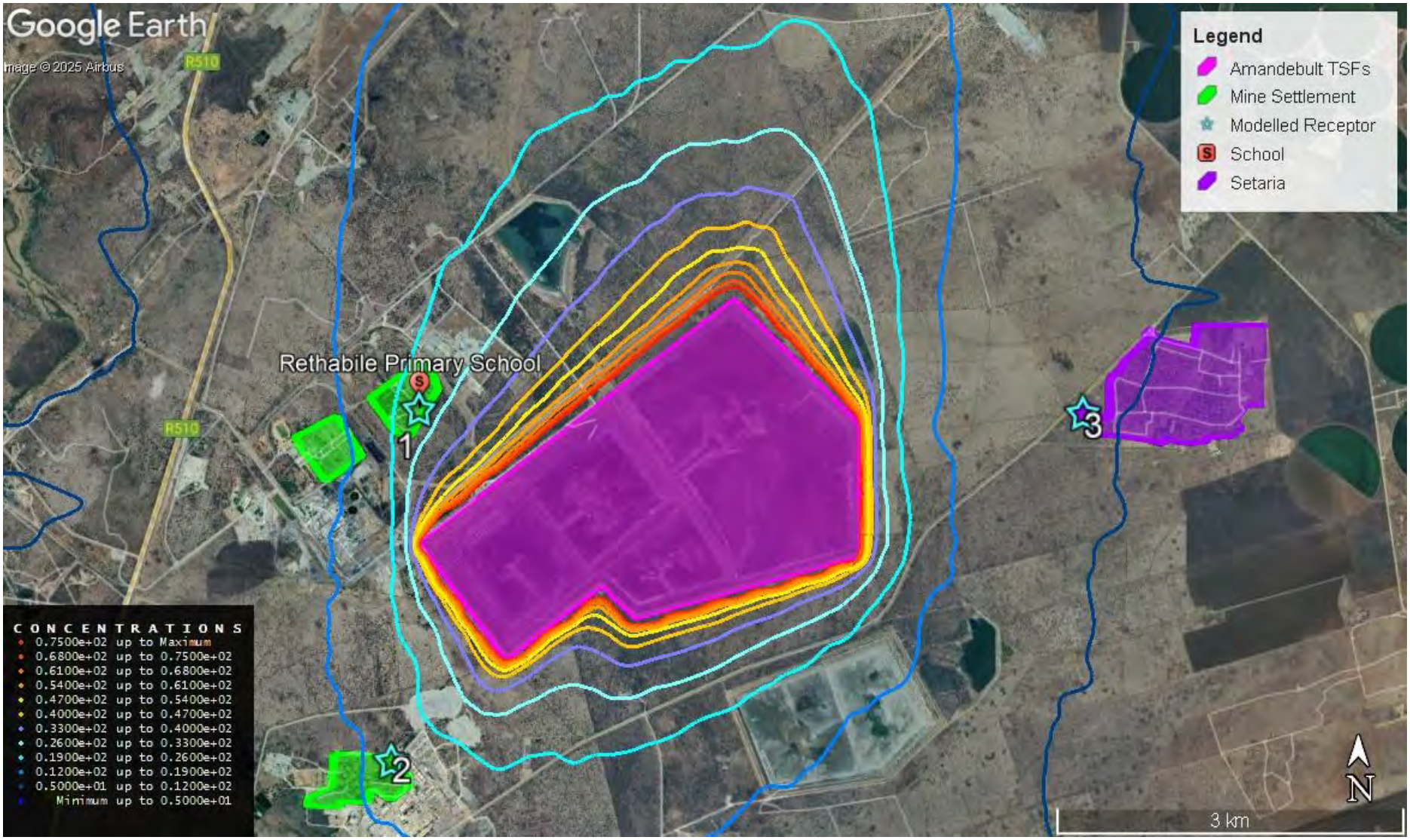

Figure 18: Modelled prediction of highest 24-hour average PM_{10} concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

Status Quo Modelling Results

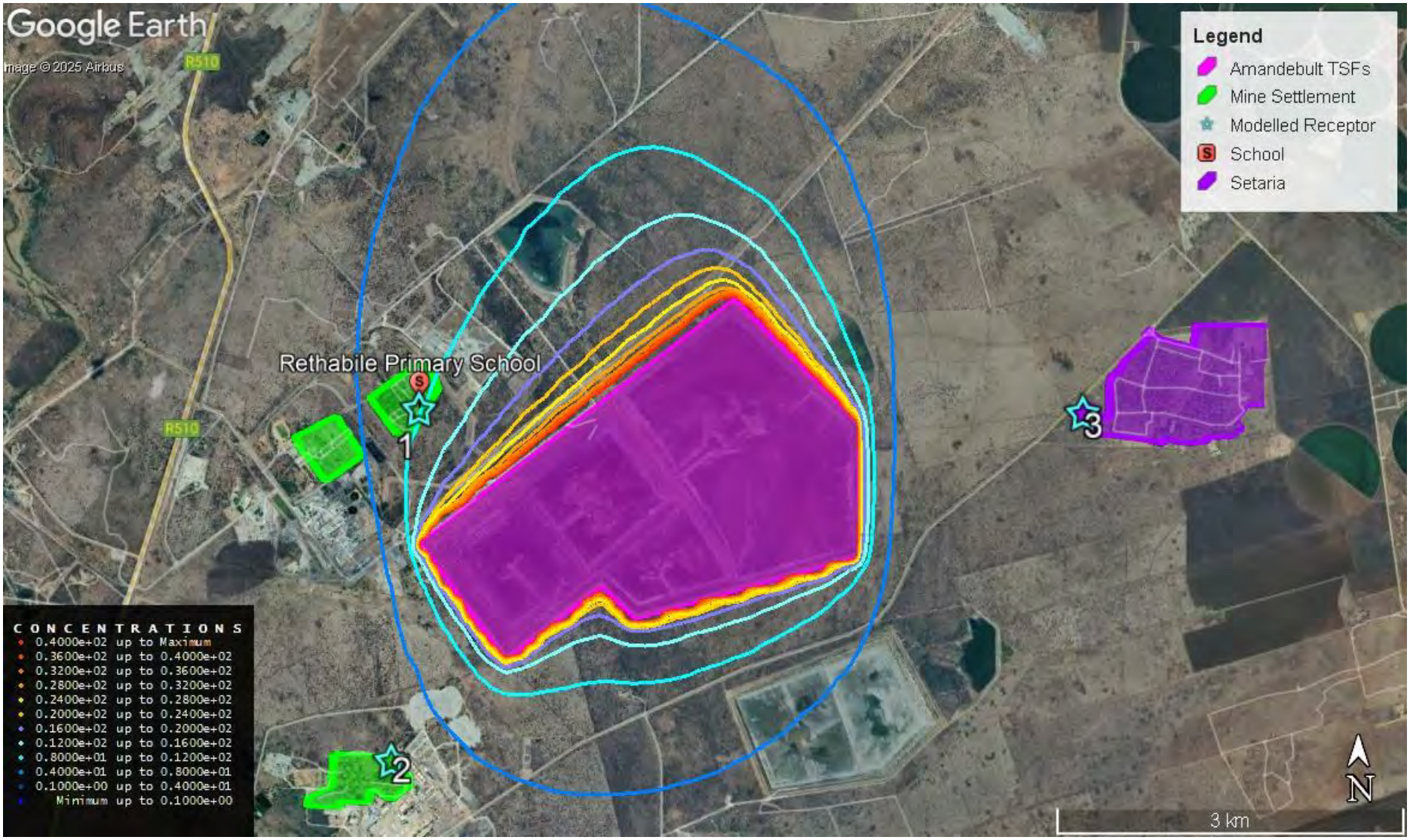

Figure 19: Modelled prediction of the annual average PM_{10} concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

Status Quo Modelling Results

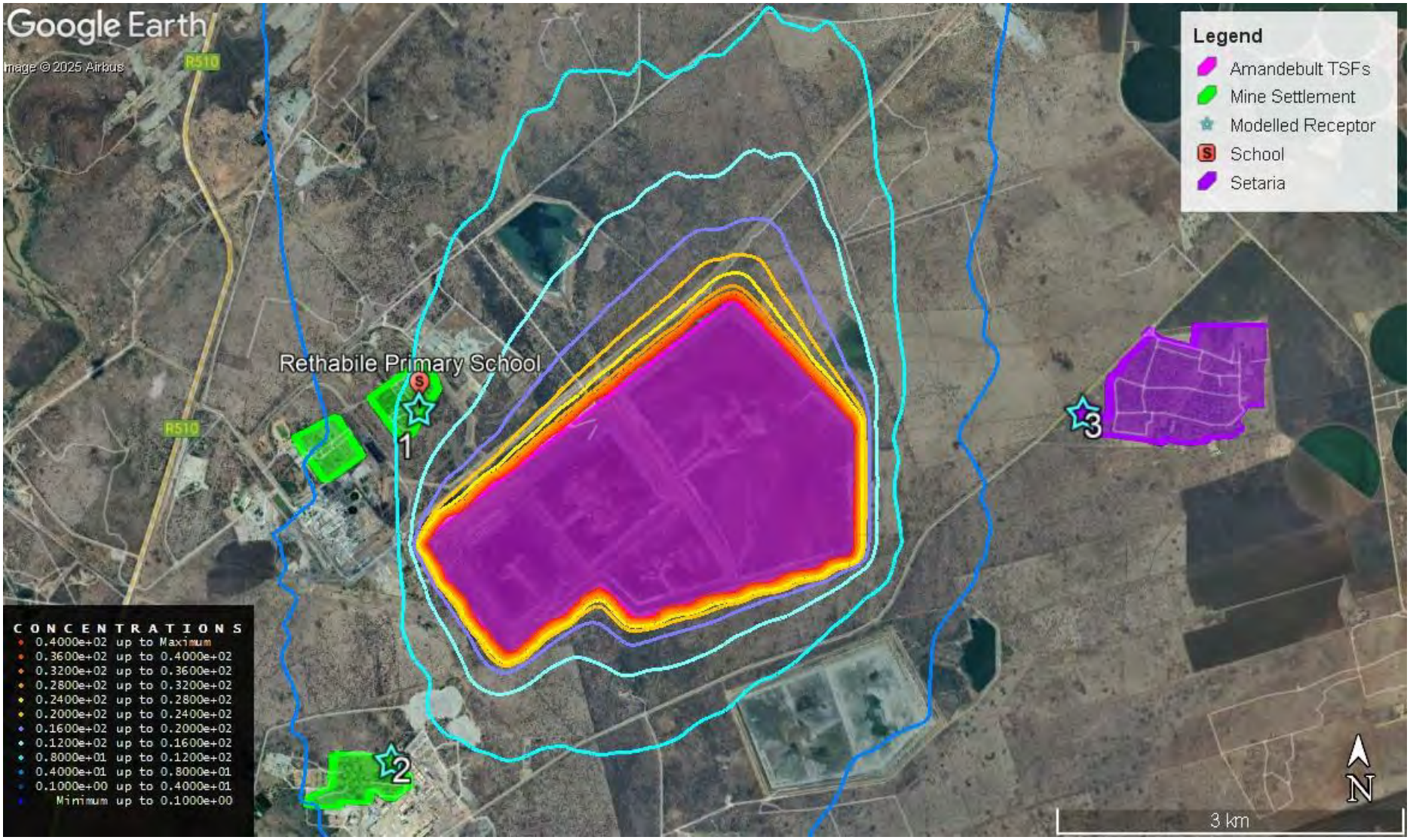

Figure 20: Modelled prediction of the highest 24-hour average $PM_{2.5}$ concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

Status Quo Modelling Results

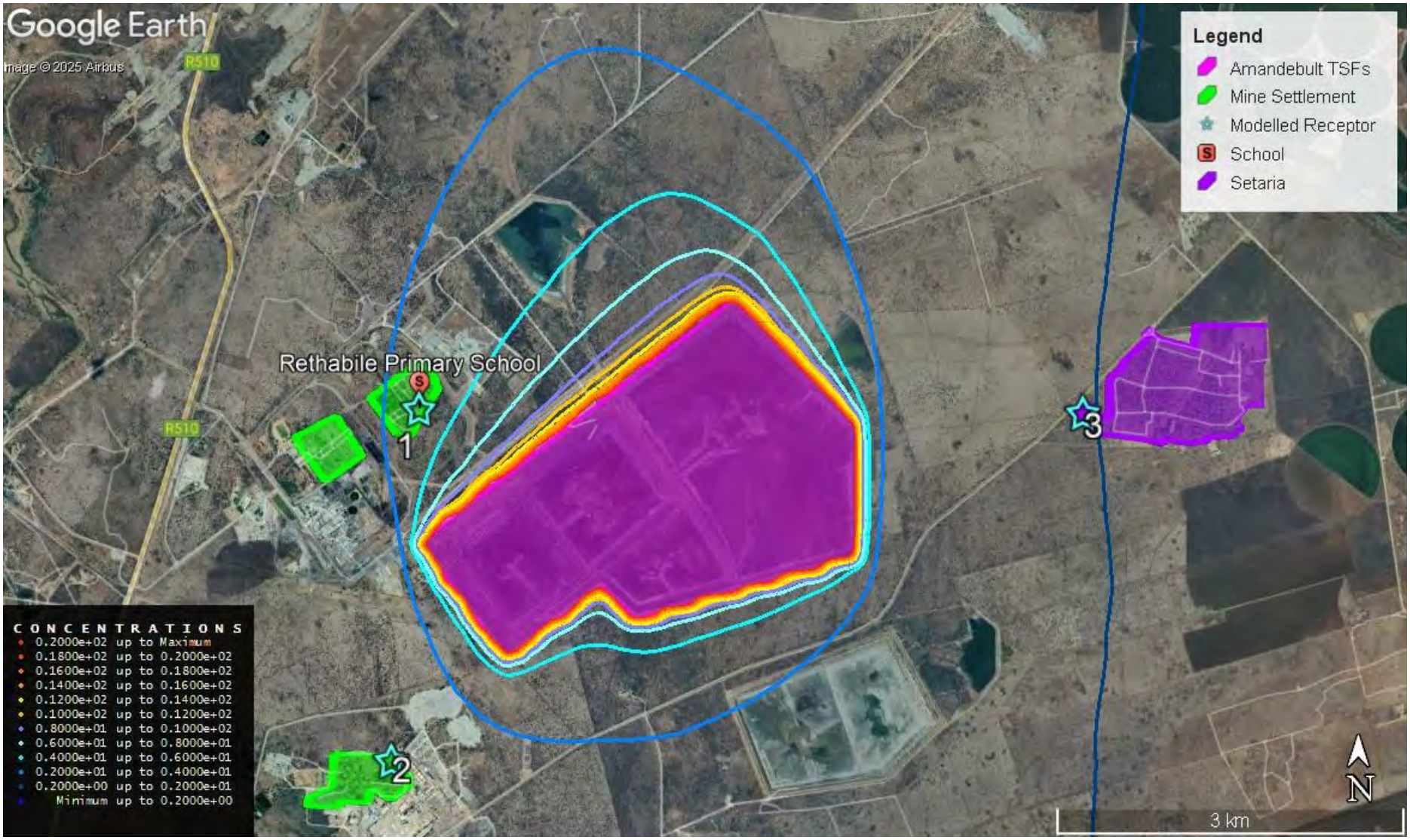

Figure 21: Modelled prediction of annual average $PM_{2.5}$ concentrations resulting from the undisturbed Amandelbult TSF Dams 1, 2, 3A and 3B.

Status Quo Modelling Results

6.1.2 Table of the Status Quo Modelling Results

Table 9: Maximum modelled status quo concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m³)	NAAQS (µg/m³)
PM_{10} 24 hours (99th percentile)	1	16-12-2022	22.6	75
	2	15-11-2021	14.5	
	3	10-03-2023	6.4	
PM_{10} Annual	1	Annual average	7.9	40
	2	Annual average	2.4	
	3	Annual average	0.6	
$PM_{2.5}$ 24 hours (99th percentile)	1	27-12-2022	9.4	40
	2	28-10-2021	5.7	
	3	10-03-2023	2.5	
$PM_{2.5}$ Annual	1	Annual average	2.9	20
	2	Annual average	0.9	
	3	Annual average	0.2	

6.1.3 Evaluation of the Status Quo Modelling Results

- The modelled highest daily average concentrations of PM_{10} and $PM_{2.5}$ resulting from emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B indicate that exceedances of the national daily standards of 75 µg/m³ and 40 µg/m³, respectively, are only expected immediately around the TSF Dams (Figure 18). Under worst-case meteorological conditions, the discrete receptors included in the modelling (representing the closest residential areas and the closest school) may expect to experience ambient concentrations of less than 30% of the limit set by the NAAQS, caused by emissions from the TSF Dams (Table 9).
- The modelling also indicates that annual average concentrations of both PM_{10} and $PM_{2.5}$ are not expected to exceed the national standards of 40 µg/m³ and 20 µg/m³, respectively, much beyond the TSF Dams footprints (Figure 19 and Figure 21).

6.2 Worst-Case Reclamation Scenario Ambient Impact Results

6.2.1 Isopleths of the Worst-Case Reclamation Scenario Concentrations

The isopleths of the worst-case reclamation scenario modelling results are given in Figure 22 and Figure 23 below.

Worst-Case Modelling Results

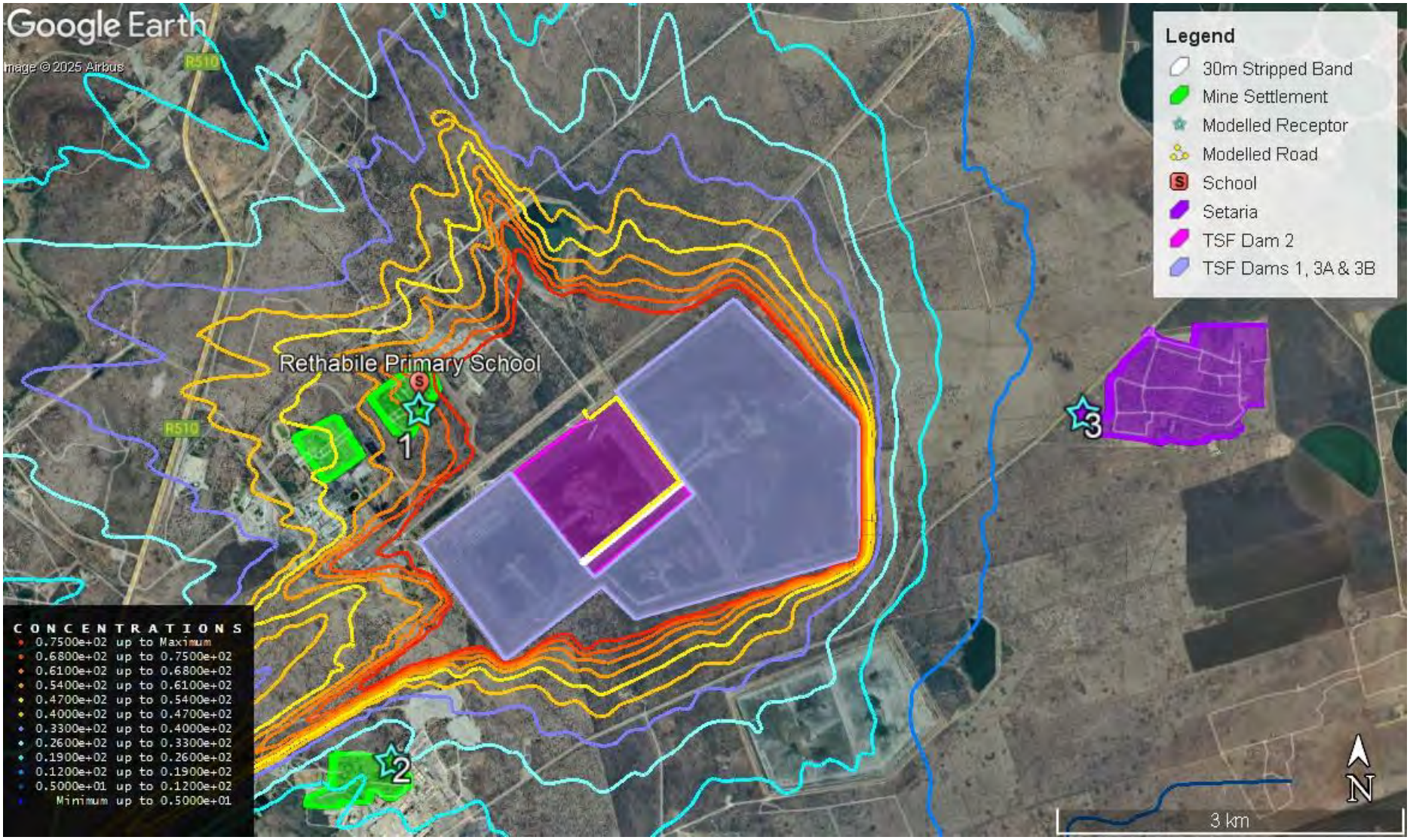

Figure 22: Modelled prediction of the worst-case 24-hour average PM_{10} concentrations resulting from reclamation at Amandelbult TSF Dam 2.

Worst-Case Modelling Results

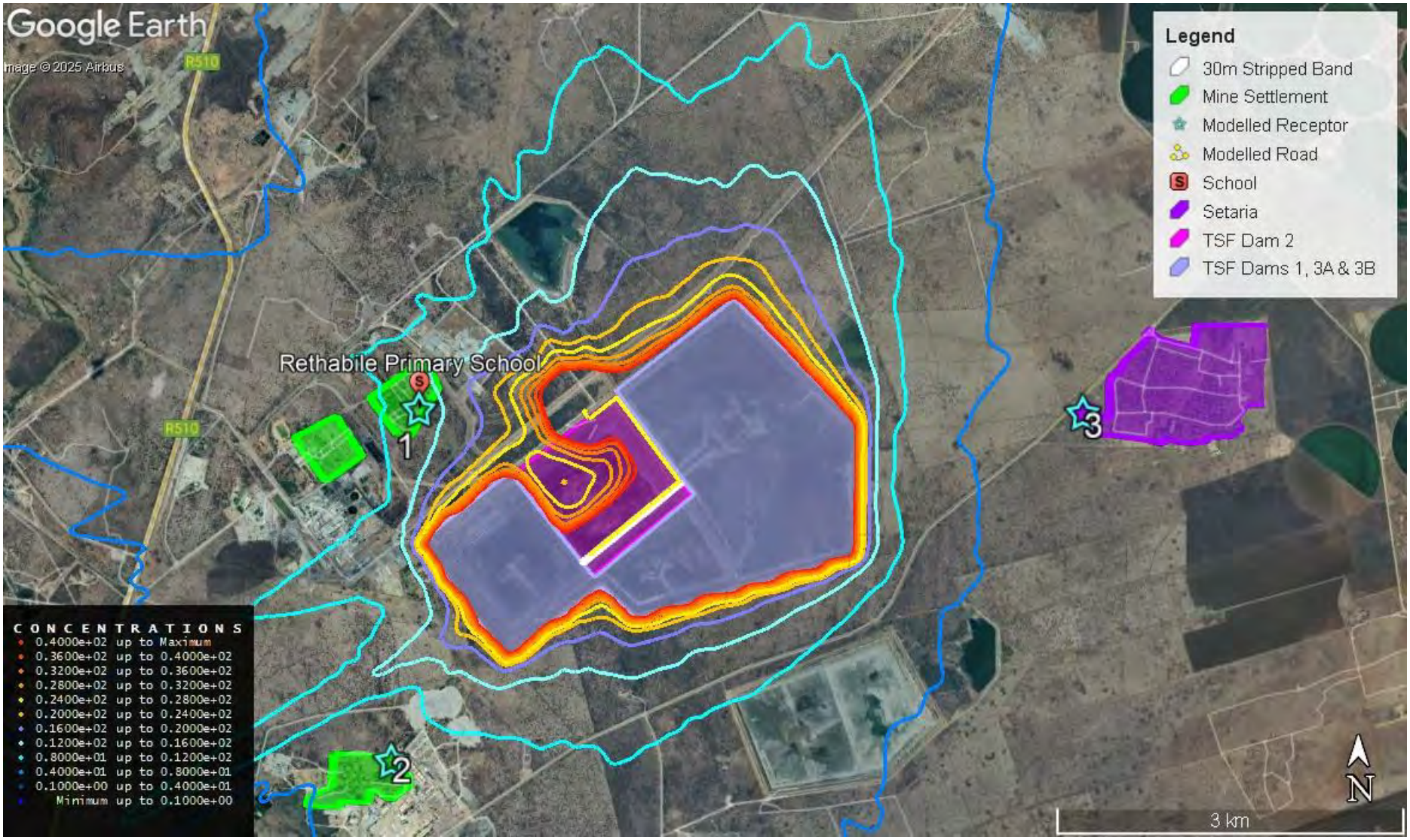

Figure 23: Modelled prediction of the worst-case 24-hour average $PM_{2.5}$ concentrations resulting from reclamation at Amandelbult TSF Dam 2.

Worst-Case Modelling Results

6.2.2 Table of the Reclamation Scenario Modelling Results

Table 10: Maximum modelled reclamation scenario concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m³)	NAAQS (µg/m³)
PM_{10} 24 hours (99th percentile)	1	01-06-2022	66.8	75
	2	22-06-2023	21.8	
	3	21-05-2022	16.3	
$PM_{2.5}$ 24 hours (99th percentile)	1	17-07-2023	10.1c	40
	2	09-01-2022	6.0c	
	3	10-03-2023	2.4	

Note: An average that includes a calm hour is flagged with a 'c'.

6.2.3 Evaluation of the Reclamation Scenario Modelling Results

This scenario represents the worst-case emissions expected from the reclamation process. This scenario represents all of the status quo emissions continuing from TSF 1, 3A and 3B; with the added increase in emissions resulting from the stripping of vegetation in a 30-metre-wide by 1 000-metre-long band for reclamation; as well as emissions from the trucks hauling TSF material along the length of the strip and then along the north-eastern side of the TSF; and emissions from materials handling. This is not expected to be the situation for a long period of time. It is unlikely that mechanical reclamation will continue for a long time once hydraulic reclamation has started. Furthermore, the length of haul road represented, is close to the greatest distance possible for the entire reclamation period.

- The modelled highest daily average concentrations of PM_{10} indicate that exceedances of the national daily standard of 75 µg/m³ can be expected on windy days up to approximately 1 500 m to the north-west of the Amandelbult TSF Dams 1, 2, 3A and 3B (Figure 22). However, none of the modelled sensitive receptors are expected to experience ambient concentrations exceeding the NAAQS on worst-case days. Rethabile Primary School may expect to experience ambient concentrations of up to approximately 89% of the limit set by the NAAQS while discrete receptors 2 and 3 are expected to experience ambient concentration less than 30% of the limit (Table 10). It should be noted that the increase in emissions from the TSF during reclamation will be temporary and are most likely to be lower than the worst case for most of the reclamation process.
- The modelled highest daily average concentrations of $PM_{2.5}$ indicate that exceedances of the national daily standard of 40 µg/m³ can be expected on windy days up to approximately 400 m from the proposed scrubber plant (Figure 23). None of the

sensitive receptors in the vicinity are expected to experience exceedances of the $PM_{2.5}$ NAAQS from the reclamation phase of TSF Dam 2 (Table 10).

6.3 Mitigated Scenario Ambient Impact Results

6.3.1 Figures Showing Isopleths of the Mitigated Haul Road and Materials Handling Scenario Concentrations

The isopleths of the mitigated haul road and materials handling scenario modelling results are presented in Figure 24 and Figure 25 below.

Mitigated Scenario Modelling Results

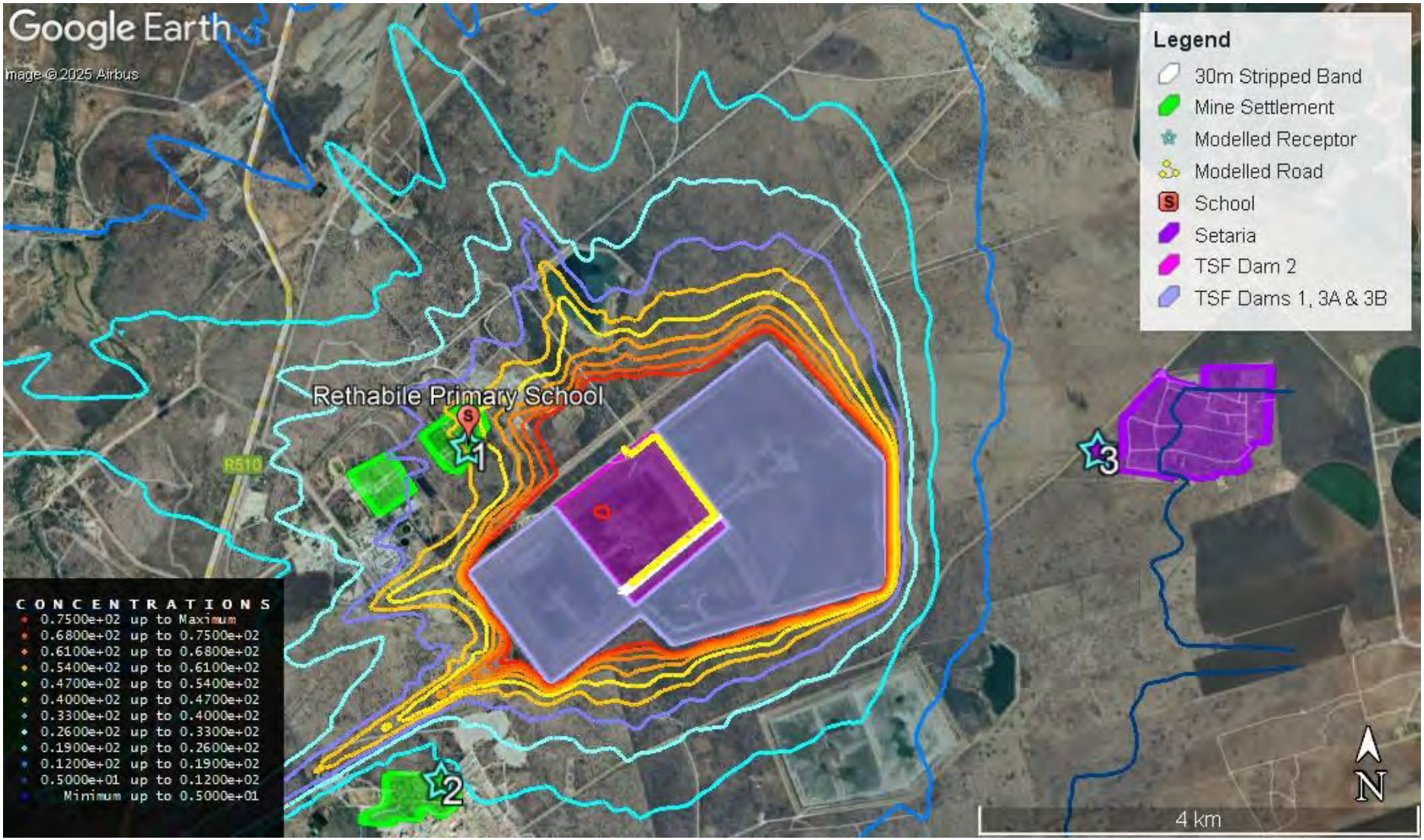

Figure 24: Modelled prediction of the highest 24-hour average PM_{10} concentrations resulting from the mitigated reclamation scenario.

Mitigated Scenario Modelling Results

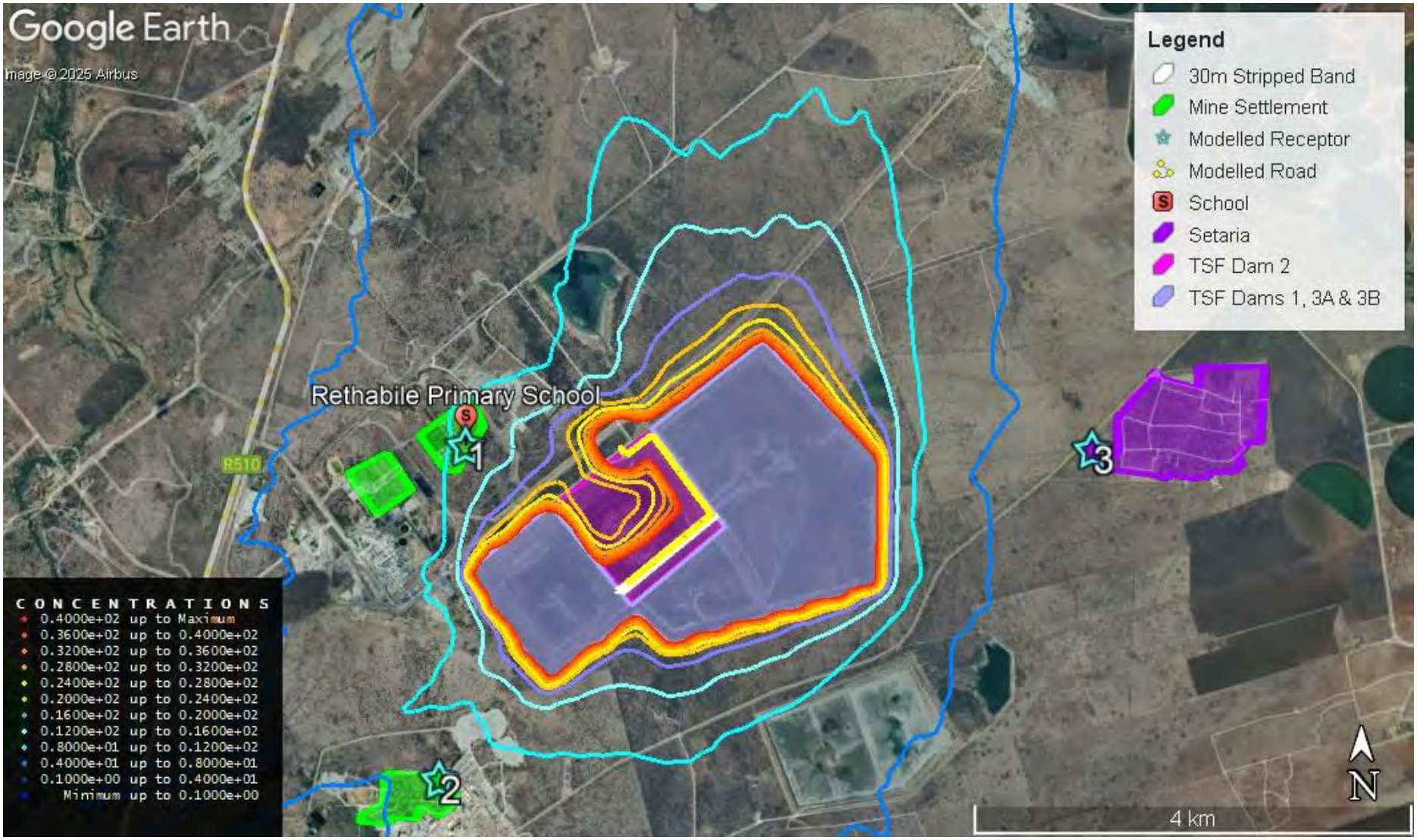

Figure 25: Modelled prediction of the highest 24-hour average $PM_{2.5}$ concentrations resulting from the mitigated reclamation scenario.

6.3.1 Table of the Mitigated Reclamation Scenario Modelling Results

Table 11: Maximum modelled mitigated reclamation scenario concentrations at the discrete receptors in the vicinity of the Amandelbult TSF Dams 1, 2, 3A and 3B.

Averaging Time	Discrete Receptor	Date of Maximum Modelled Concentration	Maximum Modelled Concentration (µg/m^3)	NAAQS (µg/m^3)
PM_{10} 24 hours (99th percentile)	1	09-06-2021	41.0c	75
	2	22-12-2022	16.9	
	3	15-12-2022	6.5c	
$PM_{2.5}$ 24 hours (99th percentile)	1	15-03-2021	9.2	40
	2	19-02-2022	5.1	
	3	15-12-2022	2.3c	

Note: An average that includes a calm hour is flagged with a 'c'.

6.3.2 Evaluation of the Mitigated Reclamation Scenario Modelling Results

When a mitigation efficiency of 40% is applied on the roads and materials handling is reduced by a third, modelled ambient concentrations indicate that the impact of the reclamation activities will be markedly lower for the Rethabile Primary school and surrounding residential area.

- The modelled highest daily average concentrations of PM_{10} indicate that exceedances of the national daily standard of 75µg/m^3 can be expected on windy days up to approximately 700 m to the north-west of the Amandelbult TSF Dams 1, 2, 3A and 3B (Figure 24). On worst-case days, the Rethabile Primary School may expect to experience ambient concentrations of up to approximately 55% of the limit set by the NAAQS, while discrete receptors 2 and 3 are expected to experience ambient concentration less than 23% of the limit (Table 11). This indicates that the expected ambient concentrations at the Rethabile Primary School should be reduced by approximately 34% if rigorous mitigation measures are implemented and adhered to.
- The modelled highest daily average concentrations of $PM_{2.5}$ indicate that exceedances of the national daily standard of 40µg/m^3 can be expected on windy days up to approximately 270 m from the north western side of TSF Dam 2 (Figure 25). None of the modelled receptors in the vicinity are expected to experience exceedances of the $PM_{2.5}$ NAAQS from the reclamation of TSF Dam 2 (Table 11).

6.4 Comparison of the Three Modelled Scenarios

A comparison of maximum modelled concentrations at the discrete receptors for the three modelled scenarios is presented in Table 12. The modelled concentrations show that the greatest impact of the reclamation process on sensitive receptors will be experienced to the northwest of the Amandelbult TSF Dams 1, 2, 3A and 3B at the Rethabile Primary School and surrounding residential area. The importance of mitigation is also clearly illustrated. This is even more important considering that the mine and its TSF Dams are located in the Waterberg-Bojanala Priority Area where particulate matter concentrations are generally raised.

Table 12: Comparison of maximum modelled concentrations at the three discrete receptors for the three modelled scenarios.

Averaging Time	Discrete Receptor	Maximum Modelled Concentration (µg/m^3)		
		Status Quo Scenario	Worst-Case Reclamation Scenario	Mitigated Scenario
PM_{10} 24 hours (99^{th} percentile)	1	22.6	66.8	44.9c
	2	14.5	21.8	16.9c
	3	6.4	16.3	6.5c
$PM_{2.5}$ 24 hours (99^{th} percentile)	1	9.4	10.1c	9.2
	2	5.7	6.0c	5.1
	3	2.5	2.4	2.3c

Note: An average that includes a calm hour is flagged with a 'c'.

6.5 Dust Fallout Monitoring Programme

The Amandelbult Concentrator has dust monitoring buckets positioned at 14 locations across the site (Figure 26). Large particles (>30µm) mostly are deposited within 100 m of the source, intermediate-sized particles (10 µm to 30 µm) are likely to travel up to 200 m to 500 m and smaller particles (<10 µm) can travel up to 1km from the source, although very small particles can travel much further (DETR, 2000). Because dust collected in the buckets is measured by mass, dust buckets mostly reflect emissions from sources that lie within 100 m from the sampler. The Amandelbult sampler that reflects emissions from TSF Dam 2, therefore, is AMA05, which is located adjacent to the TSF. Throughout 2024, the dustfall rates at the AMA05 station (Figure 27) remained below the non-residential dustfall limit of 1 200 mg/m^2/day (Table 7). The dust monitoring at this station should be continued and used to establish a baseline against which the impacts of the reclamation activities can be assessed.

The baseline established at this dust bucket location should be used to monitor the impact of the reclamation process and to demonstrate that mitigation measures are being strictly

implemented. Monthly and seasonal variations should be taken into consideration in this analysis. If the measured dustfall shows a marked increase from pre-reclamation phase levels, and particularly if the measured dustfall rates exceed the regulated dustfall rate, urgent measures must be undertaken to further mitigate emissions.

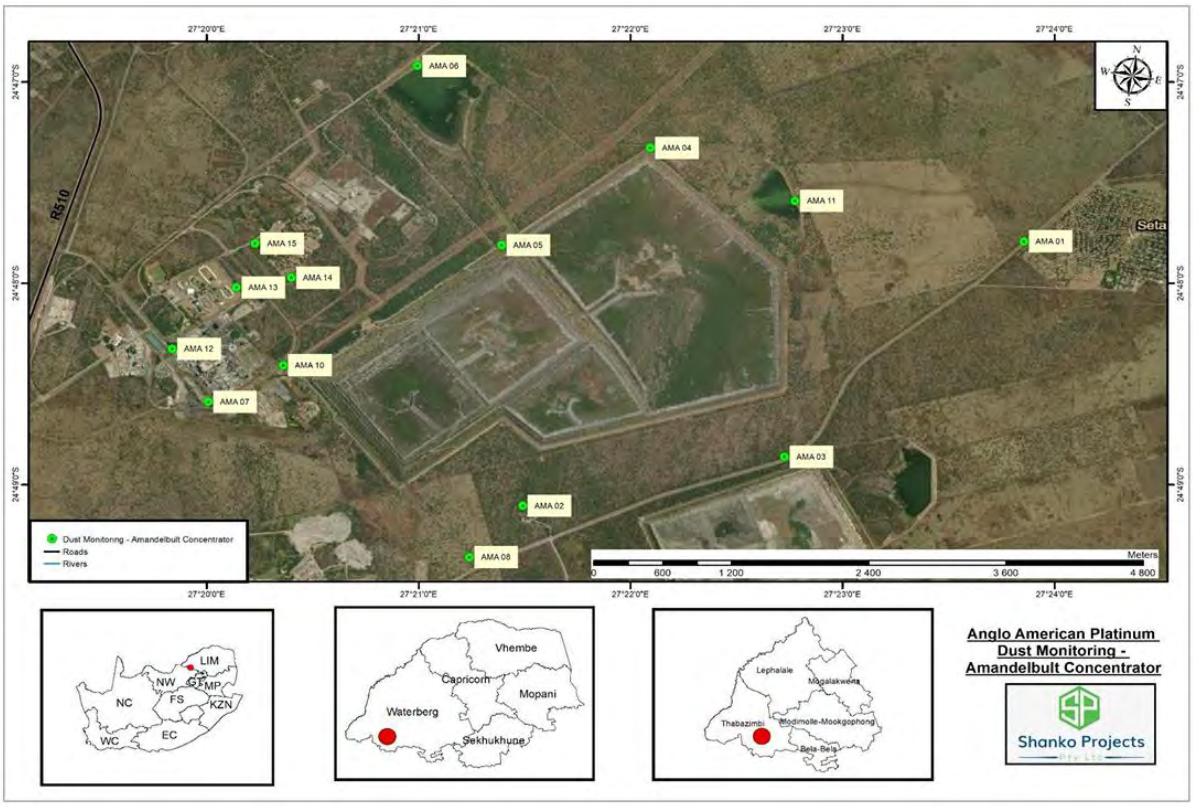

Figure 26: Location of dust buckets (SP, December 2024).

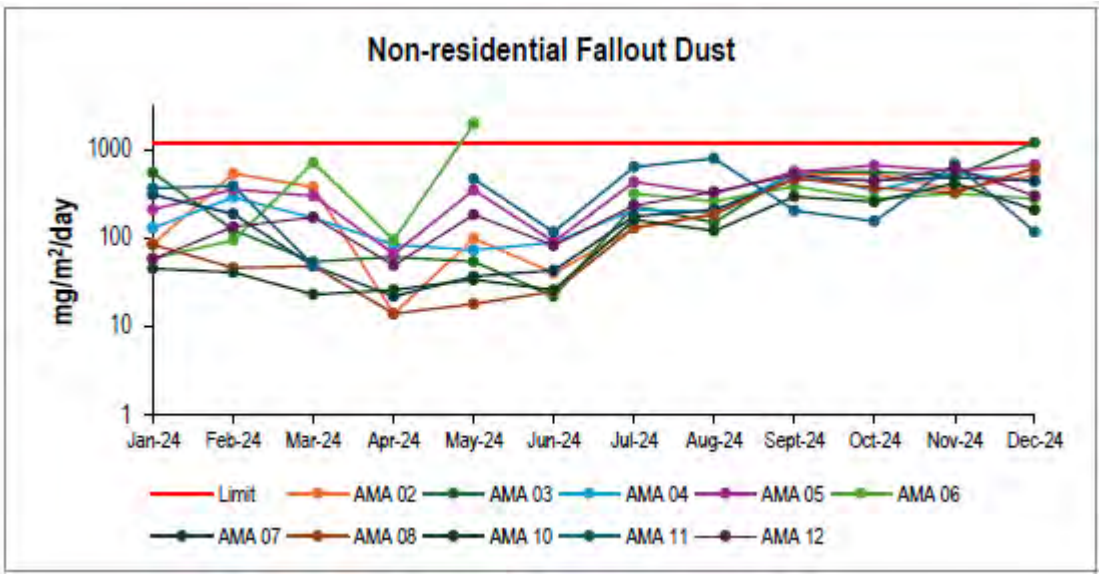

Figure 27: Graphic representation of non-residential fallout dust values on a logarithmic scale for 12 months (SP, December 2024).

6.6 Conclusions and Recommendations

An air quality impact assessment was undertaken for the reclamation of the Amandelbult TSF Dam 2. $PM_{2.5}$ and PM_{10} represent the main criteria pollutants of concern. The following conclusions can be made from the modelling results:

- Emissions from the Amandelbult TSF Dams 1, 2, 3A and 3B in their current, undisturbed state are expected to be causing elevated ambient concentrations of both PM_{10} and $PM_{2.5}$ in downwind areas on windy days. The highest expected concentrations resulting from emissions from the TSF Dams at the discrete receptors included in the modelling (representing the closest residential areas and the closest school) are expected to be below 25% of the PM_{10} and $PM_{2.5}$ NAAQS.
- The modelling of the worst-case reclamation scenario indicates that the area of exceedances is likely to extend up to approximately 1 500 m beyond the footprint of the TSF dams, particularly to the north-west of the TSF Dam 2. The mine settlement around the Rethabile Primary School will be the most affected by the increase in emissions.
- The modelling of the mitigated reclamation scenario indicates that mitigation measures on the haul roads and a reduction of the number of times the TSF material is handled can reduce the impacts of the reclamation in the area of the Rethabile Primary School by approximately 30%.

The Amandelbult TSF Dam 2 is situated within the WBPA where particulate matter is one of the pollutants of concern. Therefore:

- Wet suppression and wind speed reduction to control open dust sources at construction sites.
- All soil stockpiles should be covered with vegetation as soon as possible to prevent wind erosion.
- Spray-on mitigation measures on the haul roads must be regularly and efficiently applied.
- A strict speed limit of 40 km/hr must be enforced on all haul roads.
- Mechanical materials handling must be kept to a minimum.
- Drop height at materials transfer points must be kept to a minimum.
- The use of temporary storage piles must be kept to a minimum.
- The area of land stripped of vegetation for hydraulic reclamation must be restricted to a maximum size of approximately 30 000 m^2.
- All tailings material must be removed down to ‘red earth’ as the area of work progresses and all remnants of tailings material which could be exposed to wind erosion should be removed.

Furthermore, the proposed Amandelbult TSF Dam 2 reclamation project is to include a combination of hydraulic and mechanical reclamation methods. The proportion of the two

methods was not known at the time of preparing this assessment. Emissions from hydraulic reclamation are far lower than those from mechanical reclamation, with emissions from haul trucks and materials handling representing the biggest sources. The further into Dam 2 that reclamation takes place, the longer the haul roads will be and hence the greater the emissions. This report has assessed the worst-case scenario, in line with the mandate for regulatory modelling, of the highest proportion of mechanical reclamation together with the lowest possible proportion of hydraulic reclamation. This means that any increase in the proportion of hydraulic reclamation can be considered a mitigation measure, with complete hydraulic reclamation representing the best-case scenario for air quality impacts.

If all possible mitigation measures are put in place and adhered to meticulously, this project, in terms of air quality, in our opinion, can be authorised.

The evaluation of the air quality impacts from mine tailings is based on a series of assumptions. Whilst care has been taken to assess the potential air pollution impact from the project, further research on tailings emission rates or actual on-site continuous monitoring may result in different conclusions.

The impact on the environment surrounding the proposed reclamation project area is summarised in the impact assessment table below (Table 13).

Table 13: Air Quality Impact Assessment Matrix for the reclamation of Amandelbult TSF Dam 2 (See Impact Assessment Methodology in Appendix A).

Impact Assessment Matrix	
Impact Description	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM_{10} and $PM_{2.5}$) at receptors.
Acceptable rating level	PM_{10} a) 24-hour Average Concentrations: National Ambient Air Quality Standard of 75µg/m^3 b) Annual Average Concentrations: National Ambient Air Quality Standard of 40µg/m^3 $PM_{2.5}$ c) 24-hour Average Concentrations: National Ambient Air Quality Standard of 40µg/m^3 d) Annual Average Concentrations: National Ambient Air Quality Standard of 20µg/m^3
Magnitude	**Moderate negative:** Although the reclamation of the TSF is expected to increase the ambient concentrations of particulate matter over the surrounding areas, exceedances of the NAAQS are not expected at sensitive receptors.
Duration	**Long term:** The reclamation will take longer than 5 years.
Spatial Scale	**Local:** Worst-case conditions lead to the dispersion of particulate matter beyond the property fence line, but not regionally.
Consequence	**Medium negative**
Probability	**Definite:** Although mitigation measures can largely reduce the impacts of the reclamation project, digging up and handling of material with a comparatively small particle size distribution, and hauling of material over unpaved roads will lead to the emission of particulate matter.
Significance of Air Quality Impact	**Medium negative**
Mitigation	Spray-on surface treatments on the haul roads. Reduction in materials handling. Keeping a speed limit of 40km/h on the haul road. Restriction of the area of land stripped of vegetation for hydraulic reclamation must be restricted to a maximum size of approximately 30 000 m^2. Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion. Keeping the area of mechanical reclamation to a minimum.
Cumulative Impact	Emissions from the reclamation and processing of the Amandelbult TSF Dam 2 are expected to produce an increase in ambient concentrations of PM_{10} and $PM_{2.5}$. As the project lies in the WBPA, all possible forms of mitigation should be rigorously and meticulously applied.

7 AMBIENT IMPACT ASSESSMENT SUPPORTING DOCUMENTATION

7.1 Warning and Informational Messages in Output Files

AERMAP

RE W229	DISCAR: Too many parameters – Inputs ignored on keyword	DISCCART
OU W450	NEDCHK:Parameter not found in TIFF file. TiffTag:	274
OU W470	NEDCHK:Unexpected datum for NED file encountered:	WGS84
OU W473	NEDCHK:Default elevation units of METERS used; NED file:	1

The RE warning message is the result of numbering the discrete receptors for easier identification at a later stage.

The OU warning messages are a result of the SRTM input files not being the standard NED files for the USA.

AERMOD

CO W276 POLLID: Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled.
CO W363 COCARD: Multiyr 24h/Ann PM25 processing not applicable for SAVEFILE.
ME W182 MEOPEN: MMIF-generated meteorological inputs were used.
ME W181 MEOPEN: BULKRN Delta-T & SolarRad option for SBL was used.
ME W531 MEOPEN: CAUTION! Met Station ID Missing from SURFFILE.
ME W187 MEOPEN: ADJ*U Option for stable low winds used in AERMET.
MX W492 METEXT: SURFDATA YR .NE. 1st YR of file, adj to match file StartYR 2021.
MX W438 METQA: Convective Velocity Data Out-of-Range.

The first CO warning message indicates that the special processing for the US NAAQS has been disabled. This was done intentionally because the RSA NAAQS are different.
The second CO warning message is also a result of changing the US NAAQS requirements of a multiyear average to an average of 3 years.

The ME warning messages occur because WRF modelled data is used and South Africa does not have Met Station IDs comparable to those used in the USA.

The MX warning message indicates that the WRF run included data in 2020. This was done intentionally to prime the model to eliminate the effects of the starting boundary value conditions. This was adjusted by the program to only include a 3-year period, starting from 2021.

7.2 Electronic files submitted with the report

AERMAP input files

aermap.inp

AERMAP output files

aermap.out
aermap.rec

AERMET input files

AERMOD.AERSFC.DAT
AERMOD.DAT
AERMOD.FSL
AERMOD.IN1

AERMET output files

AERMOD.OU1
AERMOD.PFL
AERMOD.SFC

AERMOD input files

AERMOD.PFL
AERMOD.SFC
MIT PM2.5.inp
SQ PM2.5.inp
WC PM2.5.inp
MIT PM10.inp
SQ PM10.inp
WC PM10.inp

AERMOD output files

MIT PM2.5.out
SQ PM2.5.out
WC PM2.5.out
MIT PM10.out
SQ PM10.out
WC PM10.out

AERMOD plot files

PM2.5_24hrAmndMitH5H.plt
PM2.5_24hrAmndlSQH5H.plt
PM2.5_24hrAmndWCH5H.plt
PM2.5_AnnualAmndlSQ.plt
PM10_24hrAmndMitH5H.plt
PM10_24hrAmndlSQH5H.plt
PM10_24hrAmndWCH5H.plt
PM10_AnnualAmndlSQ.plt

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Appendix A. Methodology used in determining the significance of environmental impacts

The impact significance rating process serves two purposes: firstly, it helps to highlight the critical impacts requiring consideration in the management and approval process; secondly, it shows the primary impact characteristics, as defined below, used to evaluate impact significance.

The impact significance rating system is presented in Table 10 and involves three parts:

Part A: Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/ population and duration;

Part B: Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A; and

Part C: Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from **Part B**) and the probability of occurrence.

Table 14: Significance Rating Methodology

PART A: DEFINING CONSEQUENCE IN TERMS OF MAGNITUDE, DURATION AND SPATIAL SCALE ***Use these definitions to define the consequence in Part B***		
Impact characteristics	Definition	Criteria
MAGNITUDE	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of impact are of conservation importance; or identified threshold often exceeded
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
SPATIAL SCALE OR POPULATION	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g. cadastral, catchment, topographic
	National/ International	Nationally or beyond

DURATION	Short term	Up to 18 months.
	Medium term	18 months to 5 years
	Long term	Longer than 5 years

PART B: DETERMINING CONSEQUENCE RATING
Rate consequence based on definition of magnitude, spatial extent and duration

			SPATIAL SCALE/ POPULATION		
			Site or Local	Regional	National/ international
MAGNITUDE					
Minor	DURATION	Long term	Medium	Medium	High
		Medium term	Low	Low	Medium
		Short term	Low	Low	Medium
Moderate	DURATION	Long term	Medium	High	High
		Medium term	Medium	Medium	High
		Short term	Low	Medium	Medium
Major	DURATION	Long term	High	High	High
		Medium term	Medium	Medium	High
		Short term	Medium	Medium	High

PART C: DETERMINING SIGNIFICANCE RATING
Rate significance based on consequence and probability

		CONSEQUENCE		
		Low	Medium	High
PROBABILITY (of exposure to impacts)	Definite	Medium	Medium	High
	Possible	Low	Medium	High
	Unlikely	Low	Low	Medium

Appendix B. Health Effects of Particulate Air Pollutants

There are an increasing number of research studies highlighting the impact of gases and other air pollutants on humans. Many of these emissions, even in small quantities, have adverse effects on workers and neighbouring residents alike.

Airborne particles can be classified by their aerodynamic properties into coarse particles, PM_{10}, and fine particles, $PM_{2.5}$ (Harrison & Van Grieken, 1998). The fine particles contain the secondarily formed aerosols such as sulphates and nitrates, combustion particles and re-condensed organic and metal vapours. The coarse particles contain earth crust materials and fugitive dust from roads and industries (Fenger, 2002). Both the amount of fine dust and the chemical and mineralogical composition of the dust will dictate the potential for health impacts (Schwegler, 2006). Metalliferous mine dusts may contain potentially toxic elements such as arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, uranium and zinc. Epidemiological and toxicological studies have indicated that there are many complex factors that play a role in the associated toxic, carcinogenic or other health effects (Entwistle, Hursthouse, Marinho Reis, & Stewart, 2019). As a result, causal links between ambient air concentrations of metalliferous dust and health impacts from exposure have not yet been quantified in such a way that control can be legislated. Furthermore, Ngole-Jeme and Fantke (2017) found that the inhalation pathway was by far the smallest pathway of exposure to the toxic effects of metalliferous mine dust when compared to ingestion and dermal exposure. On the other hand, it is known that fine particles will have a health impact regardless of their mineralogical composition. The NAAQS have been legislated to protect people from the health effects of PM_{10}, and $PM_{2.5}$.

Particulate air pollution is associated with respiratory and cardiovascular morbidity, such as aggravation of asthma, respiratory symptoms and an increase in hospital admissions. Inhalable particulate matter also leads to increased mortality from cardiovascular and respiratory diseases and from lung cancer (WHO, 2013). Particle size is important for health because it controls where in the respiratory system a given particle is deposited. Fine particles are thought to be more damaging to human health than coarse particles, as they are able to penetrate deeper into the lungs (Manahan, 1991). Larger particles are deposited into the extrathoracic part of the respiratory tract while smaller particles are deposited into the smaller airways leading to the respiratory bronchioles (WHO, 2000).

In the past, daily particulate concentrations were in the range 100 to 1000µg/m^3 whereas in more recent times, daily concentrations are between 10 and 100µg/m^3. However, overall, exposure-response can be described as curvilinear, with small absolute changes in exposure at the low end of the curve having similar effects on mortality to large absolute changes at the high end (WHO, 2000). Both short-term and long-term exposure to particulate matter in the air can have health impacts (Table 11).

Table 15: Short-term and long-term health effects associated with exposure to PM (WHO, 2004).

Pollutant	Short-term exposure	Long-term exposure
Particulate matter	• Lung inflammatory reactions • Respiratory symptoms • Adverse effects on the cardiovascular system • Increase in medication usage • Increase in hospital admissions • Increase in mortality	• Increase in lower respiratory symptoms • Reduction in lung function in children • Increase in chronic obstructive pulmonary disease • Reduction in lung function in adults • Reduction in life expectancy • Reduction in lung function development

Short-term exposure

There is good evidence that short-term exposure to particulate matter is associated with health effects (WHO, 2013). Health effects associated with short-term exposure to particulates include increases in lower respiratory symptoms, medication use and small reductions in lung function. Susceptible groups with pre-existing lung or heart disease, as well as elderly people and children, are particularly vulnerable. For example, exposure to particulate matter affects lung development in children, including reversible deficits in lung function as well as chronically reduced lung growth rate and a deficit in long-term lung function (WHO, 2011). There is no evidence of a safe level of exposure or a threshold below which no adverse health effects occur (WHO, 2013).

Long-term exposure

Long-term exposure to low concentrations (~10µg/m^3) of particulates is associated with mortality and other chronic effects such as increased rates of bronchitis and reduced lung function (WHO, 2000). Studies have indicated an association between lung function, chronic respiratory disease and airborne particles. Relative risk estimates suggest an 11% increase in cough and bronchitis rates for each 10µg/m^3 increase in annual average particulate concentrations (WHO, 2000). Based on studies conducted in the USA, Europe and Canada, mortality is estimated to increase by 0.2–0.6% per 10 µg/m^3 of PM_{10} (WHO, 2005; Samoli, et al., 2008). $PM_{2.5}$ is a higher risk factor than the coarse part of PM_{10} (particles in the 2.5–10 µm range), especially with long-term exposure. Long-term exposure to $PM_{2.5}$ is associated with an increase in the long-term risk of cardiopulmonary mortality by 6–13% per 10 µg/m^3 of $PM_{2.5}$ (Beelen, et al., 2008; Krewski, et al., 2009; Pope III, et al., 2002).

Appendix C. CV Summaries of the Specialists

Dr Martin van Nierop

Dr Martin van Nierop has a doctorate in Chemical Engineering from the University of the Witwatersrand, Johannesburg. While studying for his doctorate, Dr van Nierop was employed at the University as a research officer. Dr van Nierop became interested in research management, and he managed a number of large contract research projects at the University. One of these was a study of the Brown Haze air pollution problem over Cape Town. The project was conducted by the Climatology Research Group under the leadership of Dr Stuart Piketh during 2003. Dr van Nierop became the managing director of Gondwana Environmental Solutions International in 2004, and he has been involved in many atmospheric impact assessment studies since then.

Anja van Basten

Anja van Basten completed her BA Honours degree in Physical Geography, Cum Laude, at the University of the Witwatersrand in 1988. Anja has worked for Gondwana Environmental Solutions since June 2009. In this time, she completed more than 50 Air Quality Impact Assessments with dispersion modelling using both AERMOD and CALPUFF. Emissions sources assessed include mines, tailings storage facilities, foundries, crematoria, asphalt plants, tyre pyrolysis plants, charcoal plants, landfills, organic chemicals industries, glass manufacturers, and residential, commercial, and industrial developments. Other environmental projects have included a bottom-up vehicle emissions inventory; provincial emissions inventories; a wastewater treatment works odour assessment; and air quality management plans, dust management plans and environmental management plans at facility, municipal and provincial levels.

Appendix D. Declarations of Independence

I, Martin van Nierop, declare that:

- I act as the independent air quality practitioner in this application.
- I have expertise in conducting air quality impact assessments, including knowledge of the National Environmental Management Act (NEMA) (Act No. 107, 1998) and its amendments, the Environmental Impact Assessment (EIA) Regulations, as amended (Government Notice No. R982, 2014; Government Notice No. 326, 2017) and any guidelines that have relevance to the proposed activity.
- I will comply with the NEMA, and the EIA Regulations.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that ar*e not favourable to the application*.
- I will take into account, to the extent possible, the matters listed in the National Environmental Management: Air Quality Act, 2004 (NEM:AQA) (Act No. 39, 2005); Listed Activities established in terms of the NEM:AQA (Government Notice No. 248, 2010; Government Notice No. 551, 2015); National Ambient Air Quality Standards (NAAQS) established in terms of the NEM:AQA (Government Notice No. 1210, 2009; Government Notice No. 486, 2012); Priority Areas established in terms of the NEM:AQA (Government Notice No. 365, 2006; Government Notice No. 1123, 2007; Government Notice No. 494, 2012); and Regulations Regarding Air Dispersion Modelling (Government Notice No. R533, 2014) developed in terms of the NEM:AQA, when preparing the Air Quality Impact Assessment report relating to the application.
- I undertake to disclose to the applicant, registered interested and affected parties and the competent authority all material information in my possession that reasonably has or may have the potential of influencing: any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations.
- All the information submitted by me for the purposes of the application is true and correct to the best of my knowledge.
- I realise that a false declaration is an offence in terms of Regulation 48(1)(a) of the EIA Regulations, as amended, 2017 (Government Notice No. R982, 2014; Government Notice No. 326, 2017).

SIGNATURE:

I, Anja van Basten, declare that:

- I act as the independent air quality practitioner in this application.
- I have expertise in conducting air quality impact assessments, including knowledge of the National Environmental Management Act (NEMA) (Act No. 107, 1998) and its amendments, the Environmental Impact Assessment (EIA) Regulations, as amended (Government Notice No. R982, 2014; Government Notice No. 326, 2017) and any guidelines that have relevance to the proposed activity.
- I will comply with the NEMA, and the EIA Regulations.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that ar*e not favourable to the application*.
- I will take into account, to the extent possible, the matters listed in the National Environmental Management: Air Quality Act, 2004 (NEM:AQA) (Act No. 39, 2005); Listed Activities established in terms of the NEM:AQA (Government Notice No. 248, 2010; Government Notice No. 551, 2015); National Ambient Air Quality Standards (NAAQS) established in terms of the NEM:AQA (Government Notice No. 1210, 2009; Government Notice No. 486, 2012); Priority Areas established in terms of the NEM:AQA (Government Notice No. 365, 2006; Government Notice No. 1123, 2007; Government Notice No. 494, 2012); and Regulations Regarding Air Dispersion Modelling (Government Notice No. R533, 2014) developed in terms of the NEM:AQA, when preparing the Air Quality Impact Assessment report relating to the application.
- I undertake to disclose to the applicant, registered interested and affected parties and the competent authority all material information in my possession that reasonably has or may have the potential of influencing: any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations.
- All the information submitted by me for the purposes of the application is true and correct to the best of my knowledge.
- I realise that a false declaration is an offence in terms of Regulation 48(1)(a) of the EIA Regulations, as amended, 2017 (Government Notice No. R982, 2014; Government Notice No. 326, 2017).

SIGNATURE:

Appendix E. Particle size distribution of a Gauteng TSF

Micron Scientific

Malvern Instruments

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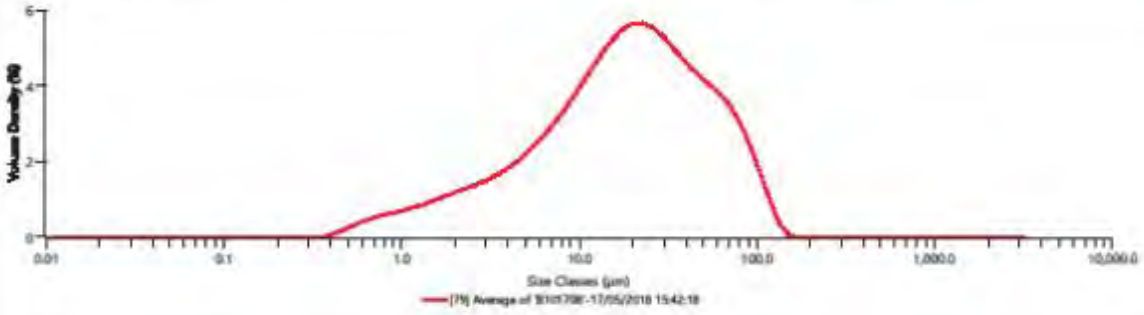
Measurement Details		Measurement Details	
Sample Name	Average of 'B101708'	**Measurement Date Time**	17/05/2018 15:42:18
SOP File Name	Default + 60sec.msop	**Analysis Date Time**	17/05/2018 15:42:18
		Original Record Number	79
Analysis		**Analysis**	
Particle Name	Default 1.0	**Particle Refractive Index**	1,520
Dispersant Name	Water	**Dispersant Refractive Index**	1,330
Particle Absorption Index	1,000	**Laser Obscuration**	6,60 %
Weighted Residual	0,89 %	**Scattering Model**	Mie
Analysis Model	General Purpose	**Analysis Sensitivity**	Normal
Result		**Result**	
Concentration	0,0058 %	**Span**	3,376
Uniformity	1,002	**Result Units**	Volume
Specific Surface Area	812,0 m^2/kg	**Dv (10)**	2,94 µm
D [3,2]	7,04 µm	**Dv (50)**	18,9 µm
D [4,3]	27,5 µm	**Dv (90)**	66,7 µm

Frequency (compatible)



Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,0100	0,00	0,0885	0,00	0,991	2,44	8,88	28,38	98,1	87,51	876	100,00
0,0114	0,00	0,113	0,00	1,13	3,04	11,2	32,78	111	90,83	1110	100,00
0,0129	0,00	0,128	0,00	1,28	3,70	12,7	36,53	127	93,74	1260	100,00
0,0147	0,00	0,146	0,00	1,45	4,44	14,5	40,61	144	96,00	1430	100,00
0,0167	0,00	0,166	0,00	1,65	5,25	16,4	44,98	163	100,00	1630	100,00
0,0189	0,00	0,188	0,00	1,88	6,16	18,7	49,57	186	100,00	1850	100,00
0,0215	0,00	0,214	0,00	2,13	7,14	21,2	54,28	211	100,00	2100	100,00
0,0244	0,00	0,243	0,00	2,42	8,20	24,1	59,02	240	100,00	2390	100,00
0,0278	0,00	0,276	0,00	2,75	9,35	27,4	63,67	272	100,00	2710	100,00
0,0315	0,00	0,314	0,00	3,12	10,58	31,1	68,14	310	100,00	3080	100,00
0,0358	0,00	0,357	0,00	3,55	11,92	35,3	72,38	352	100,00	3500	100,00
0,0407	0,00	0,405	0,00	4,03	13,39	40,1	76,33	400	100,00		
0,0463	0,00	0,460	0,10	4,58	15,00	45,6	80,06	454	100,00		
0,0526	0,00	0,523	0,29	5,21	16,79	51,8	83,58	516	100,00		
0,0597	0,00	0,594	0,57	5,92	18,79	58,9	86,92	586	100,00		
0,0679	0,00	0,675	0,95	6,72	21,01	66,9	90,07	666	100,00		
0,0771	0,00	0,767	1,39	7,64	23,50	76,0	92,97	756	100,00		
0,0876	0,00	0,872	1,89	8,68	26,28	86,4	95,49	859	100,00		

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Biograde

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Appendix F. Amandelbult Particle Size Distribution

PSD	Mass (% by wt.)	4E Grade (g/t)	Cr2O3 Grade (%)	Distribution (%)		Cumulative Distribution (%)		
				4E	Cr_2O_3	Mass	4E	Cr_2O_3
212µm	20.0	0.3	24.3	9.8	19.8	100.0	100.0	100.0
150µm	7.4	0.5	26.7	5.0	8.1	80.0	90.2	80.2
106µm	11.2	0.5	21.3	8.1	9.8	72.6	85.2	72.0
75µm	9.7	0.5	23.8	7.0	9.4	61.3	77.0	62.3
53µm	7.1	0.5	26.8	4.8	7.8	51.7	70.0	52.9
38µm	5.0	0.4	29.8	2.9	6.1	44.5	65.3	45.0
25µm	4.5	0.4	31.7	2.5	5.8	39.5	62.4	38.9
-25µm	35.0	1.2	23.1	59.9	33.1	35.0	59.9	33.1
CALC	**100.0**	**0.7**	**24.4**	**100.0**	**100.0**	-	-	-
MEAS	**100.0**	**0.7**	**23.8**	**100.0**	**100.0**	-	-	-

Appendix D5
Socio-Economic Impact Assessment

Socio-Economic Impact Assessment Report for the Reclamation and Processing of the Tailings Material from the Amandelbult TSF: Dam No.2, Limpopo Province

Photo: View on Amandelbult TSF from the R510

October 2025
FINAL

PREPARED BY:
Southern Economic Development (Contact: +27 (0) 82 335 4126)

FOR KONGIWE ENVIRONMENTAL PTY LTD ON BEHALF OF
RUSTENBURG PLATINUM MINES (PTY) LTD

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LIST OF ABBREVIATIONS

Abbreviation	Description
AMB	Rustenburg Platinum Mines (Pty) Ltd Amandelbult Complex
CHC	Community Health Care
DFFE	Department of Forestry, Fisheries and the Environment
ECD	Early Childhood Development
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme Report
FET	Further Education Training
GVA	Gross Value Added (Economic output concept)
IDP	Integrated Development Plan
LED	Local Economic Development
LOO	Life of Operation
LUMS	Land Use Management System
MIG	Municipal Infrastructure Grant
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No 59 of 2008)
NEMA	National Environmental Management Act, 1998 (Act No 107 of 1998)
NWA	National Water Act, 1998 (Act No 36 of 1998)
PCD	Pollution Control Dam
PGM	Platinum Group Metals
PHC	Primary Health Care
RWD	Return Water Dam
SAPS	South African Police Service
SEIA	Social and Economic Impact Assessment
SDF	Spatial Development Framework
SLP	Social Labour Plan
TLM	Thabazimbi Local Municipality
TSF	Tailings Storage Facility

EXECUTIVE SUMMARY

Project background: Rustenburg Platinum Mines (Pty) Ltd seeks to recover and process Chrome and PGMs from a Tailings Storage Facility (TSF) situated within Amandelbult Mine (AMB). The anticipated life span of the project is approximately 20 years. After the removal of the material from TSF dam no 2, it is proposed that the footprint will be re-used for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB's overall Rehabilitation strategy and Closure Plan.

Project Scope: The scope and purpose of the Social and Economic Impact Assessment (SEIA) report are to provide the background of the socio-economic characteristics of the local area relevant to the project; to provide an assessment of potential impacts that are anticipated during the construction, operational, and decommissioning phases, and provide a socio-economic management plan to enhance positive impact and mitigate negative impacts.

Main Socio-Economic Baseline Characteristics of Receiving Environment: In terms of regional locality, the proposed project is situated between the towns of Northam and Thabazimbi in the Thabazimbi Local Municipality (TLM). The main socio-economic characteristics of the local area are the following:

- Located within AMB, non-mining residential areas largely fall outside its immediate social influence sphere of the project with the informal settlement of Jabulani 2.5km to the north-east and Smersha Block informal settlement 10km to north-west;
- The immediate surroundings of the project are characterised by mining areas with Amandelbult mining town located directly west of Amandelbult TSF and Setaria mining village that located about 2km to the east of the project area;
- The Amandelbult mining town is a fully functional township with a residential area, business activities and social amenities that include a hospital, primary school and post office. Rethabile and Mlanje are the residential areas within Amandelbult mining town closest to the project area;
- The closest irrigated agricultural land holdings situated along the Crocodile River to the east of the project is some 3km away from the project area;
- Agricultural land-use play a far smaller role in the municipal area than nationally with extensive grazing land dominating. The small portion of crop land is used for intensive irrigated field crops (mainly maize, soya and sunflowers) that is cultivated along the Crocodile River;
- While there are several game lodges and other tourist establishments in the vicinity of the project area, the closest is probably Kromdraai guesthouse some 8km south-east of the project;
- Since 2011 TLM experienced negative population growth, mainly due to the scaling down of mining activities in the area;
- The area is characterised by high historic rates of in-migration with a fairly large portion of the population born in other provinces or outside the country;
- In TLM the high rates of historic in-migration, the continued growth in the number of households coupled with the slow pace of the delivery of low-income housing has resulted in significant housing backlogs, land invasions and the growth in informal settlements;
- Similar to the situation in many towns across Limpopo, TLM face challenges in terms of ageing municipal infrastructure, high backlogs and limited funds and technical skills for upgrades and maintenance;
- The skill levels of the adult population in TLM are slightly higher than the national and provincial average in terms of the presence of semi-skilled workers (while lower in terms of skilled workers);

- Despite the adequate educational institutions in the municipal area, educational attainments in TLM are below the national average as indicated by the low grade 12 pass rate;
- The per capita ratios of medical facilities suggest a shortage of health facilities in TLM;
- Per capita crime rates including violent crimes was higher in TLM than the national average;
- The mining sector plays a dominant role in the local TLM economy;
- For the past decade Amandelbult's employment and production has been slowly declining echoing the trend in the South African platinum industry in general;
- Despite job-shedding in the platinum industry since 2012, TLM still could have experienced a slight decline in unemployment, possibly also be due to the decline in population since 2011;
- With the retrenchments at AMB in 2024, unemployment in the adjacent wards 6 and 8 must have increased significantly, especially in the informal areas of Jabulani and Smersha Block;
- The mining sector is considered a provincial and municipal priority sector. Within TLM job creation is considered a top priority, especially in the adjacent wards to the project area.

Impact assessment: As indicated in the table below, the project will have positive impacts on local employment during the construction and operational phases. Post-closure the project is also expected to have the positive impact, possibly opening additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years. These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

Summary of Socio-Economic Impacts

Impact Description	BEFORE MITIGATION SIGNIFICANCE	AFTER MITIGATION SIGNIFICANCE	Cumulative Impact
Construction Phase			
Employment and Income	Low+	Medium +	No
Informal influx of job-seekers	Low-	Low -	Yes
Nuisance factors	Low -	Low -	Yes
Operational Phase			
Employment and Income	Medium +	Medium +	No
Informal influx of job-seekers	Medium -	Medium -	Yes
Nuisance factors	Medium -	Medium -	Yes
Community health and safety	Medium-	Medium -	Yes
Impact on adjacent farmers due to water issues	Medium -	Low -	Yes
Post- Closure			
Unlocking of land	Medium +	Medium +	No
Cessation of employment	Medium -	Medium -	No

In conclusion, the proposed Project is in line with development priorities to support continued job creation in the local area as well as local priorities to provide continued support to the local platinum sector as articulated in the TLM SDF. There are no fatal flaws associated with the social risks of the project and most negative impacts can be effectively managed. Based on the findings of the socio-economic impact assessment for the project it is therefore recommended that the proposed project be approved.

1. PROJECT BACKGROUND

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult MIne (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator that consists of two operational plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as "wet dams" with tailings being deposited mainly on 3B, but also on 3A from time to time.

Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021. The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 using both hydraulic and mechanical reclamation processes.

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam No. 2:

- Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station;
- High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.
- Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump.
- TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha).
- Contractors Laydown area: This area will be used to by the contractors to house material, equipment
- and vehicles and as an operational base during the construction
- Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.
- The project will utilise two existing PCDs, one situated centrally between the AMB Central OT
- and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.
- An existing gravel/haul road will be upgraded, widened by approximately 8-9m and lengthened with 1,2km to allow for movement between the TSF area and the plant area. The area of the road will be approximately 1.1 Ha;
- PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the

Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.
- Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m3.
- Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

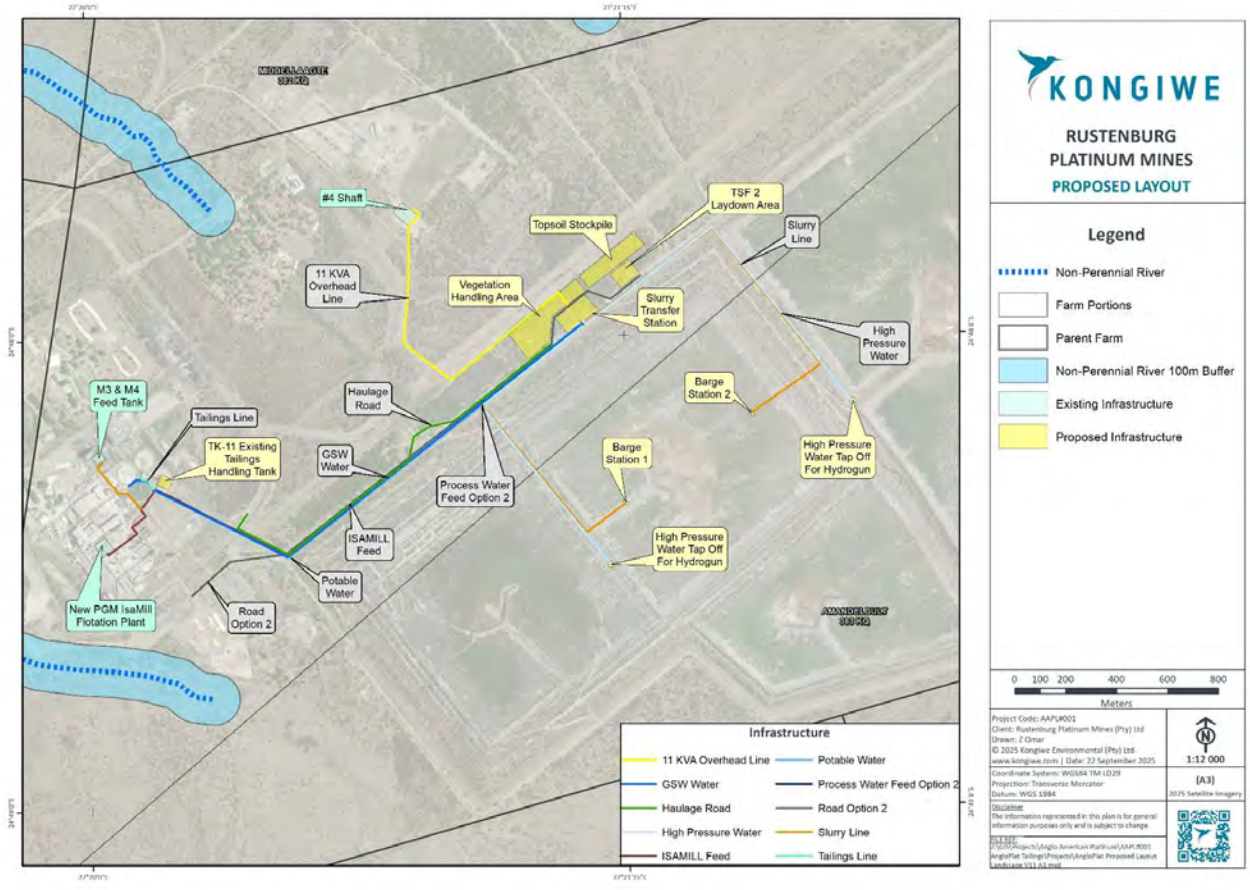


Figure 1: Proposed Lay-Out Plan

All new infrastructure is planned within the Amandelbult complex around the existing TSF.

Method of Reclamation

AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, ensuring that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, a barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed. This project will entail a mixture of both the reclamation options mentioned above, which will allow for the hydraulic and mechanical excavation of the TSF material simultaneously.

The anticipated life span of the project is approximately 20 years. It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation. This will then allow for the 18- year Life of Operation (LOO) where hydraulic and mechanical reclamation would take place. After the removal of the material from Dam 2, the footprint will be re-used for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB's overall Rehabilitation strategy and Closure Plan.

The project requires environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken. Additionally, it is expected that a Water Use Licence (WUL) in terms of section 21 of the National Water Act, 1998 (Act No. 36 of 1998) (NWA) will be required. It is anticipated water uses will trigger the requirement for a WUL, due to triggered section 21 water use requirements.

2. DETAILS OF SPECIALISTS

2.1 EXPERTISE OF THE SPECIALIST

2.1.1 QUALIFICATIONS OF THE SPECIALIST

An Kritzinger *(Masters Economics)* is the specialist responsible for the social and economic baseline description and social and economic impact assessment of the proposed project.

2.1.2 PAST EXPERIENCE OF THE SPECIALIST

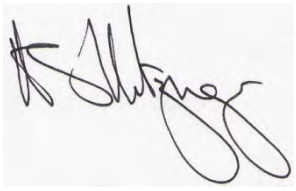
An Kritzinger has been working as a consultant in the economic development field for the past twenty years. She has extensive experience in the economic assessments of projects in various countries in Sub Saharan Africa. Her work has also focussed on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including economic impact analysis, economic cost benefit analysis, social incidence studies and macroeconomic forecast modelling.

2.2 CV OF THE SPECIALIST

The detailed Curriculum Vitae (CV) of the specialist is provided in Annexure A below.

3. DECLARATION OF INDEPENDANCE

This report has been prepared as per the requirements of Appendix 6 of the Environmental Impact Assessment (EIA) Regulations, 2014 (GN R982 of 2014, as amended in June 2021. I, Anna Sophia Kritzinger declare that this report has been prepared independently of any influence or prejudice as may be specified by the Department of Forestry, Fisheries and the Environment (DFFE).



Anna Sophia Kritzinger
Signature of the specialist:

Southern Economic Development
Name of group (trading name):

7 May 2025

4. RELEVANT LEGISLATION AND GUIDELINES

The relevant legislation and guidelines are summarised in Table 1 below.

Table 1: Policy and Legislative Context

Applicable Legislation and Guidelines used to Compile the Report	Reference where Applied during SEIA	How does this project Comply with and Respond to the Policy and Legislative Context
Constitution of the Republic of South Africa, 1996 Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the Project.	A comprehensive SEIA process has been undertaken to identify the potential socio-economic impacts associated with the Project and to prescribe management measures to minimise negative impacts and enhance the Project's contribution to socio-economic development.
National Environmental Management Act (Act 107 of 1998) (NEMA), as amended. NEMA EIA Regulations, 2014 (GNR 982, as amended) **NEMA and the EIA Regulations** provide a suite of principles and tools to guide South Africa on a path to sustainable development. "Environment' is defined in holistic terms and includes biophysical, social, and economic components, as well as the connections within and between these components. While NEMA does not prescribe a specific methodology for socio-economic impact assessment, the following principles in section 2 of NEMA (that apply to all identified impacts) highlight the necessity to include socio-economic issues in EIAs: • Responsibility for the impact should apply throughout its lifecycle. • The participation of all interested and affected parties (I&AP) must be promoted. • Decisions must take into account the interests, needs, and values of all interested parties. • The costs of remedying pollution, environmental degradation, consequent adverse health effects, and of preventing, controlling, or mitigating further pollution, environmental damage, or adverse health effects must be paid for by those responsible for harming the environment, i.e., the so-called polluter-pay principle. The EIA Regulations also make provision for a cumulative effects assessment, to identify and evaluate the significance of effects from multiple actions representing potential causes of impacts. They also provide for baseline/scoping, impact assessment and management reports, including the identification of measures to monitor adherence to the Environmental Management Programme (EMP).	The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the Project.	A comprehensive SEIA process has been undertaken to identify the socio-economic baseline of the Project Area and potential socio-economic impacts associated with the Project; and to prescribe management measures to enhance or mitigate impacts to minimise negative impacts and enhance the Project's contribution to socio-economic development.

Applicable Legislation and Guidelines used to Compile the Report	Reference where Applied during SEIA	How does this project Comply with and Respond to the Policy and Legislative Context
The National Water (Act No 36 of 1998), the Water Use Licence Application and Appeals Regulations, 2017 (published under GN R267 in GG 40713 of 24 March 2017) states that in issuing a water use license the relevant authorities must take all relevant factors into account including: • the need to redress the results of past racial and gender discrimination; • efficient and beneficial use of water in the public interest; and • the socio-economic impact related to the application.	The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the Project	A comprehensive SEIA process has been undertaken to identify the socio-economic baseline of the Project area and potential socio-economic impacts associated with the Project; and to prescribe management measures to mitigate or minimise negative impacts and enhance the Project's contribution to socio-economic development.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) – NEMWA. The environmental management of residue stockpiles, including TSFs, is currently governed[1] under NEMWA and the Regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits, published under NEMWA in GN 632 of GG 39020 on 24 July 2015 (RS Regulations). The construction and expansion of residue stockpiles are current listed in the List of Waste Management Activities that have, or are likely to have, a Detrimental Effect on the Environment, published in GN 921 in GG 37083 of 29 November 2013 (Waste List). NEMWA stipulates that the effect of pollution on the environment by a waste disposal activity be considered in an application for a waste management licence. This includes impacts on socio-economic conditions. NEMWA furthermore requires that best practicable environmental options available and alternatives should be taken to protect the environment, including socio-economic conditions due to the undertaking of the waste management activity. Similar provisions are contained in NEMA.	The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the Project	A comprehensive SEIA process has been undertaken to identify the socio-economic baseline of the Project area and potential socio-economic impacts associated with the Project; and to prescribe management measures to mitigate and minimise negative impacts and enhance the Project's contribution to socio-economic development.
Integrated and Spatial Development Plans of provincial and local government	Planning guidelines guided the final evaluation of impacts	Planning guidelines were considered in the final evaluation of the impacts
Other guidelines and standards: • The Prevention of Illegal Eviction from and Unlawful Occupation of Land Act, 1998 (Act No. 19 of 1998) • Labour Relations Act 66 of 1995 1 • Basic Conditions of Employment Act 75 of 1997 • Restitution of Land Rights Act (Act 22 of 1994) (RLRA) • National Environmental Management: Air Quality Act (Act 39 of 2004) (NEM:AQA)	The legislation and guidelines were taken into consideration in the assessment of impacts and management measures	Legal requirements in terms of air, quality, Social and Labour Plans were considered in the assessment of the social impacts of the project and guided the recommended mitigation measures

[1] This may change in accordance certain of with the provisions of the National Environmental Management Laws Amendment Act, 2002, which are not yet in force.

5. INFORMATION REQUESTED BY THE COMPETENT AUTHORITIES

A Specialist Report Checklist Table has been compiled in accordance with the guideline as set out in Appendix 6 of the EIA Regulations. Appendix 6 relays the specific information required as per the guideline is given in the second column of the Table. Any other information requested by the Competent Authorities will be included in this chapter.

Table 2: Specialist Checklist

Specialist Report Guideline: Appendix 6 GNR 982 EIA Regulations 4 December 2014 as amended	
Details to be included in the Report	**Section in Report**
Details of	
Specialist who prepared the report	Section 2
Expertise of the specialist	Section 2
CV of the specialist	Annexure A
Declaration that the Specialist is Independent in a form as may be specified by the CA	Section 3
An indication of the Scope of and the Purpose for which the report was prepared	Section 6.1
An indication of the Quality and Age of base data used for the specialist report	Sections 6.2 and 7
A Description of existing impacts on the site, cumulative impacts of the proposed development, and levels of acceptable change	Section 8
The Duration, Date, and Season of the site investigation and the relevance of the season to the outcome of the assessment	Section 6.2
A Description of the Methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	Section 6.2
Details of an Assessment of the specific identified Sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives	Section 8.2
An identification of any areas to be avoided including buffers	Section 8.2
A Map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided including buffers	Section 8.2
A Description of any Assumptions made and any Uncertainties or Gaps in Knowledge	Section 7
A Description of the Findings and Potential implications of such findings on the Impact of the proposed activity, including identified Alternatives on the environment, or activities	Section 9
Any Mitigation Measures for inclusion in the EMPr	Section 9
Any Conditions for inclusion in the Environmental Authorisation	Section 9, 10 and 11
Any Monitoring Requirements for inclusion in the EMPr or Environmental Authorisation	Section 9
As to whether the proposed activity/ activities or portions thereof should be authorised	Section 11
Regarding the acceptability of the proposed activity or activities	Section 11
If the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management, and mitigation measures that should be included in the EMPr and where applicable the closure plan	Section 11
A Description of any Consultation Process that was undertaken during the course of preparing the specialist report	Section 6.2
A Summary and copies of any comments received during any consultation process and where applicable all responses thereto	Not applicable
Any other information requested by the CA	Not applicable

6. SCOPE, PURPOSE, APPROACH, AND METHODOLOGY

6.1 SCOPE AND PURPOSE OF REPORT

The scope and purpose of the SEIA report are to provide the background of the socio-economic characteristics of the local area relevant to the project; to provide an assessment of potential impacts that are anticipated during the construction, operational, and decommissioning phases, and provide a socio-economic management plan to enhance positive impact and mitigate negative impacts.

6.2 APPROACH AND METHODOLOGY

The socio-economic impact assessment report was based on primary as well as secondary resources.

Primary sources include a site visit on 11 April 2025.

Secondary sources include (see Section 12 for the full list of sources):

- Academic literature review
- Internet searches
- Updated policy documents relevant to the local and regional area, such as:
  - Integrated development plans, including spatial development frameworks;
  - Local economic development plans; and
- Official government data from Stats SA
- Public reports from the Municipal Demarcation Board, South African Police Service (SAPS), etc.

7. ASSUMPTIONS, UNCERTAINTIES, AND KNOWLEDGE GAPS

7.1 ASSUMPTIONS

- Where up to date site specific / ward level socio-economic data is missing, municipal and provincial trends were used as proxy for trends in the local area.
- It is assumed that the local community development priorities are expressed through public processes and public documents such as municipal integrated development plans.

7.2 UNCERTAINTIES AND LIMITATIONS

With regards to the SEIA to be undertaken, the following should be noted:

- The SEIA includes consultations with key stakeholders and potentially affected parties as part of the impact assessment phase. This does not form part of the Public Participation Process (PPP) required for the overall EIA process, except where it was specifically specified as such during the consultation session.
- Socio-economic baseline information was mainly based on official statistics from Stats SA, as well as municipal documentation. Sub-municipal data was only available for 2011. Recent trends, as well as information on a sub-municipal level, were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report.

8. BASELINE DESCRIPTION

8.1 THE LOCAL AREA

In terms of regional locality, the proposed project is situated between the towns of Northam and Thabazimbi in the TLM of Waterberg District, Limpopo Province as indicated in Figure 2 below.

Figure 2: The Waterberg District
Source: Municipalities of South Africa (https://municipalities.co.za)

As indicated in Figure 3 below, local municipal wards adjacent to the proposed project area are rural wards situated between the towns of Thabazimbi and Northam:

- The TSF falls within rural TLM Ward 11. The ward includes Amadalbult mining town as well as two nature reserves, Sharme to the south and Madeleine to the north-west;
- TLM Ward 8 is located west of the proposed project area and includes the informal settlement of Smersha Block/Smashblock;
- Ward 6 is located directly east of the proposed project area and includes some of the agricultural areas next to the R511 adjacent to the Amandelbult complex as well as the smaller informal settlement of Jabulani.

Other social impacts such as supply-linked employment opportunities could impact on larger communities around a project area. In the context of this project Limpopo province could be considered to be the larger social influence zone.

8.2 SOCIO-ECONOMIC SENSITIVE AREAS IN THE VICINITY OF THE PROJECT SITE

As indicated in the sensitivity map in Figure 3 below, the project area is situated between Northam (19km south-west) and Thabazimbi town (20km north-east) along the R510.

Since the project is located within the Amandelbult mining complex, non-mining residential areas largely fall outside its immediate social influence sphere with the informal settlement of Jabulani 2.5km to the north-east and Smersha Block informal settlement 10km to north-west. Jabulani is located just east outside the AMB mining right on the private farm Elandskuil.

Jabulani informal settlement is continuing to grow and most likely consists of local mine workers and farm workers from the nearby farms. The settlement receives limited municipal services. The municipality supplies water by truck. Smersha block/ Smashblock is expanding fast with no formal infrastructure services in place. Many efforts have been made in the past by different authorities to resettle the people or to formalise the area for residential purposes but without success (TLM, 2023)

The closest irrigated agricultural land holdings situated along the Crocodile River to the east of the project is some 3km away from the project area. There are between 14 and 16 farmers registered as interest parties on the database of AMB, mainly cultivating irrigated maize, sunflowers and soya.

While there are several game lodges and other tourist establishments in the vicinity of the project area, the closest is probably Kromdraai guesthouse some 8km south-east of the project.

The immediate surroundings of the project are characterised by mining areas with Amandelbult mining town located directly west of the Amandelbult TSF. The Amandelbult mining town is a fully functional township with a residential area, business activities and social amenities that include a hospital, primary school and post office. As indicated in Figure 4 below, Rethabile and Mlanje are the residential areas within Amandelbult mining town closest to the project area. Rethabile mainly hosts worker families of the mine while Mlanje hosts single accommodation hostels for workers at the mine. The single accommodation at Mlanje is currently being phased out in favour of family accommodation at Rethabile.

Setaria is another mining village that is located about 2km to the south-east of the project area. Setaria is one of three mining settlements in the Thabazimbi Municipality, together with Swartklip and Amandelbult. Setaria is located at the Northam Platinum Mine. The mining settlements are independent from the Municipality regarding the provision of infrastructure services, i.e. water, sanitation, electricity, roads and stormwater. Of the three mining towns in TLM, Setaria is the only formally proclaimed township, but all three settlements have been incorporated into the municipal Land Use Management System (LUMS), thus the Municipality is responsible for its land-use management. The settlements are all residential in nature, with ancillary land-uses including business, a school and a clinic (TLM, 2023).

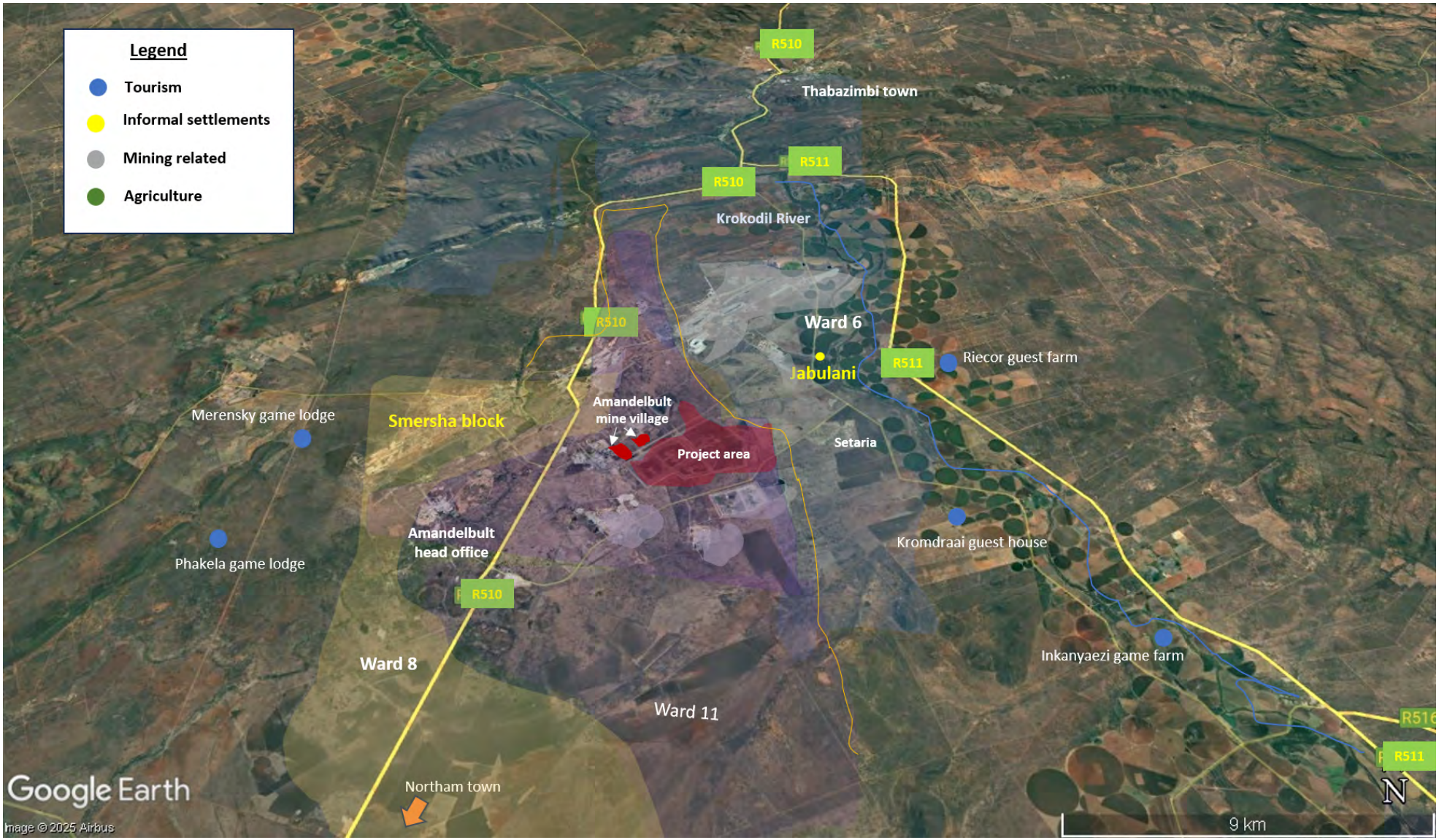


Figure 3: Socio-Economic Receptors Around the Project Site

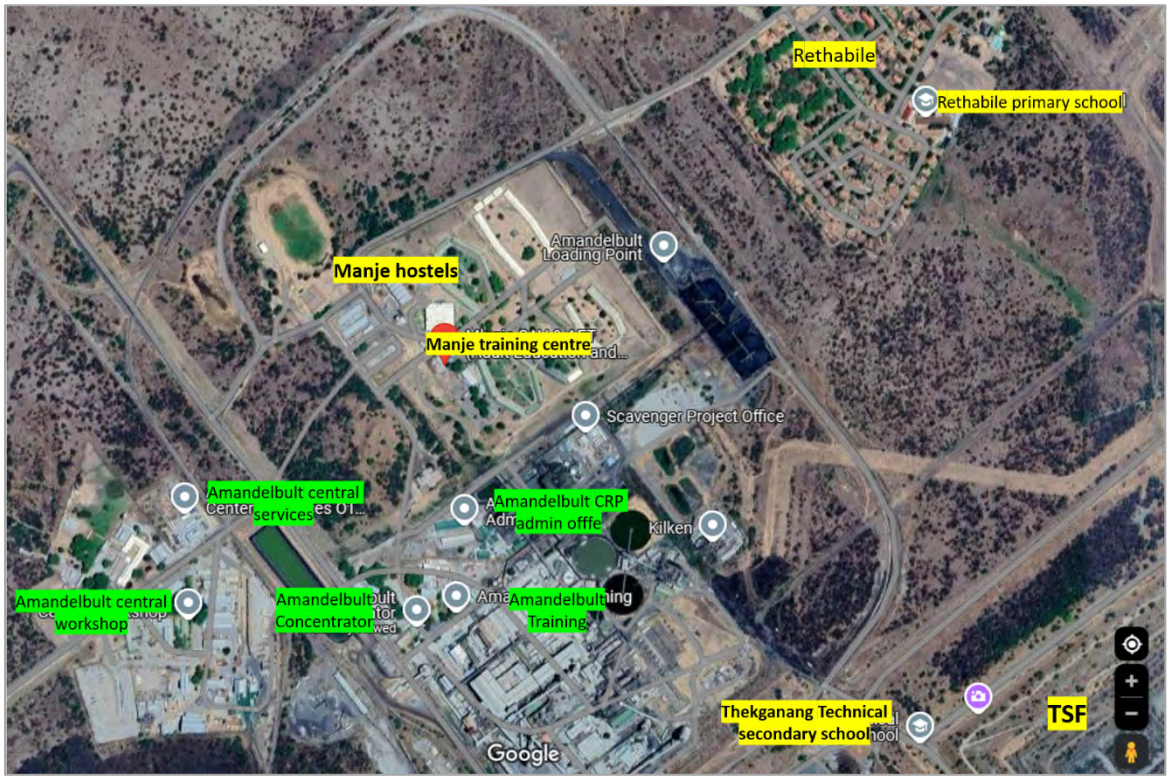


Figure 4: Close-up of Amandelbult Mining Village adjacent to the Project Area

Figure 5: Irrigated agricultural land adjacent to the R 511

Figure 6: Approaching Amandelbult Mine Complex on the R 510 from Thabazimbi town

8.3 LOCAL LAND-USES

Table 3 shows the dominance of land in natural state within TLM, largely due to the mountainous nature of the area around the town of Thabazimbi. Despite the dominance of natural land cover, local reserves and natural heritage assets made a relatively larger contribution towards land-use signifying to untapped natural tourism in the area.

Mining plays a larger role in the municipal area compared to nationally however, despite several large iron and platinum mines in the area it only represents 0.4% of land-use in TLM compared to 0.2% nationally. A further 8.6% of municipal land is furthermore under mining licenses.

Table 3: Percentage of the Municipal Land Area under Different Land Cover, 2018

Land Cover	TLM	National
Plantations	0,0%	2,9%
Water	0,1%	2,0%
Mines	0,4%	0,2%
Agricultural land	8,9%	35,2%
irrigated field crops	0,5%	3,7%
dryland field crops	0,3%	10,4%
grazing	6,9%	13,6%
other	1,1%	3,5%
Built-up	0,6%	3,7%
Natural	87.9%	52,1%
Other	2,1%	3,9%
Total land area	**100%**	**100,0%**
Under mining licences	**8,6%**	**11,6%**
Local reserves and natural heritage assets	**3.9%**	**7,8%**

Source: Based on Municipal Demarcation Board (2018) and Stats SA (2020)

Agricultural land-use play a far smaller role in the municipal area than nationally. In addition, by far the largest portion of agricultural land-use (78%) is for extensive grazing while only 9% is used for crops – the majority of land is used for intensive irrigated field crops (67% of crop land) maize, soya and

sunflowers that is cultivated along the Crocodile River as is the case with the irrigated farm land east of to the Amandelbult complex.

The relatively small percentage of built-up areas in the municipal area underlines the rural character of the municipal area. Thabazimbi is the main town while other larger settlements in the municipal area include Northam, Dwaalboom and Rooiberg. There are also several smaller rural settlements of Leeupoort, Kromdraai, Koedoeskop, Makoppa and Sentrum scattered across the municipal area. The remaining settlements are either mining towns (Setaria, Swartklip and Amandelbult) or informal settlements (Jabulani, Smashblock/Smersha Block, Skierlek, Raphuthi, Kwa Boha, Matikiring and parts of Regorogile etc) (TLM, 2023).

8.4 DEMOGRAPHIC BASELINE

As indicated in Table 4 below TLM has experienced negative population growth since 2011, mainly due to the scaling down of mining activities in the area (also see Section 10.9 below). Despite the decline in population, the number of households in the area slightly increased since 2011 indicating to households splitting off and forming smaller units. The relatively low household sizes, high number of people born outside South Africa, high portion of Xhosa speaking people from the Eastern Cape, low female ratios and high ratios of people in their economically active years indicates to decades of past in-migration into the local area mainly due to numerous mining activities in the municipal area.

The smaller average household sizes as well as continued low female ratios and high ratios of economically active aged in the municipal area suggests that a large portion of migrants remained in the municipal area despite having lost their jobs or not yet finding jobs in the local mining and agricultural sectors. This situation is underlined by the relatively high portion of people born in the Eastern Cape still present in the area in 2016, i.e. 11% in TLM compared to 0,2% for Limpopo on average. In contrast the high percentage of foreign migrants that was present in the municipal area in 2011 (17%) declined to 7% in 2016, suggesting an out-migration of foreign job-seekers from the area (Based on Stats SA, 2011 and 2016).

Table 4: Basic Demographics of the Local Area, 2011 and 2022

AREA	Population nr	Population growth %	Households nr	Household growth nr	Population density, persons/km²	Average household size	% Females	Econ active
	2022	2011-2022	2022	2011-2022	2022	2022	2022	2022
TLM	65 047	-2,4%	26 832	0,6%	6	2,4	46,3%	74%
TLM ward 6	3 280	-2,4% est	1 470	0,6% est	19	2,2	49,0%	77%
TLM ward 8	14 000	2.8% est	5 300 [1)]	2.8% est	64	1,9	38,9%	83%
TLM Ward 11	3 030	-2,4% est	N/A	0,6% est	38	-	15,2%	97%
Limpopo	6 572 721	1,8%	1 811 565	2,3%	52	3,6	52,8%	61%
South Africa	62 027 503	1,7%	17 828 778	1,9%	50	3,5	51,5%	67%

Source: Stats SA (2011) and Stats SA (2022) Note: Ward information based on population and household growth rates in TLM since 2011 [1)] based on electricity backlogs in the area in 20240 (TLM, 2025).

Apart from Ward 8 where Smersha Block informal settlement is located, population densities in the wards around the proposed project area is very low, characterised by either agricultural activities (Ward 6) or mining activities (Ward 11). In 2011 both Wards 6 and 8 adjacent to the project area where

characterised by high levels of migrants from the Eastern Cape as well as from neighbouring countries. In Ward 6 to the east of the project area around 14% of the population were born outside South Africa in 2011 and around 15% came from the Eastern Cape. In Ward 8 where Smersha block is located the portion of population from the Eastern Cape was as high as 29% while around 27% were born outside South Africa (based on Stats, 2011).

Ward 11 is dominated by the Amandelbult complex and largely represents families and workers residing in hostels and family units in the Amandelbult Mine Village (Rethabile and Mlanje) as indicated by the low female ratios and high ratio of economically active age group in the area. With the hostel accommodation at Mlanje being phased out in favour of family units at Rethabile, the gender and age group ratios could be expected to shift more towards municipal averages over time.

8.5 BASIC HOUSEHOLD SERVICES

In TLM the high rates of historic in-migration, the continued growth in the number of households coupled with the slow pace of the delivery of low-income housing has resulted in significant housing backlogs, land invasions and the growth in informal settlements. In 2011 close to 23% of households in TLM stayed in informal houses. As indicated in Figure 3 above, two of the eight informal settlements in the municipal area (Jabulani and Smersha Block) are located close to the project area.

The roll-out of low-cost housing schemes resulted in a steep decline in the number of households in informal housing to 14,8% in 2022, although still higher than the national average of 11,5% in 2022. A strip alongside the R 510 spanning from Northam town to Thabazimbi town, was declared a Priority Human Settlements and Housing Development Area (PHSHDA) to serve the distressed mining communities of these towns (TLM, 2025).

Table 5: Access of Households to Basic Services, 2011 and 2022

Category	TLM	Ward 6	Ward 8	Ward 11	Limpopo	National
Informal houses (shacks), 2022	14,8%	n.a.	n.a.	n.a.	2,7%	11,5%
Informal houses (shacks), 2011	22,8%	4,0%	33,8%	-	5,6%	20,4%
Without piped water inside the house 2022	40.3%	n.a.	n.a.	n.a.	68,6%	40,3%
Without piped water inside the house 2011	52,7%	n.a.	n.a.	n.a.	81,6%	53,7%
Without flushed toilets, 2022	22,6%	n.a.	n.a.	n.a.	64,8%	29,2%
Without flushed toilets, 2011	32,1%	23,6%	65,7%	7,1%	78,1%	39,9%
No electricity for lighting, 2022	10,7%	n.a.	n.a.	n.a.	4.5%%	5,3%
No electricity for lighting, 2011	23,2%	n.a.	n.a.	n.a.	12.7%	15,2%
No regular waste services, 2022	30,8%	n.a.	n.a.	n.a.	68,0%	33,7%
No regular waste services, 2011	39,6%	20,7%	64,5%	2,0%	78,9%	38,0%

Source: Stats SA, Census 2011 and 2022

As indicated in Table 5 below, despite the improvement of the housing situation, the high increase in household growth continues placing pressure in basic service delivery in the municipal area with close to 40,3% of households still not having piped water in the house; 22,6% without flush toilets and close to 31% without regular waste services in 2022. Municipal service delivery backlogs are specifically high in Ward 8 west of the project area where Smersha Block is located.

Despite being high, these household service delivery backlogs are slightly below national backlogs and well below provincial backlogs, despite the presence of a relatively high percentage of informal housing units in the area.

8.6 MUNICIPAL INFRASTRUCTURE

Roads: Access roads to the municipal area (including the R510 and R511) are in a fairly good condition. There are however current road works on the R510 to Rustenburg with several potholes observed on the provincial road closer to the N4. Sections of the R511 to Brits is also currently closed due to road repair works and upgrades.

The internal roads of the TLM are mainly filled with potholes, no road markings and signs. Storm water channels including bridges have not been maintained and exacerbate flooding due to financial constraints and shortage of resources. The initial backlog of 65km of roads that needed to be upgraded was reduced to 45km following the completion of Municipal Infrastructure Grant (MIG) projects. The initial backlog of 56km of storm water to be upgraded was reduced to 51km. The remaining backlogs will be addressed through MIG funding from national government (TLM, 2025).

The current challenges that TLM faces in terms of roads and stormwater systems include (TLM, 2025):

- The lack of sufficient stormwater drainage systems that results in bad road conditions and obstruction of flow underneath bridges;
- Lack of resources/funds for maintenance and upgrades;
- The need to develop a Roads and Stormwater Master Plan;
- Lack of technical capacity within the municipality.

Electricity: The current challenges that TLM faces in terms of electricity provision include (TLM, 2025):

- Construction of backrooms and uncontrolled mushrooming of informal dwellings leads to illegal connections and dysfunctional transformers;
- Cable theft leads to ongoing power failures and network overloading;
- Unplanned power outages due to ageing infrastructure and load shedding;
- Shortage of material to replace stolen cables and undertake streetlight maintenance;
- The municipality currently face large electricity backlogs especially in the informal settlements such as Smersha Block (areas not formalized);
- Lack of resources/funds.

Water and sanitation: Thabazimbi Local Municipality is a Water Service Authority and Water Service Provider. The population residing in Thabazimbi and Regorogile relies on surface water supplied by Magalies Water (Vaalkop Dam) and it is augmented by the supply of groundwater from a number of boreholes in the surrounding area. The population residing in Northam relies entirely on surface water supplied by Magalies Water from the Vaalkop Dam. The settlements of Leeupoort and Rooiberg relies entirely on groundwater supply (TLM, 2025).

The current challenges that TLM faces in terms of water and sanitation include (TLM, 2025):

- Poor Blue and Green Drop Certification, signifying water quality issues in the area;

- Faulty residential and bulk water meters;
- Reservoir capacity at water pump stations is insufficient to ensure continuous pumping of water to the communities;
- Aged infrastructure resulting in high water losses;
- Lack of resources/funds to upgrade the systems;
- Dysfunctional waste water treatment plants and insufficient capacity of oxidation ponds;
- Sewer blockages and spillages.

Waste management: Thabazimbi has 3 landfill sites and 1 transfer station. However, it is reported that the management and design of these landfills do not comply with national legislation. There are also reports of contamination of underground water, due to leachate infiltrating to the underground water. The municipality furthermore lacks a formal waste minimisation and recycling strategy (TLM, 2025).

8.7 EDUCATION AND SKILLS LEVELS OF THE LABOUR FORCE

As indicated in Table 6 below, the skill levels of the adult population (based on educational attainment) are slightly higher than the national and provincial average in terms of the presence of semi-skilled workers (adults that completed secondary education) while lower in terms of skilled workers (adults with tertiary qualifications).

Table 6: Education levels: Percentage of the adult population above 21 years, 2022

Category	TLM	Limpopo	National
Without schooling	5%	14%	7%
Some but less than secondary	44%	44%	43%
Completed secondary education	41%	32%	38%
With tertiary education	10%	10%	12%
Total	**100%**	**100%**	**100%**

Source: Stats SA (2022)

As indicated in Table 7 below, TLM is well serviced in terms of pre-primary, primary and secondary education facilities as well as teachers with per capita rates higher than the national average. There are 31 Early Childhood Development (ECD) centres; 28 primary schools; 6 secondary schools and 4 combined schools. Tertiary educational institutions in the province as well as the municipal area is limited with just 1 Further Education College (FET) registered in the municipal area as well as a Training centre in the Amandelbult Mining Complex.

Despite the adequate educational institutions in the municipal area, educational attainments in TLM are below the national average as indicated by the low grade 12 pass rate in Table 7 below.

The current challenges that TLM faces in terms of education include (TLM, 2025):

- Provision of water, sanitation and electricity to schools (Shortage of Water Tanks in schools).
- Lack of classrooms (overcrowding in classrooms)
- High water bills to schools.
- The curriculum of the FET college needs to be more demand orientated
- Partnership is needed between locals, private sector and FETs on skills development
- Increased teenage pregnancy

- Many young people do not complete school or study further because of expectations to find a lower skilled job in the mining sector.

Table 7: Educational facilities, 2022

Category	TLM	National
Primary schools/10 000 people	5,2	3,8
Secondary schools/10 000 people	1,5	0,8
Pupil: educator ratio	24,1	30,1
Grade 12 pass rate (2018)	61%	78%

Source: Municipal Demarcation Board (2018); TLM (2025)

Within the immediate area around the project area, there is a lack of educational facilities. This is observed in ward 8 as well as in the informal settlement of Jabulani in Ward 6, placing more pressure on the educational institutions in the Amandelbult mining village (Rethabile primary school and Thekganang Technical Secondary School to service the pupils in these wards.

8.8 HEALTH STATUS AND SERVICES

In contrast with educational institutions, the per capita ratios of medical facilities suggest a shortage of health facilities in TLM. There a 10 primary healthcare (PHC) centres with 3 mobile clinics in the municipal areas of which two are located in Ward 8 (including 1 mobile clinic) but none in wards 9 or 11. There are 5 hospitals in TLM of which 3 are operated by mines including the Amandelbult hospital in ward 11. The hospitals are mainly concentrated in and around the town of Thabazimbi.

With the retrenchments of workers at Amandelbult (see Section 8.10 below) workers lost their medical aid coverage and the right to go to mining facilities, resulting in a large shift in demand for municipal primary care facilities in Thabazimbi town and Northam. Based on personal interviews, the PHC clinics in these areas reported a sharp increase in caseloads and capacity constraints since the 2024 retrenchments at Amandelbult mine.

As indicated in Table 8 below, the ratio of the population that receive Anti- Retroviral Treatment (ART) against HIV/AIDS is higher in TLM compared to the national average. This could indicate to the higher prevalence of HIV/AIDS in the municipality. The high historic rates of in-migration into the municipal areas could have contributed to the higher incidence of HIV/AIDS in these areas.

Table 8: Basic Health Indicators, 2024

Indicator	TLM	South Africa
Primary Health Care (PHC) Clinics / 100 000 persons	2	6
Community Health Care facilities[1]) as % of PHC clinics	0%	25%
Hospitals/ 100 000 persons	0,8	2,2
ART treatment (% of population) 2017	9%	7%

Source: TLM (2025), Health Systems Trust, 2017 [1)] Community health centres are extended PHC clinics wit 24-hour services, 7 days per week and midwife obstetric units

8.9 SAFETY AND SECURITY

There are 6 South Africa Police Service (SAPS) stations in TLM mainly located in the northern sections

of the municipal area (Thabazimbi, Cumberland, Hoopdal, Dwaalboom) with Rooiberg SAPS located to the east of the project area. Northam SAPS is the closest police station to the project area.

As indicated in Table 9 below, per capita crime rates, including violent crimes, was higher than the national average in 2022. While crime statistics show a decline in reported crimes in the municipal area since 2015, the decline is not as strong as the decline in the national crime rate.

The majority of crimes in the municipal area is reported in Northam (48%) followed by Thabazimbi town (45%).

Table 9: Crime Statistics, 2022

Indicator	TLM	National average
Crime rate per 1000 people	36,5	26,4
Violent crimes [1)] per 1000 people	11,9	10,2
Increase in crimes (2015-2022)	-7,5%	-22,6%

Source: SAPS (2023) **1)** Including murder, attempted murder, rape, robbery, assault

The current safety and security challenges that TLM faces are (TLM, 2025):

- Monitoring of proper utilization of licenses and permits issued to liquor sellers;
- Illegal operation of unlicensed shebeens and taverns;
- Lack of access to certain crime scenes due to bad conditions of roads and lights;
- Domestic violence (women and child abuse especially in informal areas;
- The lack of crime awareness
- Crimes related to substance abuse.

Similar to other areas in South Africa, TLM also faces periodic violence during community protests. The last violent protest action to receive media attention was when paramedics and truck drivers were beaten during a mass protest on the R510 in 2018. The protest revolved around the employment of more locals at local mines (TimesLive, 2018). Some community protests were also reported in July 2024, but these mainly disrupted traffic on the R510 without major violence reported.

As indicated in Figure 3 above the R510 and R 511 are the two major provincial roads close to the project area. The R510 extends from Rustenburg to Thabazimbi and further to Lephalale acts as traffic spine through the Municipal area. It has been identified in the IDP as a Development Corridor along which major residential nodes and mines are concentrated (TLM, 2025).

The R511 links the municipal area with the North West through Brits/ Madibeng but require serious upgrading due to occurrence of potholes. The road to Brits (P110-1) is a main feeder from Gauteng and most visitors from Pretoria and surrounding areas utilise this road to reach Thabazimbi and Lephalale (TLM, 2025).

8.10 THE STRUCTURE OF THE LOCAL ECONOMY

The economy in the Thabazimbi Municipality generated around R 53.3 billion in Gross Value Added (GVA) employing around 40 200 people in 2019. (National Treasury, 2021).

The mining sector plays a dominant role in the local economy producing 87,4% of GVA and 46,3% of employment. The services' sector (mainly the public sector) is the second largest employer in TLM, contributing to 21,3% of employment opportunities (but only 2% towards GVA) in the municipal area as indicated in Table 10 below (National Treasury, 2021).

As discussed above, the agricultural sector is dominated by wheat, maize, soya beans and sunflowers with a large portion of arable land under irrigation. While the agricultural sector only contributed 1,3% towards GVA, the sector provided 14,1% of jobs in the municipal area. The agriculture sector in the Municipal area is declining, which poses a threat in terms of jobs on farms (TLM, 2025). There is a sizeable tourism sector in the area, largely based on wildlife and nature tourism, inter alia hosting the Marakele National Park. Business tourism related to mining activities have declined due to the downsizing of the platinum mining sector in the area.

The commercial, retail and manufacturing sectors of the economy contributes very little to the municipal economy (TLM, 2025).

Table 10: The sectoral employment distribution, 2019

Sector	TLM	National
Agriculture	14,1%	20,7%
Mining	46,3%	4,3%
Manufacturing	5,0%	7,4%
Utilities	0,3%	0,7%
Construction	3,6%	4,3%
Trade	6,0%	13,3%
Transport	1,2%	3,2%
Finance	2,2%	4,9%
Services	21,3%	41,2%
Total	**100,0%**	**100,0%**

Source: Municipal Demarcation Board (2018)

The major commodity mined in the local area is platinum and iron, and the larger mines in the area include Amandelbult (Rustenburg Platinum Mines); Union Section (Rustenburg Platinum Mine); Northam Platinum Mine (Northam); Thabazimbi Iron Ore mine (Kumba Resources); and Dwaalboom Palygorskite (PPC: Rhono Andalusite Mine (Trollope Mining Services) (TLM,2025).

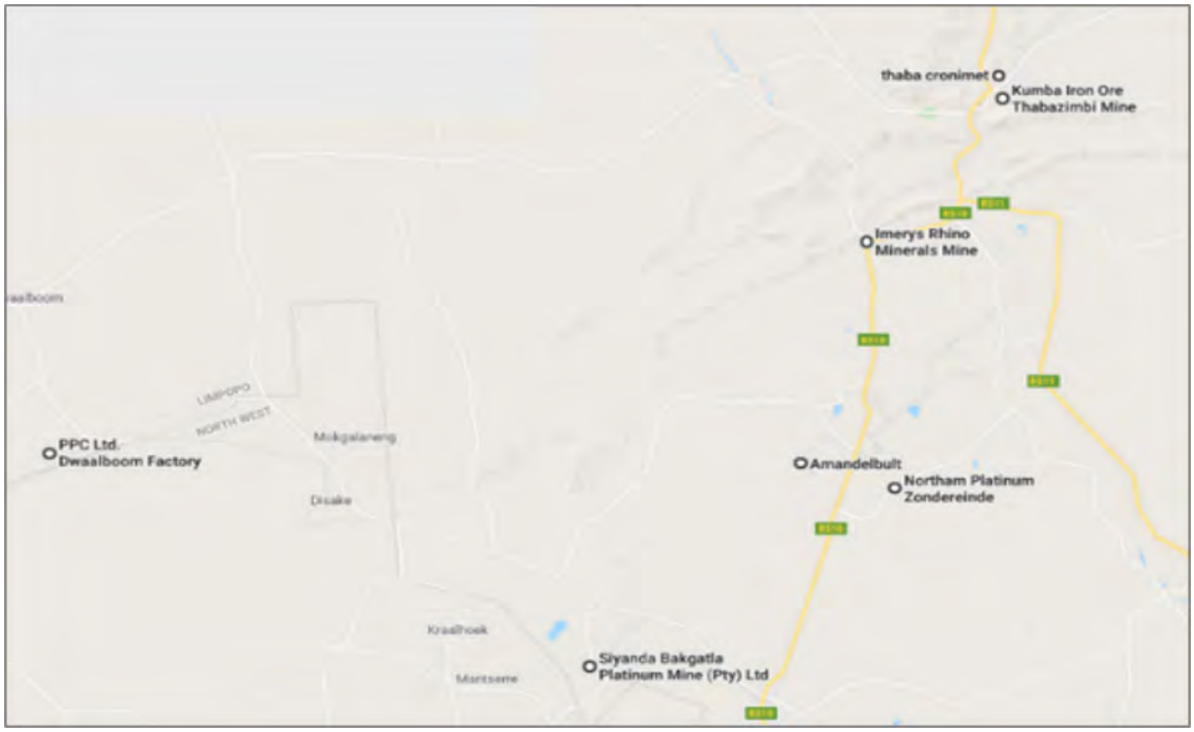


Figure 3: Mining Operations in Thabazimbi
Source; Anglo American (2023)

The Rustenburg Platinum Mines Ltd (RPM) Amandelbult Mine (AMB) has been operating since the 1970s. In 2023 the mine employed around 16 462 employees and contractors sourced from 140 local municipalities across the country's nine provinces (including employees from SADC countries). AMB is a significant operation comprising Tumela and Dishaba mines, as well as three concentrators. The main activity at AMB is the mining from both the Merensky and UG2 reefs using underground and open pit mining methods (Anglo American, 2023).

Apart from being a major employer in the area, AMB also sponsors a number of local economic development (LED) projects through its Social and Labour Plan (SLP). The projects focus on food security, water infrastructure, school development programmes, internet connectivity, waste management, enterprise development, road infrastructure and health care. The total LED budget for the SLP period 2021 to 2025 was R 352m of which around R200 m was to be spent in TLM (Anglo American, 2023).

For the past decade employment and production at AMB has been slowly declining echoing the trend in the South African platinum industry in general. Since 2012 employment in the platinum group metals mining industry in South Africa declined from 206 764 jobs to 148 388 in 2022 (Stats SA, 2024). Industry analysts contends that South Africa's platinum mining industry has entered a phase of irreversible decline as producers struggle with low prices, low demand due to the rise of electric vehicles as well as high operational costs due to the lack of mechanisation of the South African platinum mines (Reuters, 2024).

In 2024, Anglo American Platinum (AAP) announced 3 700 job cuts across all its platinum operations in South Africa, including the then owned, Amandelbult. More retrenchments (mostly unskilled) are

possibly on the way in future. Due to the industry-wide retrenchments, retrenched workers receive packages and are not deployed in other mining operations of the company (Mining Review, 2024).

8.11 COMPOSITION OF THE LABOUR FORCE

The table shows that, despite the job-shedding in the platinum industry since 2012, TLM still could have experienced a slight decline in unemployment since 2011 (TLM, 2025). This could also be due to the decline in population since 2011 as discussed in section 8.4. above. Informal employment also plays a relatively small role in the municipality since the local labour force rather relies on formal jobs in the mining sector. This is especially the case with the local wards close to the project area.

Since 2011 the unemployment rate in Ward 8 was much higher than the national average. This situation could have escalated since the job cuts at Amandelbult in 2024.

As is the case nationally unemployment among young people is much higher than the municipal average and could have worsened since 2022.

Table 11: The local labour force, 2011 and 2022

Indicator	TLM	Ward 6	Ward 8	Ward 11	National
estimated employment 2022	41 000	n.a.	n.a.	16 000 [1)]	15.4m
estimated employment 2011	33 000	2 000	4 000	n.a.	14.1m
average annual growth 2022-2011	2.0%	n.a.	n.a.	n.a.	0,9%
informal employment as % of employment 2011	17%	5%	8%	n.a.	19%
unemployment % 2022	18%	n.a.	n.a.	n.a.	34%
unemployment % 2011	21%	14%	25%	n.a.	25%
youth unemployment rate, 2011	27%	n.a.	n.a.	n.a.	39%

Source: Stats SA (2011and 2022); TLM (2025)) [1)] Based on employment at AMB

With the retrenchments at AMB in 2024, unemployment in the adjacent wards 6 and 8 must have increased significantly, especially in the informal areas of Jabulani and Smersha Block.

8.12 INCOME AND POVERTY LEVELS

The percentage of households that earned less than R 20 000 per year in 2011 largely corresponds with the lower bound poverty rate[2] of that period. Corresponding to the lower unemployment rates in TLM, the poverty rates in the municipal area were also lower than the national average in 2011. In the local wards adjacent to the project area, poverty rates were the highest in Ward 8, While poverty rates were low in Ward 11 where the project is located the portion of households earning relatively low-income levels were also fairly low, suggesting that the majority of households in the ward were employed in low-income positions in 2011.

[2] Statistics South Africa published 3 poverty rates for South Africa in 2011, namely the food poverty line (FPL) that allows for a minimum food intake; the lower bound poverty level (LBPL) that allows for basic food and some clothing; as well as the upper bound poverty level (UBPL) that allows for basic food clothing and some basic education.

Table 12: Percentage of households in different income, categories, 2011

Income category (per year)	TLM	Ward 6	Ward 8	Ward 11	National
Less than R20 000	34%	22%	29%	13%	45%
Between R20 000 and R 75 000	37%	18%	40%	67%	32%
Between R 75 000 and R 150 000	14%	16%	15%	19%	9%
More than R 150 000	15%	44%	16%	1%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Stats SA (2011)

8.13 SOCIO-ECONOMIC DEVELOPMENT PRIORITIES AND INITIATIVES

The Limpopo Development Plan 2020-2025 (Limpopo Provincial Government, 2021) focus on the following provincial strengths namely agriculture, tourism, mining, manufacturing, construction, and the waste economy. The plan regards mining as one of the major economic drivers in the province. Although mining development presents valuable development opportunities, the plan also emphasises the importance to promote diversification and multi-skilling to mitigate the risks of shocks associated with commodity price fluctuations and mine closures. Thabazimbi has been highlighted in the Development Plan as one of the municipalities with the highest growth rates in the province, and thus identified as a priority provincial growth point.

The Thabazimbi Integrated Development Plan (IDP) (TLM, 2025) has as vision a diversified economy in the provision of excellent sustainable services. The development priorities for the local area as expressed through the official planning documents include the following:

- Unemployment (top priority)
- Community facilities
- Cemeteries
- water and sanitation
- Paving of internal streets
- Roads and storm water
- Education
- Land

Job creation is specifically highlighted as a priority in Wards 6 and 8 of TLM.

The Thabazimbi Spatial Development Framework (SDF) (TLM, 2023) focuses on the following core development principles:

- Optimising the utilisation of agricultural potential of Limpopo Province to provide sustainable livelihoods to marginalised communities in rural areas in partnership with commercial farms;
- Utilising provincial environmental resources as attractions to promote sustainable tourism development (and conservation) in all parts of the province;
- Promoting mining activity and associated job creation potential in an environmentally sustainable manner. In Northam-Thabazimbi it is specifically mentioned that platinum mines should be nurtured;
- Address industrial sectoral diversification by way of area specific investment in high value production and value-added technologies and industries especially agro-processing and metal fabrication.

9. SOCIO-ECONOMIC IMPACT ASSESSMENT OF THE PROPOSED PROJECT

9.1 RATING METHODOLOGY

The impact significance rating process serves two purposes: firstly, it helps to highlight the critical impacts requiring consideration in the management and approval process; secondly, it shows the primary impact characteristics, as defined above, used to evaluate impact significance.

The impact significance rating system is presented in Table 14 -16 and involves three parts:

- **Part A**: Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/ population and duration;
- **Part B**: Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A; and
- **Part C**: Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from **Part B**) and the probability of occurrence.

9.1.1 Part A: Defining Consequence in Terms of Magnitude, Duration and Spatial Scale

Use these definitions illustrated in the table below to define the consequence in Part B.

Table 14: Consequence Rating Methodology

Impact Characteristics	Definition	Criteria
Magnitude	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of impact are of conservation importance; or identified threshold often exceeded
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
Duration	Short term	Up to 18 months.
	Medium term	18 months to 5 years
	Long term	Longer than 5 years
Spatial scale or population	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g. cadastral, catchment, topographic
	National/ International	Nationally or beyond

9.1.2 Part B: Determining Consequence Rating

Rate consequence based on definition of magnitude, spatial extent and duration.

Table 15: Consequence Rating Methodology

			Spatial Scale/ Population		
			Site or Local	Regional	National/ international
MAGNITUDE					
Minor	**Duration**	**Long term**	Medium	Medium	High
		Medium term	Low	Low	Medium
		Short term	Low	Low	Medium
Moderate	**Duration**	**Long term**	Medium	High	High
		Medium term	Medium	Medium	High
		Short term	Low	Medium	Medium
Major	**Duration**	**Long term**	High	High	High
		Medium term	Medium	Medium	High
		Short term	Medium	Medium	High

9.1.3 Part C: Determining Significance Rating

Rate significance based on consequence and probability.

Table 16: Significance Rating Methodology

Probability (of exposure to impacts)	Consequence Negative			Consequence Positive		
	Low	Medium	High	Low	Medium	High
Definite	Medium	Medium	High	Medium	Medium	High
Possible	Low	Medium	High	Low	Medium	High
Unlikely	Low	Low	Medium	Low	Low	Medium

9.2 CONSTRUCTION PHASE IMPACTS

9.2.1 Introduction

As indicated in Section 1 above, all new infrastructure is planned within the Amandelbult complex around the existing TSF. The infrastructure above will be constructed on approximately 12 Ha and the TSF to be reclaimed is approximately 105 Ha. The combined footprint of the project will be 117 Ha.

It is expected that there would be a 2-year construction and ramp up period which would include the placement of infrastructure and site preparation.

It is anticipated that all construction materials will be transported from other centres to the mine via the R510.

9.2.2 Impact on employment and income

Employment opportunities created by the Project during the construction period include direct employment provided on the Project itself, indirect employment through the procurement of inputs/supplies as well as induced employment generated through an overall increase in income due to higher income levels of direct employees and suppliers. While the direct employment impact could be large, the supply-linked employment impacts within the local municipality are expected to be limited since around 77% of construction materials in Limpopo are imported from other South African provinces and another 7% is imported from overseas (Conningarth Economists, 2018).

Table 16: Rating of Impact on Local Employment and Income

Impact Name	**Employment and Income**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Positive	Positive
Magnitude	Moderate +	Moderate +
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Definite
Environmental Risk Significance (Pre-mitigation)		Low +
Management Measures:		
• As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase; • If further additional employment needs to be recruited, unskilled workers that were formerly employed by the mine and/or in the local communities close to the mine should be considered for preference; • Consider formal training of unskilled workers mobilised during the construction phase; • Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and Small, Medium and Micro-sized Enterprises (SMMEs). Preference should be given to capable subcontractors who based within the local municipal area. • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels.		

Impact Name	Employment and Income
Environmental Risk Significance (Post-mitigation)	Medium +
Cumulative Impacts	No

9.2.3 Potential influx of people to the project area

High historic rates of job-seekers might result in continued influx into the local ward areas close to the project due to perceived continuation of mining activities. This could place additional strain on local municipal services and potentially result in the growth of informal settlements in area around the Project sites.

Table 17: Rating of Impact on Informal Influx

Impact Name	Informal Influx Impact	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate -	Moderate-
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Low -
Management Measures:		
• As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; • Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements. • Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints.		
Environmental Risk Significance (Post-mitigation)		Low -
Cumulative Impacts		Yes, other mining activities in the area

9.2.4 Increase in nuisance factors (traffic, noise and dust)

The Project could lead to an increase in traffic volumes on existing traffic network mainly the R510, potentially resulting in increased congestion and delays on the local roads. The Project is also expected to increase in ambient noise levels as well as increase dust levels in the local area. Dust and noise factors will largely impact on the adjacent AMB Mining Village. The traffic / vehicles use would the same as was previously the case when the respective modules 3 and 4 of the mine were operational. Since the project is located within the boundaries of an operational mine whose operational activities and associated traffic flows were scaled down the past few years, the impact of these additional nuisance factors was rated low.

Table 18: Rating of Impact on Nuisance factors (noise, dust and traffic)

Impact Name	**Impact of Nuisance Factors**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Medium Term – 18 months to 5 years	Medium Term – 18 months to 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Low -
Management Measures:		
• Strict adherence to the mitigation measures of the noise and air quality impact reports. • A grievance management mechanism should be in place to receive incident related queries. •		
Environmental Risk Significance (Post-mitigation)		Low -
Cumulative Impacts		Yes, other mining activities in the area

9.3 OPERATION PHASE IMPACTS

9.3.1 Introduction

As indicated in Section 1 above, the anticipated life span of the project is approximately 20 years. This will then allow for the 18- year LOO where hydraulic and mechanical reclamation would take place.

9.3.2 Impact on employment and income

Employment opportunities created by the Project include direct employment provided on the Project itself, indirect employment through the procurement of inputs/supplies as well as induced employment generated through an overall increase in income due to higher income levels of direct employees and suppliers.

Table 19: Rating of Impact on Local Employment and Income

Impact Name	**Employment and Income**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Positive	Positive
Magnitude	Minor +	Moderate +
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Low	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium +
Management Measures:		
• As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase; • If further additional employment needs to be recruited, unskilled workers that were formerly employed by the mine and/or in the local communities close to the mine should be considered for preference; • Consider formal training of unskilled workers mobilised during the operational phase; • Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and Small, Medium and Micro-sized Enterprises (SMMEs). Preference should be given to capable subcontractors who based within the local municipal area. • Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels.		
Environmental Risk Significance (Post-mitigation)		Medium +
Cumulative Impacts		No

9.3.3 Potential influx of people to the project area

High historic rates of job-seekers might result in continued influx into the local ward areas close to the project due to perceived continuation of mining activities. This could place additional strain on local municipal services and potentially result in the growth of informal settlements in area around the Project sites.

Table 20: Rating of Impact on Informal Influx

Impact Name	Informal Influx Impact	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate -	Moderate-
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
• As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; • Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements. • Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

9.3.4 Increase in nuisance factors (traffic, noise and dust)

It is anticipated that the Project will lead to an increase in traffic volumes on existing traffic network, resulting in increased congestion and delays on the local roads. During the operational phase access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. As noted above, the project is also located within the boundaries of an operational mine whose operational activities and associated traffic flows were scaled down the past few years, The magnitude of the nuisance factors related to traffic impact are therefore anticipated to be low. Since it will take place over the long term and could possibly occur, the overall impact is rated as medium based on the methodology in Section 9.1. above.

The Project is also expected to increase in ambient noise levels as well as increase dust levels in the local area. As the reclamation activities will be conducted 7 days a week; 24 hours a day during the operational phase, local communities will experience the nuisance factors on a continuous basis throughout the operational period. Dust and noise factors will largely impact on the adjacent AMB Mining Village. Based on the findings of the noise impact report (EAR, 2015) the nuisance impacts related to noise will be low during the daytime and medium during the night time- before and after mitigation.

The nuisance impacts related to dust are rated as medium before and after mitigation based on the findings of the air quality impact report related to this project (Godwana, 2025).

Table 21: Rating of Impact on Nuisance factors (noise, dust and traffic)

Impact Name	**Impact of Nuisance Factors**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
• Strict adherence to the mitigation measures of the noise and air quality impact reports. • A grievance management mechanism should be in place to receive incident related grievances.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

9.3.5 Impact on community health and safety

There is a risk for community protests if there is the perception that local communities do not receive the anticipated benefits from employment on the project. Road blockages and protest action not only pose a risk to the Project itself, but also to other businesses in close proximity to the Project.

Table 22: Rating of Impact on Community Health and Safety

Impact Name	**Community health and safety**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
• Strict security measures to apply at the Project. • The company to cooperate with the local SAPS and community safety forums. • Establish a communication strategy and network with the local community in AMB and in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders on a regular (quarterly) basis. • Strict adherence to the mitigation measures of the air quality impact report.		

Impact Name	Community health and safety	
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		Yes, other mining activities in the area

9.3.6 Potential impact on adjacent farming community

Potential impacts on the adjacent farming community situated from 3km east of the project site could potentially include impact on surface and groundwater quality and availability.

Since the project will use recycled water used during operations, the project will not abstract additional surface or ground or surface water and hence is not expected to affect the availability of water to the local farming community.

Based on the findings of the groundwater impact assessment related to the project (Groundwater Impact ,2025) the project is not expected to significantly affect long-term groundwater quality trends and is unlikely to affect farmers to the east of the project site. The hydrological impact assessment indicated that impact on surface quality could be medium-high before mitigation due to factors such as uncontained dirty water runoff from the reclamation, processing and stockpiling areas, poor maintenance of stormwater management system and leaks from proposed pipelines. All these surface water-related impacts could be however be mitigated to low impacts (Hydrospatial, 2025). Hydrological Study for the Proposed Reclamation of the Rustenburg Platinum Mine Limited Amandelbult Tailings Storage Facility Dam 2

Table 23: Rating of Impact on the Adjacent Farming Community

Impact Name	Impacts on Adjacent Farming Community	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate-	Minor -
Duration	Long term (5 years plus)	Long term (5 years plus)
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Unlikely
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
• Strict adherence to the mitigation measures of the ground and surface water impact reports relevant to the project; • Establish a communication strategy and network with the local farming community in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders on a regular (quarterly) basis.		
Environmental Risk Significance (Post-mitigation)		Low-
Cumulative Impacts		Yes, other agriculture and mining activities in the area

9.4 POST-CLOSURE IMPACTS

9.4.1 Introduction

The reclamation will potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas. While undertaking the reclamation of Dam 2, AMB

will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex. The overall TSF footprint will form part of AMB's overall Rehabilitation strategy and Closure Plan.

9.4.2 Unlocking of land for future use

As indicated above, the reclamation project will open additional airspace for for further tailings deposition in the future, without extensions onto greenfield areas.

Table 24: Rating of Land Restoration

Impact Name	**Land Restoration**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Positive	Positive
Magnitude	Minor +	Minor +
Duration	Long Term > 5 years	Long Term > 5 years
Scale	Site or local	Site or local
Consequence	Low	Low
Probability	Definite	Definite
Environmental Risk Significance (Pre-mitigation)		Medium +
Management Measures:		
*D*evelop a future land-use plan as part of AMB's overall Rehabilitation strategy and Closure Plan		
Environmental Risk Significance (Post-mitigation)		Medium +
Cumulative Impacts		No

9.4.3 Decrease/cessation of employment

The termination of the Project will end the employment contracts with the workforce at the Project.

Table 25: Rating of Cessation of Employment and Income

Impact Name	**Cessation of employment and income**	
Environmental Risk		
Attribute	**Pre-mitigation**	**Post-mitigation**
Nature	Negative	Negative
Magnitude	Moderate -	Minor -
Duration	Long Term > 5 years	Long Term > 5 years
Scale	Site or local	Site or local
Consequence	Medium	Medium
Probability	Possible	Possible
Environmental Risk Significance (Pre-mitigation)		Medium -
Management Measures:		
• Consider implementing a portable skills programme for the existing workforce. • Consider placement of workers in other Rustenburg Mines operations.		
Environmental Risk Significance (Post-mitigation)		Medium -
Cumulative Impacts		No

10. SUMMARY AND CONCLUSION

As indicated in Table 26 below, the project will have positive impacts on local employment during the construction and operational phases. Post-closure the project is also expected to have the positive impact of regaining land for re-development, opening additional airspace for possible further tailings deposition in the future, without extensions onto greenfield areas.

Potential negative impacts on the local community are largely considered low and medium and mainly relate to social risks during the operational phase of 18 years. These risks include nuisance factors (increased noise and dust) as well as potential impacts on community safety. The social risks of the project can be effectively reduced after mitigation measures.

Table 26: Summary of Socio-Economic Impacts

Impact Description	BEFORE MITIGATION SIGNIFICANCE	AFTER MITIGATION SIGNIFICANCE	Cumulative Impact
Construction Phase			
Employment and Income	Low+	Medium +	No
Informal influx of job-seekers	Low-	Low -	Yes
Nuisance factors	Low -	Low -	Yes
Operational Phase			
Employment and Income	Medium +	Medium +	No
Informal influx of job-seekers	Medium -	Medium -	Yes
Nuisance factors	Medium -	Medium -	Yes
Community health and safety	Medium-	Medium -	Yes
Impact on adjacent farmers due to water issues	Medium -	Low -	Yes
Post- Closure			
Unlocking of land	Medium +	Medium +	No
Cessation of employment	Medium -	Medium -	No

In conclusion, the proposed Project is in line with development priorities to support continued job creation in the local area as well as local priorities to provide continued support to the local platinum sector as articulated in the TLM SDF. There are no fatal flaws associated with the social risks of the project and most negative impacts can be effectively managed. Based on the findings of the socio-economic impact assessment for the project it is therefore recommended that the proposed project be approved.

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12. CURRICULUM VITAE OF SPECIALIST

1. Family name: Kritzinger

2. First names: Anna Sophia

3. Date of birth: 17 March 1964

4. Nationality: South African

5. Contact: +27 (0) 82 335 4125 (mobile)

6. E-mail: anna@iafrica.com

7. Address: Nr 11, 17th street, Menlopark, South Africa, 0081

8. Education:

Institution [Date]	Degree(s) or Diploma(s) obtained:
University of Stellenbosch, South Africa (1992)	M.Admin (Economics)
University of Pretoria, South Africa (1986)	B.Admin (Hons) (Economics)

9. **Language skills**: Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
English	1	1	1
Afrikaans	1	1	1
French	2	2	3
Dutch	2	3	3
German	3	3	3

10. **Membership of professional bodies:** International Association for Impact Assessment (IAIA), Member ID: 10448490

11. **Other skills:**
- Computer literacy –MS Office
- Accredited Training Assessor
- Social Accounting Matrix (SAM) (input and output modelling)

12. **Publications:**
Kritzinger, A. S. (2011) Towards a Conceptual Framework for Local Economic Development (LED) Strategies. Skills @ Work, Volume 4: 67- 79.
Kritzinger, A. S. and Baur P. (2012) Structuring Local Data to Determine LED Strategy Priorities: An Economic Development Perspective. Skills @ Work, Volume 5

13. **Present position:** Director of Southern Economic Development Services (SED) and freelance-associate of South African management consultancy Futurelead

14. **Years with the firm (SED):** 5 years (Director of SED); 20 years (associate of Futurelead)

15. Areas of specialisation
- Socio-economic impact assessments
- Applied economics
  - economic and social impact analysis
  - input-output modelling
  - economic cost benefit analysis
  - economic incidence analysis

- scenario planning
- Monitoring and evaluation
- Skills development in development profiling and strategies
- Economic databases & economic reviews
- Local social and economic development strategies
- Market and financial analysis

16. Professional experience:

Date from – Date to	Company (position)	Description of activities (country; year of assignment)
1998 – current	Consulting	Examples of assignments completed the included the past 8 years: **Economic and Socio-Economic impact analyses. Examples of main projects (including input-output modelling and economic cost benefit assessments):** • Economic Cost Benefit Assessment for Springfield Coal Mine, Gauteng (2022) • Economic Cost Benefit Assessment for Koppie Coal Mine, Mpumalanga (2021) • Economic Cost Benefit Assessment for Birmingham Coal Mine, Mpumalanga (2021) • Economic impact of COVID-19 on the SADC region (SADC, 2021) • Economic impact assessment of mine extension of Harmony Gold in North West (South Africa, 2021) • Economic impact assessment of Sierra Rutile Limited Mine to determine economic impacts of closure (Sierra Leone, 2021) • Comparative cost benefit analysis for different worker accommodation options for workers at Bokpoort Solar Plant, Western Cape (South Africa, 2021) • Comparative economic costs benefit assessment between an underground coal mine and existing agricultural activities in Mpumalanga (South Africa, 2021) • Socio-economic impact assessment of different bulk water augmentation measures proposed for the Richard's Bay area (South Africa, 2020) • Improved the potential impact of the national animal health technology investment programme in South Africa. The project entailed a socio-economic impact assessment with recommendations to the Animal Health Technology Innovation Programme (Technical Innovation Agency, South Africa, 2017) • Supported the evaluation of different design options as well as assessed the economic value for public money for the establishment a Health Technology Park (City of Cape Town, South Africa, 2016-2017) • Improved the programme design and facilitated the interaction between different project partners by conducting an economic cost effectiveness assessment as part of the monitoring and evaluation of a space technology (BDO-UK, South Africa, 2018-2019) • Improved the economic development impact of a national tourism investment programme by leading the sustainability assessment of the National Department of Tourism (South Africa) investment programme. The project entailed the establishment of a project management office as well as the development of guidelines specifically focussed on project sustainability including feasibility studies and operational support (GTAC, South Africa 2017-2018) • Strengthened the social investment programme of a major mining investment in the Northern Cape, South Africa. The project entailed a high-level economic impact assessment for various projects related to the mine closure programme for Sishen Mine, Northern Cape (Jones & Wagener Engineers, South Africa, 2019) • Headed a research project to reduce the social risks of project-related revenues (employment and public revenues) of a large-scale gas project (Anadarko Petroleum, Mozambique ,2012-2014)

Date from – Date to	Company (position)	Description of activities (country; year of assignment)
		• Enhanced/mitigated the socio-economic impacts on hosting communities though socio-economic impact assessments and management programmes as part of environmental authorisations for a number of projects including: o Socio-economic impact assessment of the Reclamation of the Delmore TSF in Gauteng (2023) o Olifantsfontein Land fill close to Thembisa (South Africa, 2021) o Proposed Kareerand Tailings Storage Facility (TSF) Reclamation Project in North West (South Africa, 2020) o Shondoni Colliery, Sasol Mining Pty(Ltd) (Secunda, South Africa, 2020) o Olifantsfontein Landfill (Thembisa, South Africa, 2020) o Blesboklaagte Colliery, Mpumalanga (2020) o Universal Coal Mine (Delmas, South Africa, 2019) o The planned closure of Nkomati Chrome Mine (Rainbow Minerals, Mpumalanga, South Africa, 2019) o Rustenburg Smelter (South Africa, 2019) o Four low-income housing projects that formed part of the Gauteng Province's Rapid Land Release Programme (RLRP) (South Africa, 2019) o Stonewall gold mines (Pilgrim's Rest, South Africa, 2019) o Lion Ferrocrhome Smelter, Steelpoort Mpumalanga (South Africa, 2018) **References:** • Thomas Keck (Particip, Germany); Phone: +49 761 790740, thomas.keck@particip.de • Johan Naude (Futurelead, South Africa); +27 (0) 82 335 1723; johan@futurelead.co.za; • Hendrik Prinsloo (HPM Consultants, US: California); +1 904 307 6004 (Mobile); hendrik@teamhpm.com • Emma Sauvanet (BDO Consultants; UK; London); + 44 (0)7870 268 715 (Mobile); emma.sauvanet@bdo.co.uk • Herman Marais (Exeo Capital Fund: South Africa/Nairobi/Mauritius); +27 (0)83 377 6234 (Mobile); hermanm@agrivie.com
1994-1997	Freelance	Freelance work in UK, travelling through Europe
1989 -1994	University of Stellenbosch (lecturer)	Tasks included: • Lecturing first to third year and marking of papers and assignments • Leading tutorial classes
1987-1988	Development Bank of Southern Africa (Researcher	Tasks included: • Profiling of selected development areas in South Africa • Analyses and database development pertaining to key economic indicators
1986	University of Pretoria	Junior lecturer: First year and third year (extra-mural)

Appendix D6
Noise Impact Assessment & Specialist Opinion Letter

EARES
Enviro Acoustic Research

Name: Morné de Jager
Cell: 082 565 4059
E-mail: morne@menco.co.za
Date: 14 October 2025
Ref: Amandelbult TSF Reclamation

Kongiwe Environmental (Pty) Ltd
Johannesburg

Attention: Ms. Umeshree Naicker / Phathutshedzo Munyai

Dear Umeshree

SPECIALIST OPINION – ADDENDUM TO NOISE IMPACT ASSESSMENT: CHANGES TO THE AMANDELBULT TSF RECLAMATION PROJECT LAYOUT

The above-mentioned issue as well as the Environmental Noise Impact Assessment report, ref.: KE-ATRP/ENIA/202510-Rev 1 dated October 2025 is of relevance (report titled: De Jager, M. (2025): "*Environmental Noise Impact Assessment for the Proposed Amandelbult Tailings Reclamation Project, Limpopo Province*". Enviro-Acoustic Research CC, Pretoria.

Introduction and Background

Enviro-Acoustic Research ("EARES") was contracted by Kongiwe Environmental (Pty) Ltd (the "EAP") to determine the potential noise impact on the surrounding environment due to the development of the proposed Amandelbult Tailing Reclamation and Processing Project, Limpopo.

AMB proposed to reclaim and reprocess the Amandelbult tailing storage facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. The proposed project will also include the construction of a new PGM Processing plant, Chrome Recovery plant, Services plant to service the PGM and Chrome plant as well as a new tailing thickening plant. The proposed location for the new plant would be a disturbed laydown area just north-east of the existing Amandelbult Concentrator plant.

Considering the layout illustrated in **Figure 1**, the noise specialist study considered the following scenarios:

- The likely noise levels associated with operational activities from the existing AMB Concentrator;
- The potential cumulative noise levels from the operational activities of the existing AMB Concentrator, the proposed processing plants (two alternative locations considered) as well as potential tailings reclamation activities.

The noise assessment included a site visit to measure ambient sound and noise levels, as well as identify potential existing noise sources. This assessment considered the findings of the site visit (sound pressure level measurements and observations) to develop a noise model to illustrate potential existing noise levels (scenario 1). Two other scenarios were used to illustrate potential future noise impacts at the project at the closest noise-sensitive receptors (NSR), defining the significance as:

- of a **low significance** for daytime operational activities associated with the AMB project (scenario 2);
- of a **low significance** for night-time operational activities associated with the AMB project (scenario 2);
- of a **low significance** for daytime operational activities associated with the AMB project (scenario 3, alternative locations);
- of a **medium significance** for night-time activities associated with the AMB project (scenario 3, alternative locations). This medium significance might relate to the strict EIA criteria used, and the assumption that the higher noise levels may be considered disturbing or annoying by the closest NSR. Mitigation may be difficult, though warning NSR about the potential increased noises levels prior to the development could reduce the probability of NSR considering the noise to be disturbing.

The potential noise impact would be of a **medium** significance during the night-time periods for scenario 3, with the noise impact relating to the noises from the stock pad proposed to the north-east of the existing stock pad. The potential noise impact associated with TSF reclamation activities would be of a low concern, due to the relatively low intensity of noise emissions as well as the distance between reclamation activities and the closest NSR.

Proposed project changes – October 2025 Layout

Considering the findings of various studies, AMB modified the layout of the reclamation project as illustrated in **Figure 1**.

Most of the changes are minor, relating to TSF reclamation activities. The redesign of the processing plant however removes a potential noise source near the identified NSR, with existing infrastructure to used instead of developing new infrastructure. This will reduce the potential noise levels at the NSR locations, likely also reducing the medium significance of night-time noise impact to low.

These changes are supported from a noise perspective, and no additional acoustic studies would be required or are recommended.

Should you require any further details, or have any additional questions, please do not hesitate to call me on the above numbers.

Yours Faithfully,

Morné de Jager
Enviro-Acoustic Research cc

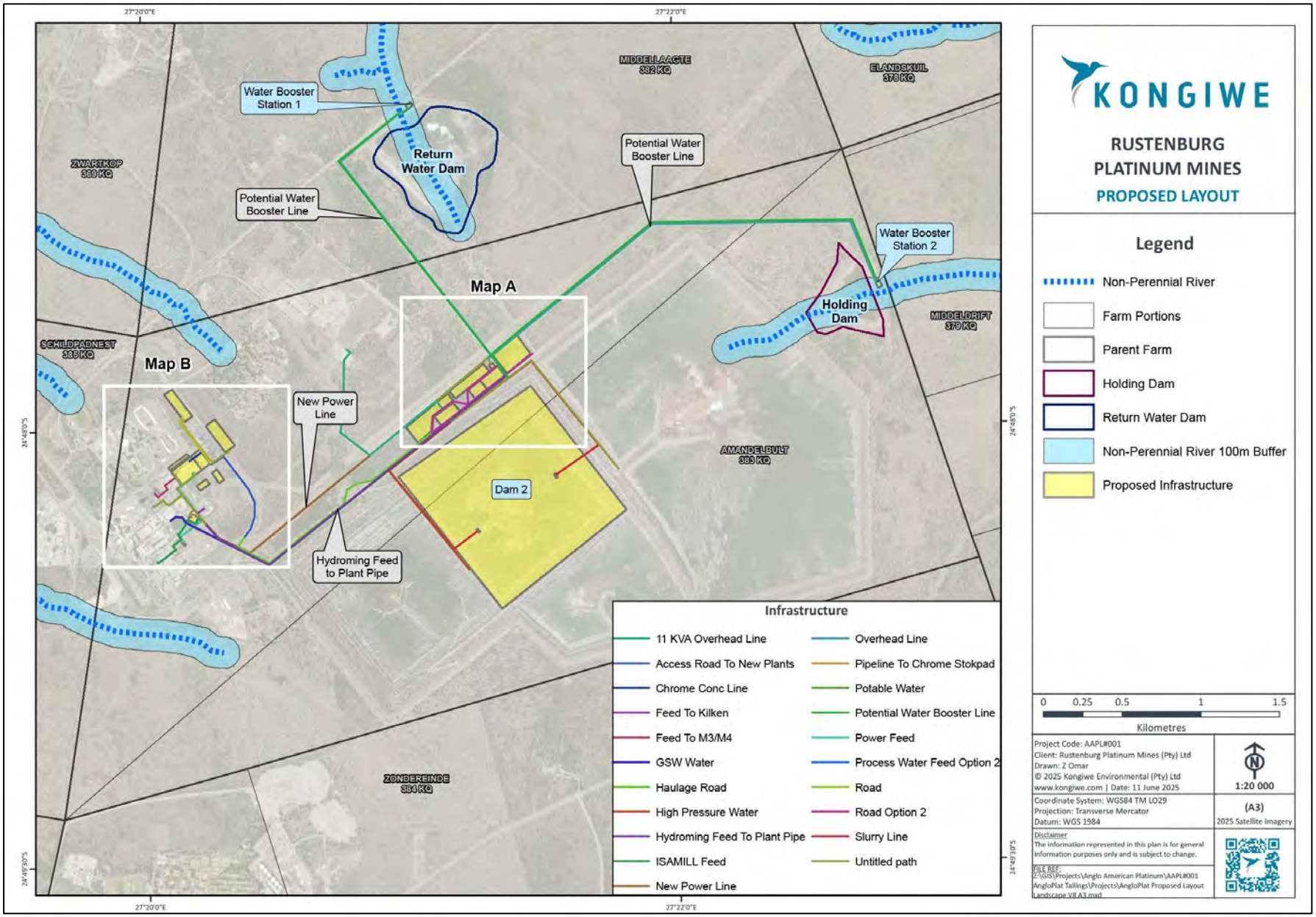


Figure 1: AMB reclamation project, August project layout

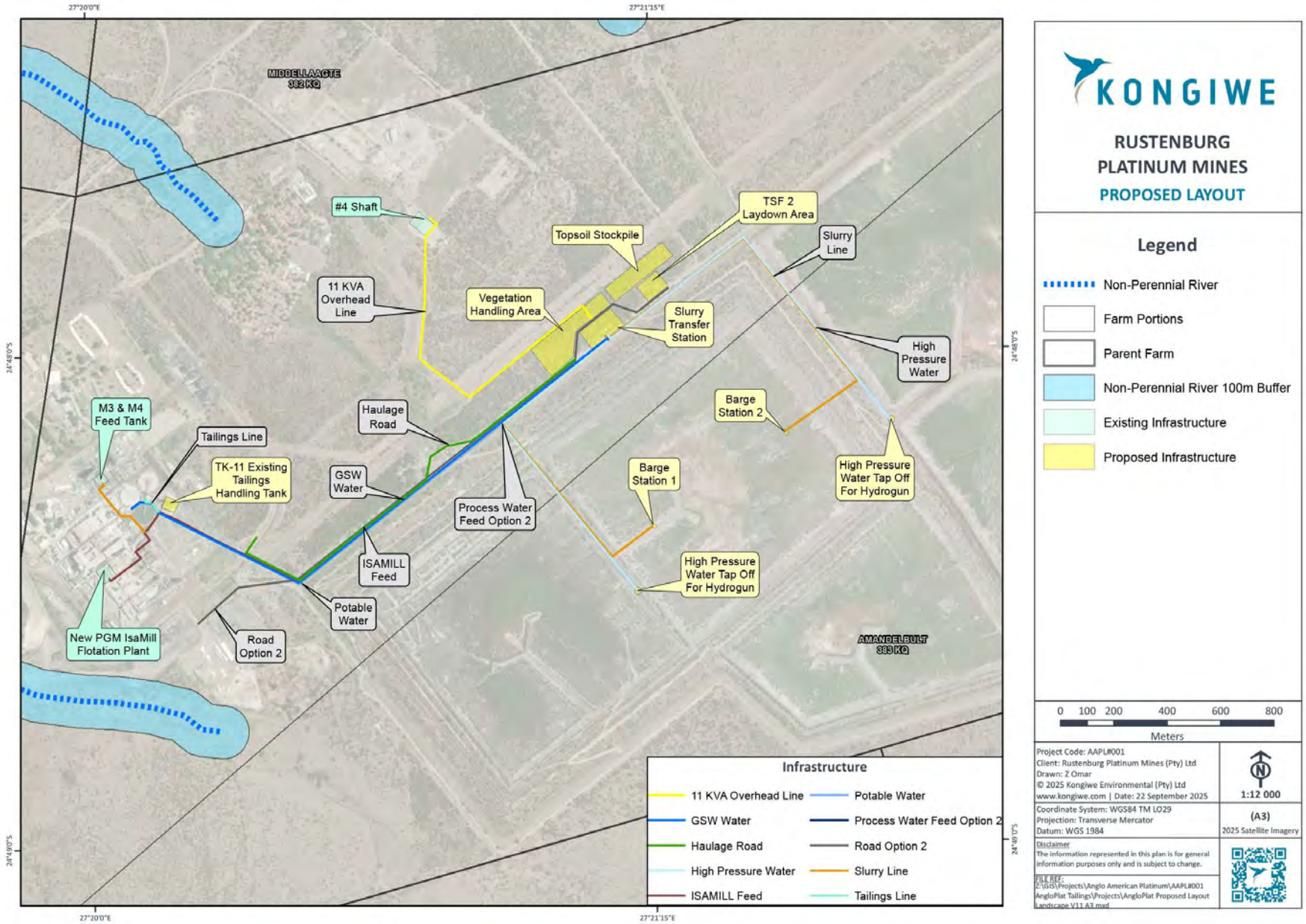


Figure 2: AMB reclamation project, August project layout

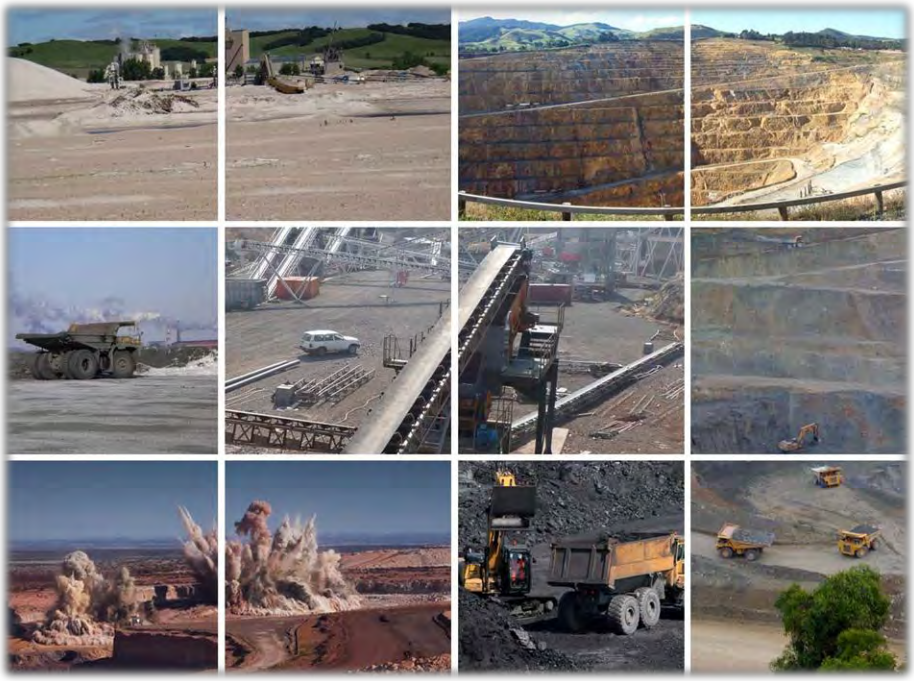
Rustenburg Platinum Mines Limited

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

for the proposed

Amandelbult Tailings Reclamation Project,

Limpopo Province



Study done for:

KONGIWE

Prepared by:

EAR
Enviro Acoustic Research

P.O. Box 2047, Garsfontein East, 0060
Tel: 012 – 993 2165, Fax: 086 – 621 0292, E-mail: info@eares.co.za

EXECUTIVE SUMMARY

INTRODUCTION AND PURPOSE

Enviro-Acoustic Research ("EARES") was contracted by Kongiwe Environmental (Pty) Ltd (the "EAP") to determine the potential noise impact on the surrounding environment due to the development of the proposed Amandelbult Tailing Reclamation and Processing Project, Limpopo.

This report describes ambient sound levels in the area, potential worst-case noise rating levels and the potential noise impacts that the operation may have on the surrounding sound environment, highlighting the methods used, potential issues identified, findings and recommendations.

PROJECT DESCRIPTION

The Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

AMB aims to reclaim and reprocess the Amandelbult tailing storage facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. The proposed project will also include the construction of a new PGM Processing plant, Chrome Recovery Plant (CRP), Services plant to service the PGM and Chrome plant as well as a new tailing thickening plant.

SURROUNDING LAND USE AND POTENTIAL NOISE-SENSITIVE RECEPTORS

Potentially sensitive receptors, also known as noise-sensitive developments ("NSR"), located near the project area was identified using Google Earth®. All NSRs are associated with a residential village to the north of the AMB Concentrator.

BASELINE ASSESSMENT

Sound pressure levels were measured in the residential village to the north of the AMB Concentrator between 6 and 17 May 2025, with average night-time data indicating ambient sound levels typical of an urban noise district. There were periods when the night-time ambient sound levels were very low.

Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.

RATING LEVELS AND DESIRED NOISE LIMITS

Considering the requirements of the National Noise Control Regulations, activities relating to the proposed project should not change the existing ambient sound levels with more than 7 dBA, nor exceed the WHO and IFC noise limits. Recommended upper noise limits therefore would be:

- 55 dBA (as recommended by the IFC, which is less than 7 dBA from the average ambient sound levels measured in the area) for daytime residential use; and
- 48 dBA (as recommended by the IFC) for night-time residential use (3 dBA is added as the existing sound levels already exceed 45 dBA).

The mine should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period and 60 dBA at night for a 70 dBA day-night noise limit).

NOISE IMPACT DETERMINATION AND FINDINGS

This assessment considered the findings of the site visit (sound pressure level measurements and observations) to develop a noise model to illustrate potential existing noise levels (scenario 1). Two other scenarios were used to illustrate potential future noise impacts at the project, defining the significance as:

- of a low significance for daytime operational activities associated with the AMB project (scenario 2);
- of a low significance for night-time operational activities associated with the AMB project (scenario 2);
- of a low significance for daytime operational activities associated with the AMB project (scenario 3, alternative locations);
- of a medium significance for night-time activities associated with the AMB project (scenario 3, alternative locations). This medium significance might relate to the strict EIA criteria used, and the assumption that the higher noise levels may be considered disturbing or annoying by the closest NSR. Mitigation may be difficult, though warning NSR about the potential increased noises levels prior to the development could reduce the probability of NSR considering the noise to be disturbing.

MANAGEMENT AND MITIGATION

The potential noise impact would be of a medium significance during the night-time periods for scenario 3 (mainly due to noises from the stock pad proposed to the north-east of the existing stock pad). Measures that may assist in reducing the probability of noise impacts occurring are:

1. AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls);
2. AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area;
3. AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile area

NEED AND DESIRABILITY OF PROJECT

Due to economic advantages, mining does provide valuable employment, local taxes and foreign currency. It must be noted that when industrial projects are near to potential noise-sensitive receptors, consideration must be given to ensure a compatible co-existence. The potential sensitive receptors should not be adversely affected and yet, at the same time the project needs to reach an optimal scale in terms of layout and production.

While the proposed AMB project will provide continued economic and social benefits to the area, the noises will be audible at the closest NSR and some NSR may find the noises annoying at night. In terms of acoustics, there is no benefit to the surrounding environment (closest receptors). It is noted that the NSRs are also directly linked to the operation, which would also foster a more positive attitude towards to future noise levels.

The project however will greatly assist in the economic growth and development challenges South Africa is facing by optimizing the extraction of the mineral resource. This will assist in providing additional employment and business opportunities for the local communities. Considering only noise, people in the area not directly affected by increased noise levels would have a positive perception of the project and could see the need and desirability of the project.

CONCLUSION AND RECOMMENDATION

The noise-generation scenarios consider noise-generating activities close to the verified NSR, using conceptual scenarios to assess the potential noise impact at these NSR. The scenarios do consider potential cumulative effects. Existing processing activities are generally audible at the closest NSR, and the proposed additional processing and material handling activities at the plant area would raise the noise levels at the closest NSR. The increase however is not considered a fatal flaw, and it is recommended that the AMB Reclamation and Processing Project be authorised (from a noise impact perspective).

The TSF reclamation activities are further than 500m from the closest NSR, and noise from these activities will be insignificant.

In terms of acoustics, the stock pad location alternative to the north-west of the existing stock pad is preferred, instead of the location to the north-east of the existing stock pad.

This noise impact assessment is sufficient, but it is recommended that a noise monitoring programme be designed by an acoustic specialist for implementation.

Morné de Jager
Enviro-Acoustic Research cc
2025 − 10 − 14

CONTENTS OF THE SPECIALIST REPORT – CHECKLIST

Contents of this report in terms of Regulation GNR 982 of 2014, Appendix 6 (as amended 2017)		Relevant Section of Specialist study
(1)	A specialist report prepared in terms of these Regulations must contain-	
(a)	details of-	
	(i) the specialist who prepared the report; and	Section 1
	(ii) the expertise of that specialist to compile a specialist report including a curriculum vitae	Section 1
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 2
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Section 4.1
(cA)	an indication of the quality and age of base data used for the specialist report;	Section 6.1
(cB)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 6.1 and 6.2
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 6.1
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 4.6
(f)	details of an assessment of the specifically identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Sections 6.1, 6.2.1 and 10
(g)	an identification of any areas to be avoided, including buffers;	No buffers required. Noise rating levels calculated and illustrated.
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Sections 6.1
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 9
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 10 and 11
(k)	any mitigation measures for inclusion in the EMPr;	Sections 12.2
(l)	any conditions for inclusion in the Environmental Authorisation (EA);	Sections 12.2
(m)	any monitoring requirements for inclusion in the EMPr or Environmental Authorisation;	Section 14.1
	a reasoned opinion -	Section 15

Contents of this report in terms of Regulation GNR 982 of 2014, Appendix 6 (as amended 2017)		Relevant Section of Specialist study
(n)	whether the proposed activity, activities or portions thereof should be authorised;	Section 15
	regarding the acceptability of the proposed activity or activities; and	Section 15
	if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Section 15
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	See Section 4.5
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	See Section 4.5
(q)	any other information requested by the competent authority.	None

This report should be cited as:

De Jager, M. (2025): *"Environmental Noise Impact Assessment for the Proposed Amandelbult Tailings Reclamation Project, Limpopo Province"*. Enviro-Acoustic Research CC, Pretoria

Client:

Kongiwe Environmental (Pty) Ltd
for Rustenburg Platinum Mines (Pty) Ltd

150 Bryanston Drive
Bryanston
Sandton
2191

Report no:

KE-ATRP/ENIA/202510-Rev 1

Author:

M. de Jager *(B. Ing (Chem); PriSci Nat, 117253; SAIOSH, 72765282)*

Review:

Johan Maré *(M.Sc. (Microbiology), PrSci. Nat – SACNASP No: 400092/91)*

Date:

October 2025

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APPENDICES

APPENDIX A Glossary of terms and definitions
APPENDIX B Photos of measurement locations
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GLOSSARY OF ABBREVIATIONS

ADT	Articulated Dump Trucks
AMB	Amandelbult Mine Complex
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
CRP	Chrome Recovery Plant
DFFE	Department of Forestry, Fisheries and Environment
EARES	Enviro-Acoustic Research cc
ECA	Environment Conservation Act
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ENIA	Environmental Noise Impact Assessment
ENM	Environmental Noise Monitoring
ENPAT	Environmental Potential Atlas for South Africa
EPs	Equator Principles
EPFIs	Equator Principles Financial Institutions
FEL	Front-end Loader
GN	Government Notice
HME	Heavy Mobile Equipment
IEC	International Electrotechnical Commission
IFC	International Finance Corporation
ISO	International Organisation for Standardisation
METI	Ministry of Economy, Trade, and Industry
NASA	National Aeronautical and Space Administration
NCR	Noise Control Regulations
NSR	Noise-sensitive Receptor
PFA	Project Focus Area
PWL	Sound Power Level
SABS	South African Bureau of Standards
SANS	South African National Standards
SPL	Sound Power Level
TSF	Tailings Storage Facility
UTM	Universal Transverse Mercator
WHO	World Health Organisation

GLOSSARY OF UNITS

dB	Decibel (expression of the relative loudness of the un-weighted sound level)
dBA	Decibel (expression of the relative loudness of the A-weighted sound level)
Hz	Hertz (measurement of frequency)
kg/m^2	Surface density (measurement of surface density)
km	kilometre (measurement of distance)
m	Meter (measurement of distance)
m^2	Square meter (measurement of area)
m^3	Cubic meter (measurement of volume)
mamsl	Meters above mean sea level
m/s	Meter per second (measurement for velocity)
^oC	Degrees Celsius (measurement of temperature)
µPa	Micro pascal (measurement of pressure – in air in this document)

1 THE AUTHOR

The Author started his career in the mining industry as a bursar Learner Official (JCI, Randfontein), working in the mining industry, doing various mining-related courses (Rock Mechanics, Surveying, Sampling, Safety and Health [Ventilation, noise, illumination etc.] and Metallurgy. He did work in both underground (Coal, Gold and Platinum) as well as opencast (Coal) for 4 years. He changed course from Mining Engineering to Chemical Engineering after the second year of his studies at the University of Pretoria.

After graduation he worked as a Water Pollution Control Officer at the Department of Water Affairs and Forestry for two years (first year seconded from Wates, Meiring and Barnard), where duties included the perusal (evaluation, commenting and recommendation) of various regulatory required documents (such as EMPR's, Water Licence Applications and EIA's), auditing of licence conditions as well as the compilation of Technical Documents.

Since leaving the Department of Water Affairs, Morné has been in private consulting for the last 15 years, managing various projects for the mining and industrial sector, private developers, business, other environmental consulting firms as well as the Department of Water Affairs. During that period he has been involved in various projects, either as specialist, consultant, trainer or project manager, successfully completing these projects within budget and timeframe, gradually moving towards environmental acoustics, focusing on this field exclusively since 2007.

He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. He has been doing work in this field for the past 8 years, and was involved with the following projects in the last few years:

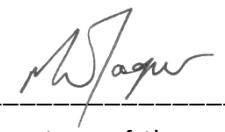
Wind Energy Facilities	*Zen (Savannah Environmental – SE), Goereesoe (SE), Springfontein (SE), Garob (SE), Project Blue (SE), ESKOM Kleinzee (SE), iNCa Gouda (Aurecon SA), Kangnas (Aurecon), Walker Bay (SE), Oyster Bay (SE), Hidden Valley (SE), Happy Valley (SE), Deep River (SE), Saldanha WEF (Terramanzi), Loeriesfontein (SiVEST), Noupoort (SiVEST), Prieska (SiVEST), Plateau East and West (Aurecon), Saldanha (Aurecon), Veldrift (Aurecon), Tsitsikamma (SE), AB (SE), West Coast One (SE), Namakwa Sands (SE), Dorper (SE), VentuSA Gouda (SE), AmakhalaEmoyeni (SE), Klipheuwel (SE), Cookhouse (SE), Cookhouse II (SE), Canyon Springs (Canyon Springs), Rheboksfontein (SE), Suurplaat (SE), Karoo Renewables (SE), Outeniqwa (Aurecon), Koningaas (SE), Eskom Aberdene (SE), Spitskop (SE), Rhenosterberg (SiVEST), Bannf (Vidigenix), Wolf WEF (Aurecon)*
Mining and Industry	*BECSA – Middelburg (Golder Associates), CESA Highwall Project (Geovicon Environmental), SASOL Borrow Pits Project (JMA Consulting), Lesego Platinum (AGES), Tweefontein Colliery (Cleanstream), EvrazVametco Mine and Plant (JMA),*

	Goedehoop Colliery (Geovicon), Hacra Project (Prescali Environmental), Der Brochen Platinum Project (J9 Environment), Delft Sand (AGES), Brandbach Sand (AGES), Verkeerdepan Extension (CleanStream), Dwaalboom Limestone (AGES), Jagdlust Chrome (MENCO), WPB Coal (MENCO), Landau Expansion (CleanStream), Stuart Coal – Weltevreden (CleanStream), Otjikoto Gold (AurexGold), Klipfontein Colliery (MENCO), Imbabala Coal (MENCO), ATCOM East Expansion (Jones and Wagner), IPP Waterberg Power Station (SE), Kangra Coal (ERM), Schoongesicht (CleanStream), EastPlats (CleanStream), Chapudi Coal (Jacana Environmental), Generaal Coal (JE), Mopane Coal (JE), Boshoek Chrome (JMA), Langpan Chrome (PE), Vlakpoort Chrome (PE), Sekoko Coal (SE), Frankford Power (REMIG), Strahrae Coal (Ferret Mining), Transalloys Power Station (Savannah), Pan Palladum Smelter, Iron and PGM Complex (Prescali)
Road and Railway	*K220 Road Extension (Urbansmart), Boskop Road (MTO), Sekoko Mining (AGES), Davel-Swaziland-Richards Bay Rail Link (Aurecon), Moloto Transport Corridor Status Quo Report and Pre-Feasibility (SiVEST), Postmasburg Housing Development (SE), Tshwane Rapid Transport Project, Phase 1 and 2 (NRM Consulting/City of Tshwane)*
Airport	*Oudtshoorn Noise Monitoring (AGES), Sandton Heliport (Alpine Aviation), Tete Airport Scoping*
Noise monitoring	*Peerboom Colliery (EcoPartners), Thabametsi (Digby Wells), DoxaDeo (DoxaDeo), Harties Dredging (Rand Water), Xstrata Coal – Witbank Regional, Sephaku Delmas (AGES), Amakhala Emoyeni WEF (Windlab Developments), Oyster Bay WEF (Renewable Energy Systems), Tsitsikamma WEF (Cennergi and SE), Hopefield WEF (Umoya), Wesley WEF (Innowind), Ncora WEF (Innowind), Boschmanspoort (Jones and Wagner), Nqamakwe WEF (Innowind), Dassiesfontein WEF Noise Analysis (BioTherm), Transnet Noise Analysis (Aurecon)*
Small Noise Impact Assessments	*TCTA AMD Project Baseline (AECOM), NATREF (Nemai Consulting), Christian Life Church (UrbanSmart), Kosmosdale (UrbanSmart), Louwlardia K220 (UrbanSmart), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Slag Milling Plant (AGES), Arcelor Mittal WEF (Aurecon), RVM Hydroplant (Aurecon), Grootvlei PS Oil Storage (SiVEST), Rhenosterberg WEF, (SiVEST), Concerto Estate (BPTrust), Ekuseni Youth Centre (MENCO), Kranskop Industrial Park (Cape South Developments), Pretoria Central Mosque (NomanShaikh), Soshanguve Development (Maluleke Investments), Seshego-D Waste Disposal (Enviroxcellence), Zambesi Safari Equipment (Owner), Noise Annoyance Assessment due to the Operation of the Gautrain (Thornhill and Lakeside Residential Estate), Upington Solar (SE), Ilangalethu Solar (SE), Pofadder Solar (SE), Flagging Trees WEF (SE), Uyekraal WEF (SE), Ruuki Power Station (SE), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), SafikaLadium (AGES), Safika Cement Isando (AGES), Natref (NEMAI), RareCo (SE), Struisbaai WEF (SE)*
Project reviews and amendment reports	*Loperberg (Savannah), Dorper (Savannah), Penhoek Pass (Savannah), Oyster Bay (RES), Tsitsikamma (Cennergi), AmakhalaEmoyeni (Windlab), Spreeukloof (Savannah), Spinning Head (Savannah), Kangra Coal (ERM), West Coast One (Moyeng Energy), Rheboksfontein (Moyeng Energy)*

2 DECLARATION OF INDEPENDENCE

I, Morné de Jager declare that:

- I act as the independent specialist in this application
- I will perform the work relating to this study in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental noise impact assessments, including knowledge of the National Environmental Management Act (107 of 1998), the Environmental Impact Assessment Regulations of 2014, and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;
- all the particulars furnished by me in this form are true and correct;
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act, and;
- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014.



_____

Signature of the specialist:

Name of company:

Enviro-Acoustic Research cc

Date:

2025 – 10 – 14

3 MINIMUM REQUIREMENTS – SCREENING OF SITE

The National Web based Environmental Screening Tool[1] was used to screen the proposed site (see Figure 4-1 for the regional location) for the noise environmental sensitivity as per the requirements of GNR320 (20 March 2020), considering the site location. The site report generated by the Screening Tool highlighted that a Noise Impact Assessment must be completed and appended to the Environmental Authorisation ("EA") documentation. The screening report was developed for *Services => Mining Right => Waste Management => Storage Facilities => Hazardous*, which also identified that a Noise Impact Assessment be included in the assessment report.

The potential noise-sensitive areas layer is not included in the above-mentioned category, but was obtained from the *Utilities Infrastructure => Electricity => Generation => Renewable => Wind* category, with the noise-sensitive areas illustrated on Figure 4-2.

Based on the output of the online screening tool, most of the area is considered to have a "very high" sensitivity to noise. This was also confirmed during the site visit that identified and confirmed various residential activities within the potential area of influence from the project activities (see also Figure 4-3).

In terms of GNR 320 (20 March 2020), the Noise Specialist Assessment must contain, as a minimum, the following information:

Clause	Reporting Requirements as per the Protocol for Noise Specialist Assessments	Compliance of current report / Reference
2.3.1	Current ambient sound levels recorded at relevant locations over a minimum of two nights and that provide a representative measurement of the ambient noise climate, with each sample being a minimum of ten minutes and taken at two different times of the night on each night, in order to record typical ambient sound levels at these different times of night	Section 6
2.3.2	Records of the approximate wind speed at the time of the measurement	Section 6
2.3.3	Mapped distance of the receiver from the proposed development that is the noise source	Section 6
2.3.4	Discussion on temporal aspects of baseline ambient conditions	Section 6

[1] https://screening.environment.gov.za/screeningtool/#/pages/welcome

Clause	Reporting Requirements as per the Protocol for Noise Specialist Assessments	Compliance of current report / Reference
2.4.1	Characterization and determination of noise emissions from the noise source, where characterization could include types of noise, frequency, content, vibration and temporal aspects	Section 6.2.1
2.4.2	Projected total noise levels and changes in noise levels as a result of the construction, commissioning and operation of the proposed development for the nearest receptors using industry accepted models and forecasts	Sections 10
2.4.3	Desired noise levels for the area	Section 6.2
2.5.1	Contact details of the environmental assessment practitioner or noise specialist, their relevant qualifications and expertise in preparing the statement, and a curriculum vitae	Section 1
2.5.2	a signed statement of independence by the environmental assessment practitioner or noise specialist.	Section 2
2.5.3	The duration and date of the site inspection and the relevance of the season and weather condition to the outcome of the assessment	Section 6
2.5.4	A description of the methodology used to undertake the onsite assessment, inclusive of the equipment and models used, as relevant, together with the results of the noise assessment	Sections 4.6, 6 and 10
2.5.5	a map showing the proposed development footprint (including supporting infrastructure) overlaid on the noise sensitivity map generated by the screening tool	Figure 4-2
2.5.6	confirmation that all reasonable measures have been taken through micro- siting to minimise disturbance to receptors	Various layouts previously investigated
2.5.7	a substantiated statement from the specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not, of the proposed development	Section 15
2.5.8	any conditions to which this statement is subjected	Section 12.2 and 15
2.5.9	the assessment must identify alternative development footprints within the preferred site which would be of a "low" sensitivity as identified by the screening tool and verified through the site sensitivity verification and which were not considered	Project location limited by the presence of the mineral resource
2.5.10	A motivation must be provided if there were development footprints identified as per paragraph 2.5.9 above that were identified as having a "low" noise sensitivity and that were not considered appropriate	Project location limited by the presence of the mineral resource

Clause	Reporting Requirements as per the Protocol for Noise Specialist Assessments	Compliance of current report / Reference
2.5.11	where required, proposed impact management outcomes, mitigation measures for noise emissions during the construction and commissioning phases that may be of relative short duration, or any monitoring requirements for inclusion in the Environmental Management Programme (EMPr), and	Section 12 and 14
2.5.12	a description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations	Section 9

4 INTRODUCTION

4.1 INTRODUCTION AND PURPOSE

Enviro-Acoustic Research ("EARES") was contracted by Kongiwe Environmental (Pty) Ltd (the "EAP") to determine the potential noise impact on the surrounding environment due to the development of the proposed Amandelbult Tailing Reclamation and Processing Project, Limpopo.

This report describes ambient sound levels in the area, potential worst-case noise rating levels and the potential noise impacts that the operation may have on the surrounding sound environment, highlighting the methods used, potential issues identified, findings and recommendations.

This study considered local regulations and both local and international guidelines, using the terms of reference as proposed by SANS 10328:2008 to allow for a comprehensive Environmental Noise Impact Assessment.

4.2 BRIEF PROJECT DESCRIPTION

The Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

AMB aims to reclaim and reprocess the Amandelbult tailing storage facility (TSF) Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. The proposed project will also include the construction of a new PGM Processing plant, Chrome Recovery plant, Services plant to service the PGM and Chrome plant as well as a new tailing thickening plant.

The proposed location for the new plant would be a disturbed laydown area just north-east of the existing Amandelbult Concentrator plant, with the project area illustrated in Figure 4-1.

This noise specialist study will consider the following scenarios:

- The likely noise levels associated with operational activities from the existing AMB Concentrator;

- The potential cumulative noise levels from the operational activities of the existing AMB Concentrator, the proposed processing plants (two alternative locations considered) as well as potential tailings reclamation activities.

4.3 STUDY AREA

The project area is located within the Thabazimbi Local Municipality (Waterberg District Municipality) within the Limpopo Province. The larger project area is further described in terms of environmental components that may contribute to or change the sound character in the area.

4.3.1 Topography

The Environmental Potential Atlas of South Africa ("ENPAT") (Van Riet *et al*, 1998) describes the topography as "*plains*", though the topography has been changed with the development of the TSF in the area. With the project located to the west of this TSF, the TSF would assist in reducing the propagation of noise to the east, but will allow the undeterred propagation of noise to the north, west and south.

4.3.2 Surrounding Land Use

Considering aerial images (GoogleEarth ©) and observations made during the site visit, the surrounding land use can be classed mainly as wilderness (undefined and/or undeveloped), mining with residential activities to the north of the AMB Concentrator.

4.3.3 Roads and Railways

The R510 is located approximately 1,300 m to the west of the AMB Concentrator, with a number of minor roads leading from this road. These minor roads mainly carry traffic associated with the activities of Rustenburg Platinum Mines (and associated business). There is also a railway line that service the AMB Concentrator. Noise from road and railway activities (being existing activities) will not be investigated in this report.

4.3.4 Ground conditions and vegetation

The area falls within the savanna biome, with the natural vegetation type being "*other turf thornveld*"[2]. While anthropogenic activities did impact on the vegetation, there are significant areas that is well vegetated.

Taking into consideration available information it is the opinion of the author that the ground conditions (when considering acoustic propagation on a ground surface) can be classified as

[2] Van Riet, W. Claassen, P. van Rensburg, J. van Viegen & L. du Plessis, "*Environmental Potential Atlas for South Africa*", Pretoria, 1998.

medium to soft, which implies that the ground surface will absorb some of the acoustic energy hitting the ground surface. It should be noted that this factor is only relevant for air-borne waves being reflected from the ground surface, with certain frequencies slightly absorbed by the vegetation.

4.3.5 Existing Ambient Sound Levels

Sound pressure levels were measured in the residential village to the north of the AMB Concentrator between 6 and 17 May 2025, with average night-time data indicating ambient sound levels typical of an urban noise district. There were periods when the night-time ambient sound levels were very low.

Ambient sound levels were mainly dominated by natural noises (birds and some wind-induced noises), with sounds from the AMB Concentrator audible during the periods the instrument was deployed and collected.

The results and findings of the ambient sound level measurements are summarised in Section 6.2.

4.4 POTENTIAL NOISE-SENSITIVE RECEPTORS (DEVELOPMENTS) AND NO-GO AREAS

Potentially sensitive receptors, also known as noise-sensitive developments ("NSR"), located near the project area was identified using Google Earth®. All NSRs are associated with a residential village to the north of the AMB Concentrator.

The online screening tool did identify that most of the area having a "very high" sensitivity to noise (see Figure 4-2), with representative NSR locations illustrated in Figure 4-3 (also depicting mostly the proposed plant infrastructure) and Figure 4-4 (also depicted the locations of the TSF infrastructure).

Also indicated on Figure 4-3 are generalized 500 and 2,000 m buffer zones. Generally, noises from mining and industrial activities:

- could be high and very significant within 200 m both night and day;
- can be significant at receptors staying within 500 m from active mining/industrial activities and the noise level could be at a sufficient level to be considered disturbing at night. Noises associated with TSF activities (reclamation, slurry pumping, vegetation and vegetation stockpiling) may be audible within 500 m from active activities;
- are normally limited to a distance of approximately 1,000 m from the active mining/industrial activities. Ambient sound levels are increased due to noises from

the activities, with the potential noise impact measurable. Noise levels from such activities are generally less than 45 dBA further than 1,000 m from these activities. Noises associated with TSF reclamation activities are normally of low concern at distances further than 500m from reclamation activities;

- may be audible from active mining and industrial activities up to a distance of 2,000 m at night, though the noises may be audible up to 4,000 m during very quiet periods at night (during certain meteorological conditions). These noises are normally of a low concern at distances greater than 2,000 m from activities at night.

These buffer distances may not be valid with very large mining or industrial operations, or in areas with very low ambient sound levels.

4.5 COMMENTS REGARDING NOISE RECEIVED DURING THIS PROJECT

The author is not aware of any comments raised by the authorities or interested and affected parties at the date this report was compiled. It should however be noted that the Noise Assessment is part of a suite of studies commissioned by the Environmental Assessment Practitioner ("EAP"), who is undertaking the Public Participation Process ("PPP") as part of the EIA. Comments regarding noise may only be available during the EIA and PPP process.

4.6 LEGISLATIVE REQUIREMENTS AND TERMS OF REFERENCE

A noise impact assessment must be completed for the following reasons:

- It was identified as an environmental theme needing further investigation i.t.o. the National Screening Tool as per the procedures of Government Gazette 43110 of 20 March 2020;
- A change in land use as highlighted in SANS 10328:2008, section 5.3;
- If an industry is to be established within 1,000 m from a potential noise-sensitive development (SANS 10328:2008 [5.4 (h)]);
- If a wind farm (wind turbines - SANS 10328:2008 [5.4 (i)]) or a source of low-frequency noise (such as cooling or ventilation fans - SANS 10328:2008 [5.4 (l)]) is to be established within 2,000 m from a potential noise-sensitive development *or vice versa*;
- It is a controlled activity in terms of the NEMA regulations and an ENIA is required, because it may cause a disturbing noise that is prohibited in terms of section 18(1) of the Government Notice ("GN") 579 of 2010;
- It is generally required by the local or district authority as part of the Environmental Authorisation or planning approval in terms of Regulation 2(d) of GN R154 of 1992 (and GN 5479 of August 1999).

4.6.1 Requirements as per Government Gazette 43110 of March 2020

The Department of Forestry, Fisheries and Environment also promulgated Regulation 320, dated 20 March 2020 as published in Government Gazette No. 43110. The Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation would be applicable to this project.

This Regulation defines the requirements for undertaking a site sensitivity verification, specialist assessment and the minimum report content requirements for environmental impact where a specialist assessment is required but no protocol has been prescribed. It requires that the current land use be considered using the national web based environmental screening tool to confirm the site sensitivity available at: https://screening.environment.gov.za.

If an applicant intending to undertake an activity identified in the scope of this protocol for which a specialist assessment has been identified on the screening tool on a site identified as being of:

- "very high" sensitivity for noise, must submit a Noise Specialist Assessment; or
- "low" sensitivity for noise, must submit a Noise Compliance Statement.

On a site where the information gathered from the site sensitivity verification differs from the designation of "very high" sensitivity on the screening tool and it is found to be of a "low" sensitivity, a Noise Compliance Statement must be submitted.

On a site where the information gathered from the initial site sensitivity verification differs from the designation of "low" sensitivity on the screening tool and it is found to be of a "very high" sensitivity, a Noise Specialist Assessment must be submitted.

If any part of the proposed development footprint falls within an area of "very high" sensitivity, the assessment and reporting requirements prescribed for the "very high" sensitivity apply to the entire footprint excluding linear activities for which noise impacts are associated with construction activities only and the noise levels return to the current levels after the completion of construction activities, in which case a compliance statement applies. In the context of this protocol, development footprint means the area on which the proposed development will take place and includes any area that will be disturbed.

The minimum requirements for a Noise Specialist Study (i.t.o GNR 320 of 2020) are also covered in Section 3 of this report in the form of a checklist.

This assessment is comprehensive and a Noise Specialist Assessment is required because there are a number of potential noise-sensitive receptors living within 2,000 m from the proposed project activities.

4.6.2 Requirements as per South African National Standards

In addition, Appendix 6 of GN 326 of December 2014 (Government Gazette ("GG") 38282), as amended 7 April 2017 (GG. 40772), issued in terms of the National Environmental Management Act, No. 107 of 1998, also defines minimum information requirements for specialist reports.

In South Africa, the document that addresses the issues specifically concerning environmental noise is SANS 10103:2008. It has recently been thoroughly revised and brought in line with the guidelines of the World Health Organisation ("WHO"). It provides the maximum average ambient noise levels during the day and night to which different types of developments indoors may be exposed.

This standard specifies the methodology to assess the potential noise impacts on the environment due to a proposed activity that might impact on the environment. This standard also stipulates the minimum requirements to be investigated for environmental impact assessment ("EIA") purposes. These minimum requirements are:

1. The purpose of the investigation – section 4.1;
2. A brief description of the planned development or the changes that are being considered – section 4.2;
3. A brief description of the existing environment – section 6;
4. The identification of the noise sources that may affect the particular development, together with their respective estimated sound pressure levels or sound power levels (or both) – section 6.2.1;
5. The identified noise sources that were not taken into account and the reasons why they were not investigated – section 6.2.1;
6. The identified noise-sensitive developments and the estimated impact on them – sections 4.4, 10 and 11;
7. Any assumptions made with regard to the estimated values used – section 9;
8. An explanation, either by a brief description or by reference, of the methods that were used to estimate the existing and predicted rating levels – section 8;
9. The location of the measurement or calculation points, i.e., a description, sketch or map – section 10;
10. Estimation of the environmental noise impact – sections 10 and 11;

11. Alternatives that were considered and the results of those that were investigated – section 10.5;
12. A list of all the interested or affected parties that offered any comments with respect to the environmental noise impact investigation – section 4.5;
13. A detailed summary of all the comments received from interested or affected parties as well as the procedures and discussions followed to deal with them – section 4.5;
14. Conclusions that were reached – section 15;
15. Recommendations, i.e., if there could be a significant impact, or if more information is needed, a recommendation that an environmental noise impact assessment be conducted – section 15; and
16. If remedial measures will provide an acceptable solution, which would prevent a significant impact, these remedial measures should be outlined in detail and included in the final record of decision if the approval is obtained from the relevant authority. If the remedial measures deteriorate after a certain time and a follow-up auditing or maintenance programme (or both) is instituted, this programme should be included in the final recommendations and accepted in the record of decision if the approval is obtained from the relevant authority – section 12.

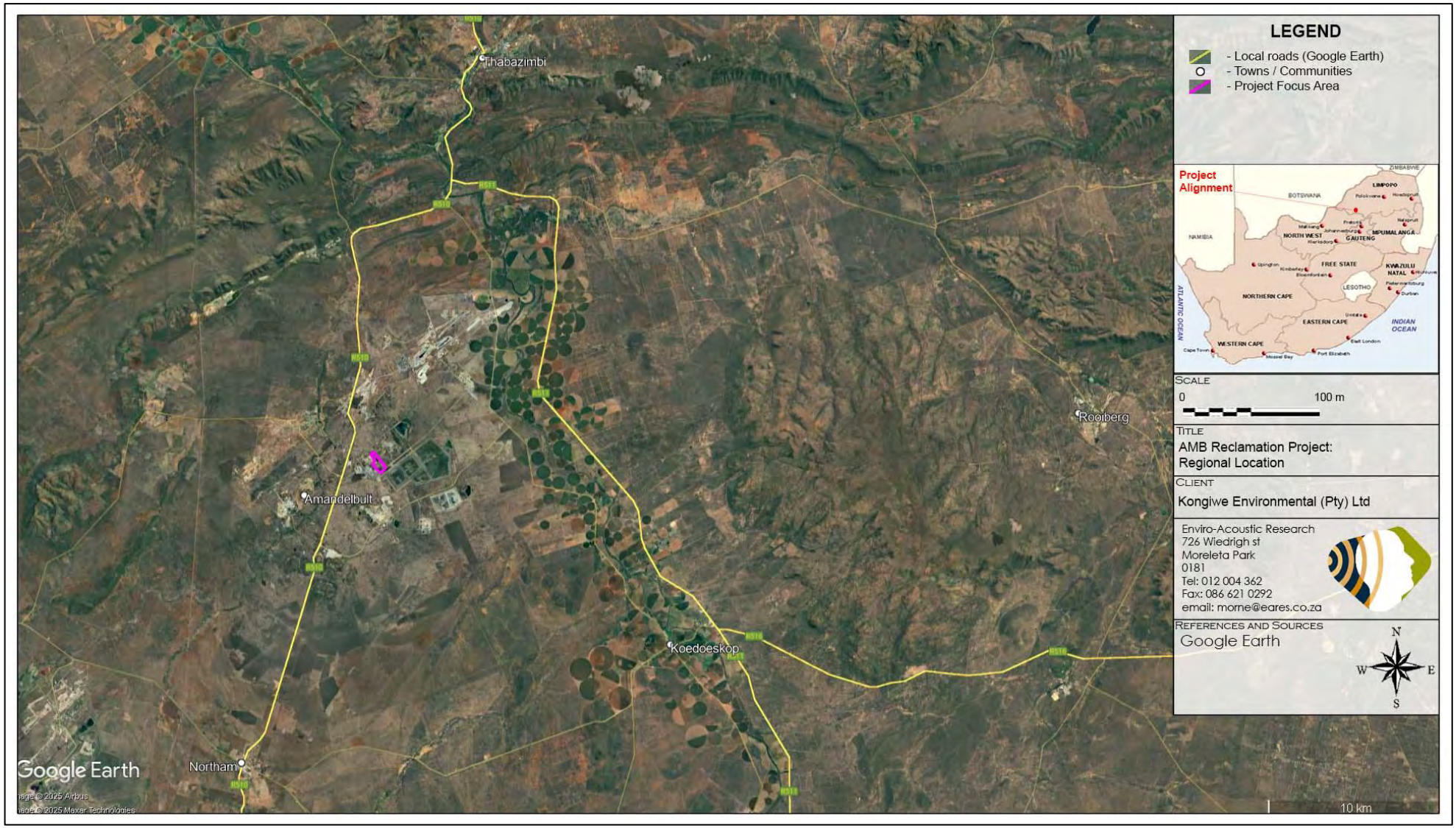


Figure 4-1: Aerial image indicating the regional location of the proposed AMB project

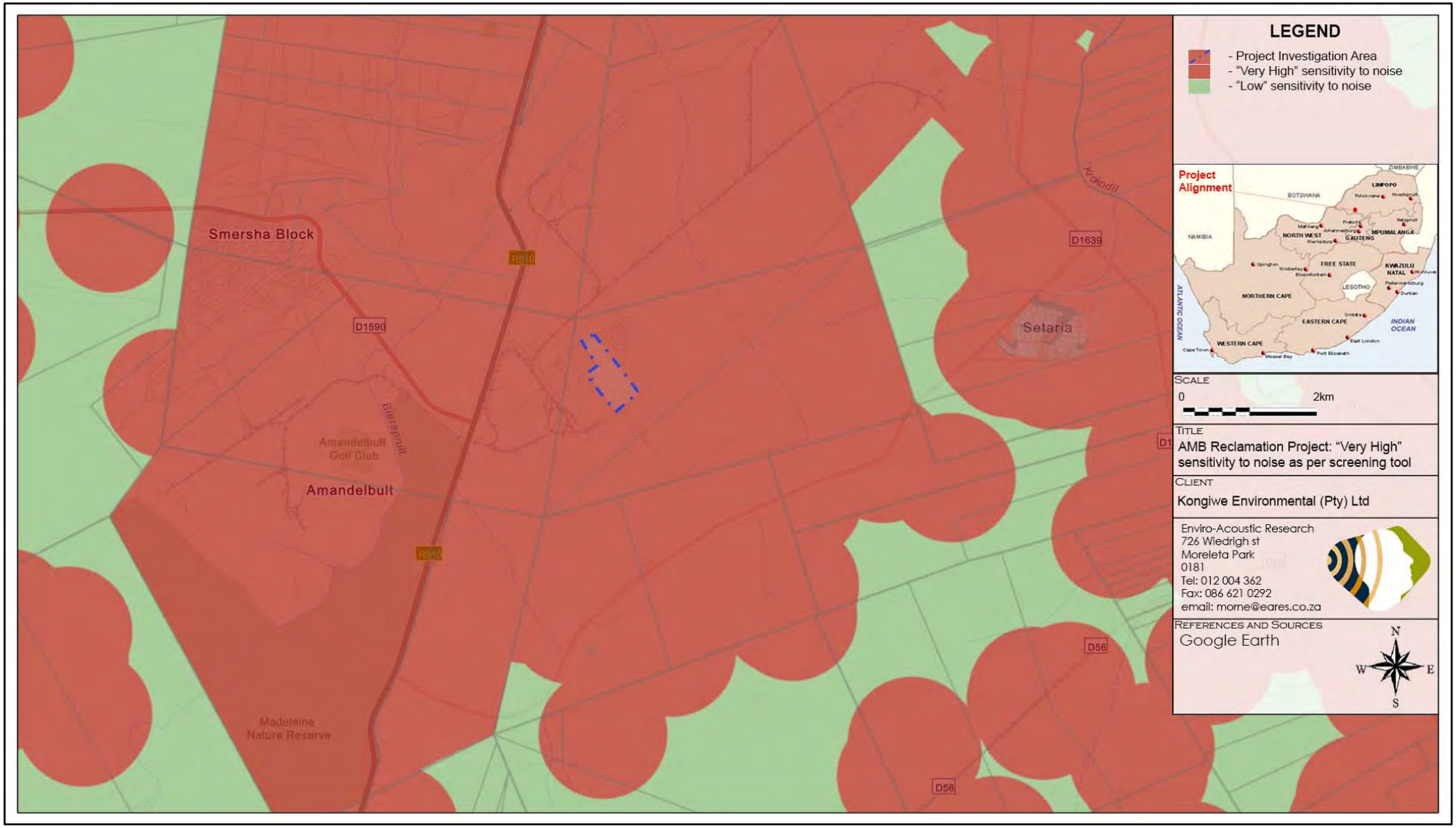


Figure 4-2**: Areas identified by the online screening tool to have a "very high" sensitivity to noise**

Figure 4-3: Aerial image indicating verified noise-sensitive receptors close to the AMB project (map 1)

Figure 4-4: Aerial image indicating verified noise-sensitive receptors close to the AMB project (map 2)

5 LEGAL CONTEXT, POLICIES AND GUIDELINES

5.1 THE ENVIRONMENT CONSERVATION ACT (ACT 73 OF 1989)

The Environment Conservation Act ("ECA") allows the Minister of Environmental Affairs and Tourism ("now the Ministry of Environmental Affairs") to make regulations regarding noise, among other concerns. See also Section 5.1.1.

5.1.1 Noise Control Regulations (GN R154 of 1992)

In terms of section 25 of the ECA, the National Noise Control Regulations (GN R 154 of 1992) were promulgated. The NCRs were revised under Government Notice Number R. 55 of 14 January 1994 to make it obligatory for all authorities to apply the regulations.

Subsequently, in terms of Schedule 5 of the Constitution of South Africa of 1996 legislative responsibility for administering the noise control regulations was devolved to provincial and local authorities. Provincial noise control regulations exist in the Free State, Gauteng and Western Cape provinces, but not in the Limpopo Province. The National Noise Control Regulations will therefore be in effect in the Limpopo Province.

The National Noise Control Regulations (GN R154 1992) defines:
"controlled area" as:

a piece of land designated by a local authority where, in the case of—

a) road transport noise in the vicinity of a road-

i. the reading on an integrating impulse sound level meter, taken outdoors at the end of a period extending from 06:00 to 24:00 while such meter is in operation, exceeds 65 dBA; or

ii. the equivalent continuous "A"-weighted sound pressure level at a height of at least 1,2 meters, but not more than 1,4 meters, above the ground for a period extending from 06:00 to 24:00 as calculated in accordance with SABS 0210-1986, titled: "Code of Practice for calculating and predicting road traffic noise", published under Government Notice No. 358 of 20 February 1987, and projected for a period of 15 years following the date on which the local authority has made such designation, exceeds 65 dBA;

c) industrial noise in the vicinity of an industry-

i. the reading on an integrating impulse sound level meter, taken outdoors at the end of a period of 24 hours while such meter is in operation meter is in operation, exceeds 61 dBA; or

ii. the calculated outdoor equivalent continuous "A"-weighted sound pressure level at a height of at least 1,2 meters, but not more than 1,4 meters, above the ground for a period, exceeds 61 dBA.

"disturbing noise" as:
noise level which exceeds the zone sound level or, if no zone sound level has been designated, a noise level which exceeds the ambient sound level at the same measuring point by 7 dBA[3] or more.

"zone sound level" as:
a derived dBA value determined indirectly by means of a series of measurements, calculations or table readings and designated by a local authority for an area. This is the same as the Rating Level as defined in SANS 10103.

In addition:
In terms of Regulation 2 -
"A local authority may –
(a) establish a new township unless the layout plan concerned, if required by a local authority, indicates in accordance with the specifications of the local authority, the existing and future sources of noise, with concomitant dBA values which are foreseen in the township for a period of 15 years following the date on which the erection of the buildings in and around the township commences;
(c):" if a noise emanating from a building, premises, vehicle, recreational vehicle or street is a disturbing noise or noise nuisance, or may in the opinion of the local authority concerned be a disturbing noise or noise nuisance, instruct in writing the person causing such noise or who is responsible therefor, or the owner or occupant of such building or premises from which or from where such noise emanates or may emanate, or all such persons, to discontinue or cause to be discontinued such noise, or to take steps to lower the lever of the noise to a level conforming to the requirements of these Regulations within the period stipulated in the instruction: Provided that the provisions of this paragraph shall not apply in respect of a disturbing noise or noise nuisance caused by rail vehicles or aircraft which are not used as recreational vehicles;
(d): before changes are made to existing facilities or existing uses of land or buildings, or before new buildings are erected, in writing require that noise impact assessments or tests are conducted to the satisfaction of that local authority by the owner, developer, tenant or occupant of the facilities, land or buildings or that, for the purposes of Regulation 3(b) or

[3] When comparing the results of a measurement (minimum duration of 10 minutes) without the noise under investigation with a similar measurement with the noise present.

(f) designate a controlled area in its area of jurisdiction or amend or cancel an existing controlled area by notice in the Official Gazette concerned.

General prohibition

3. No person shall -

(c) make changes to existing facilities or existing uses of land or buildings or erect new buildings, if it shall in the opinion of a local authority house or cause activities which shall, after such change or erection, cause a disturbing noise, unless precautionary measures to prevent the disturbing noise have been taken to the satisfaction of the local authority;

In terms of Regulation 4 of the Noise Control Regulations

"No person shall make, produce or cause a disturbing noise, or allow it to be made, produced or caused by any person, machine, device or apparatus or any combination thereof".

Clause 7.(1) however exempts noise of the following activities, namely -

"The provisions of these regulations shall not apply, if -

(a) the emission of sound is for the purposes of warning people of a dangerous situation;

(b) the emission of sound takes place during an emergency."

5.2 THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)

The National Environmental Management Act ("NEMA") defines "pollution" to include any change in the environment, including noise. A duty therefore arises under section 28 of NEMA to take reasonable measures while establishing and operating any facility to prevent noise pollution occurring. NEMA sets out measures, which may be regarded as reasonable. They include the following measures:

1. to investigate, assess and evaluate the impact on the environment;
2. to inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed to avoid causing significant pollution or degradation of the environment;
3. to cease, modify or control any act, activity or process causing the pollution or degradation;
4. to contain or prevent the movement of the pollution or degradation;
5. to eliminate any source of the pollution or degradation;
6. to remedy the effects of the pollution or degradation.

In addition, a number of regulations have been promulgated as Regulation 982 of December 2014 (Government Notice 38282) in terms of this Act. It defines minimum information

requirements for specialist reports, with Government Gazette (GG) 43110 (20 March 2020) updating the minimum requirements for reporting.

GG 43110 prescribe general requirements for undertaking site sensitivity verification and for protocols for the assessment and minimum report content requirements of environmental impacts for environmental themes for activities requiring Environmental Authorisation. These protocols were promulgated in terms of sections 24(5)(a), (h) and 44 of the National Environmental Management Act, 1998.

When the requirements of a protocol apply, the requirements of Appendix 6 of the Environmental Impact Assessment Regulations, as amended, (EIA Regulations), promulgated under sections 24(5) and 44 of the NEMA, 1998 (Act No. 107 of 1998), are replaced by these requirements.

5.3 NOISE STANDARDS

There are a few South African scientific standards (SABS) relevant to noise from developments, industry and roads. They are:

- SANS 10103:2008. 'The measurement and rating of environmental noise with respect to annoyance and to speech communication'.
- SANS 10210:2004. 'Calculating and predicting road traffic noise'.
- SANS 10328:2008. 'Methods for environmental noise impact assessments'.
- SANS 10357:2004. 'The calculation of sound propagation by the Concave method'.
- SANS 10181:2003. 'The Measurement of Noise Emitted by Road Vehicles when Stationary'.
- SANS 10205:2003. 'The Measurement of Noise Emitted by Motor Vehicles in Motion'.

The relevant standards use the equivalent continuous rating level (calculated from the sound pressure levels over the reference time, see Appendix A) as a basis for determining what is acceptable. The levels may take single event noise into account, but single event noise by itself does not determine whether noise levels are acceptable for land use purposes. With regards to SANS 10103:2008, the recommendations are likely to inform decisions by authorities, but non-compliance with the standard will not necessarily render an activity unlawful *per se.*

5.3.1 SANS 10103:2008

SANS 10103 provide standard procedures to measure and define rating levels with respect to annoyance and speech communication, with a number of important principles discussed in subsections:

- clause 4.1 - Ambient indoor noise;
- clause 4.2 − Typical noise in various districts; and
- clause 4.5 − Assessment of annoyance.

5.3.1.1 Clause 4.1 − Ambient indoor noise

This is a critical section, frequently ignored by authorities and even acoustic specialists. This clause provides recommended rating levels ($L_{Req,T}$) for ambient noise for different areas of occupancy during the time periods when the areas are used for their intended purposes and with the building services (e.g. ventilation systems, air-conditioning systems, lifts, plumbing and lighting) under normal operating conditions. The rating levels given in column 2 of the table are design values, while those given in column 3 are the maximum levels beyond which the ambient noise can be considered to be annoying or otherwise intrusive. Note 2 highlights that, where these levels are used as guidance for the design of buildings in non-residential areas where the ambient noise exceeds the typical level for the type of development, the building design should provide sufficient acoustic isolation to result in the occupancy level specified in Table 1 of SANS 10103 (see example for residential use in Table 5-1).

Table 5-1: Recommended ambient noise for different areas of occupancy indoors (Table 1 - SANS 10103:2008)

1	2	3
Types of occupancy or activity	Design equivalent continuous rating level ($L_{Req,T}$)a for ambient noise dBA	Maximum equivalent continuous rating level ($L_{Req,T}$)a for ambient noise dBA
9. Residential buildings		
Living rooms	35	45
Kitchens and service areas	45	55
Bathrooms and toilets	40	55
Bedrooms	30	40

5.3.1.2 Clause 4.2 − Typical noise in various districts

This section covers typical rating levels ($L_{Req,T}$) for ambient noise in different districts in Table 2 (duplicated in Table 5-2). This standard recommends that these values not be exceeded, and outdoor ambient noise exceeding these levels will be considered to be annoying to the community. The levels may be used as a guide for zoning purposes and assumes that a building with natural ventilation and open windows will provide sound insulation of about 10 dBA, with the rating levels considering Table 1 rating levels. This standard highlight in note 1 that, where occupancies have to be allowed within areas where the acceptable outdoor values are exceeded for the particular type of occupancy, the sound

insulation of the building housing the occupancy should be proven to comply to the indoor levels defined in Table 1 (see example for residential use in Table 5-1) of this standard.

Table 5-2: Acceptable Zone Sound Levels for noise in districts (Table 2 - SANS 10103:2008)

1	2	3	4	5	6	7
Type of district	Equivalent continuous rating level ($L_{Req,T}$) for noise dBA					
	Outdoors			Indoors, with open windows		
	Day/night $L_{R,dn}$	Daytime $L_{Req,d}$	Night-time $L_{Req,n}$	Day/night $L_{R,dn}$	Daytime $L_{Req,d}$	Night-time $L_{Req,n}$
a) Rural districts	45	45	35	35	35	25
b) Suburban districts with little road traffic	50	50	40	40	40	30
c) Urban districts	55	55	45	45	45	35
d) Urban districts with one or more of the following: workshops; business premises; and main roads	60	60	50	50	50	40
e) Central business districts	65	65	55	55	55	45
f) Industrial districts	70	70	60	60	60	50

It must be noted that SANS 10103:2008 does stipulate *"for industries legitimately operating in an industrial district during the entire 24 h day/night cycle, $L_{Req,d} = L_{Req,n} = 70$ dBA can be considered as typical and normal".*

5.3.1.3 Clause 4.5 – Assessment of annoyance

This section recommends investigation only when the rating level ($L_{Req,T}$) of the ambient noise exceeds the rating level ($L_{Req,T}$) of the residual noise (ambient sound levels) at the same location during the relevant time period. The ambient indoor or outdoor sound level should be compared with the appropriate level given in Table 1 (see 5.3.1.1) or Table 2 (see 5.3.1.2). This standard state that it is probable that the noise is annoying or otherwise intrusive to the community or to a group of persons if the rating level of the ambient noise under investigation exceeds the applicable of the following:

a) the rating level of the residual noise (determined in the absence of the specific noise under investigation);
b) the maximum rating level for the ambient noise given in table 1 (see example for residential use in Table 5-1); or
c) the typical rating level for the ambient noise for the applicable environment given in table 2 (duplicated in Table 5-2). The probable community or group response to the excess ($\Delta L_{Req,T}$) is given in Figure 5-1.

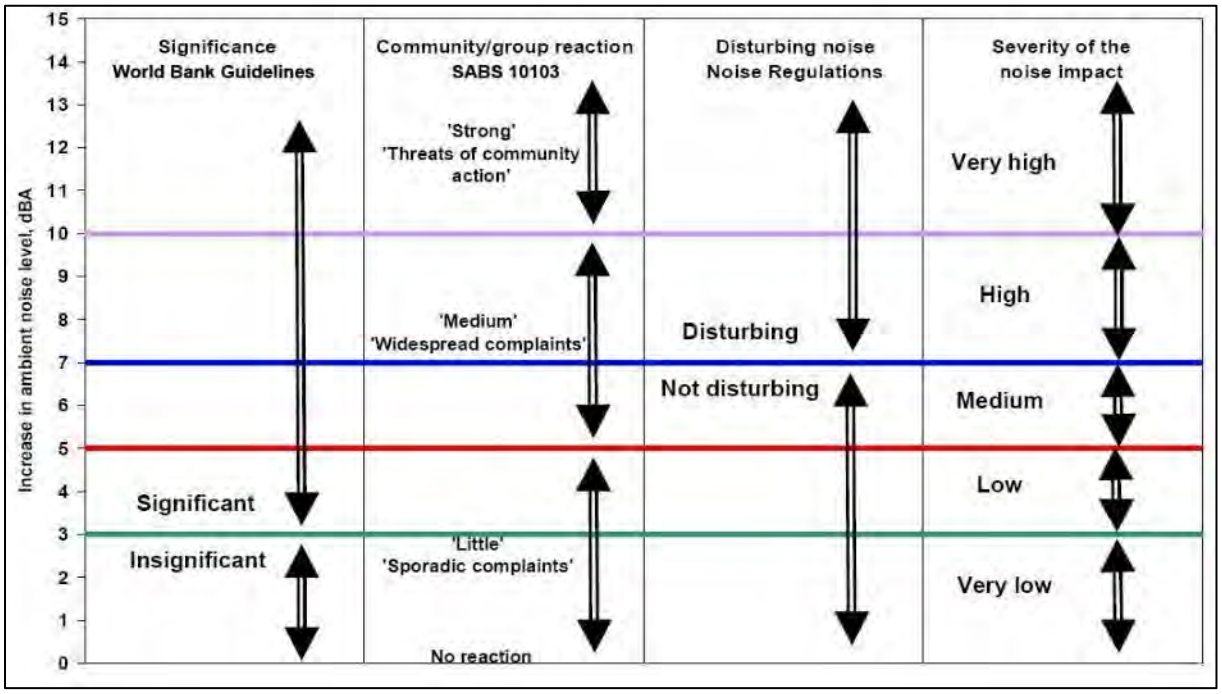


Figure 5-1: Criteria to assess the significance of impacts stemming from noise

5.3.2 SANS 10328:2008

SANS 10328 provide methods for environmental noise impact assessment, with relevant regulations (see section 5.1.1) and GNR320 (see sections 4.6.1 and the checklist in section 3) stipulating that this standard be followed when doing a noise specialist study.

SANS 10328 recommends that the procedures given in clause 6 to clause 8 (inclusive) be followed if:

a) an application, in respect of any activities identified in terms of the current relevant legislation are proposed, if noise sources listed in clauses 3.17 and 3.18 (of of SANS 10328) are to be developed, or the issues listed in clause 5 (of SANS 10328) may take place, is made to the relevant authority;
b) an application for a noise-sensitive development (see 3.16 of SANS 10328) is made to the relevant authority;
c) an application for a change in land use is made to the relevant authority; or
d) an environmental noise impact investigation is requested by an applicant or any interested or affected party.

The minimum contents of the noise specialist study are also included in section 4.6.2 of this report.

5.4 INTERNATIONAL GUIDELINES

While a number of international guidelines and standards exists, those selected below are used by numerous countries for environmental noise management.

5.4.1 Guidelines for Community Noise (WHO, 1999)

The World Health Organisation's (WHO) document on the *Guidelines for Community Noise* is the outcome of the WHO expert task force meeting held in London, United Kingdom, in April 1999. It is based on the document entitled "Community Noise" that was prepared for the WHO and published in 1995 by the Stockholm University and Karolinska Institute.

The scope of WHO's effort to derive guidelines for community noise is to consolidate actual scientific knowledge on the health impacts of community noise and to provide guidance to environmental health authorities and professionals trying to protect people from the harmful effects of noise in non-industrial environments. It discusses the specific effects of noise on communities including:

- Interference with communication, noise-induced hearing impairment, sleep disturbance effects, cardiovascular and psychophysiological effects, mental health effects, effects on performance, annoyance responses and effects on social behaviour.

It further discusses how noise can affect (and propose guideline noise levels) specific environments such as residential dwellings, schools, preschools, hospitals, ceremonies, festivals and entertainment events, sounds through headphones, impulsive sounds from toys, fireworks and firearms, and parklands and conservation areas.

To protect the majority of people from being affected by noise during the daytime, it proposes that sound levels at outdoor living areas should not exceed 55 dB L_{Aeq} for a steady, continuous noise. To protect the majority of people from being moderately annoyed during the day, the outdoor sound pressure level should not exceed 50 dB L_{Aeq}. At night, equivalent sound levels at the outside façades of the living spaces should not exceed 45 dBA and 60 dBA L_{Amax} so that people may sleep with bedroom windows open. It is critical to note that this guideline requires the sound level measuring instrument to be set on the "fast" detection setting.

5.4.2 European Parliament Directive 200/14/EC (2000)

Directive 2000/14/EC relating to the noise emission in the environment by equipment for use outdoors was adopted by the European Parliament and the Council and first published in May 2000 and applied from 3 January 2002. The directive placed sound power limits on equipment to be used outdoors in a suburban or urban setting. Failure to comply with these regulations may result in products being prohibited from being placed on the EU market.

Equipment list is vast and includes machinery such as compaction machineries, dozers, dumpers, excavators, etc. Manufacturers as a result started to consider noise emission levels from their products to ensure that their equipment will continue to have a market in most countries.

5.4.3 Equator Principles (2003)

The Equator Principles (EPs) are a voluntary set of standards for determining, assessing and managing social and environmental risk in project financing. Equator Principles Financial Institutions (EPFIs) commit to not providing loans to projects where the borrower will not or is unable to comply with their respective social and environmental policies and procedures that implement the EPs.

The EPs were developed by private sector banks and were launched in June 2003. The banks chose to model the EPs on the environmental standards of the World Bank and the social policies of the International Finance Corporation (IFC). As of March 2021, one hundred and sixteen (116) financial institutions (in 37 different countries) have adopted the EPs, which have become the de facto standard for banks and investors on how to assess major development projects around the world. The environmental standards of the World Bank have been integrated into the social policies of the IFC since April 2007 as the IFC Environmental, Health and Safety (EHS) Guidelines.

5.4.4 IFC: General EHS Guidelines – Environmental Noise Management (2007)

These guidelines are applicable to noise created beyond the property boundaries of a development that conforms to the EPs. The environmental standards of the World Bank have been integrated into the social policies of the IFC since April 2007 as the International Finance Corporation Environmental, Health and Safety (EHS) Guidelines.

It states that noise prevention and mitigation measures should be applied where predicted or measured noise impacts from project facilities/operations exceed the applicable noise level guideline at the most sensitive point of reception. The preferred method for controlling noise from stationary sources is to implement noise control measures at source. It goes as far as to propose methods for the prevention and control of noise emissions, including:

- Selecting equipment with lower sound power levels;
- Installing silencers for fans;
- Installing suitable mufflers on engine exhausts and compressor components;
- Installing acoustic enclosures for equipment casing radiating noise;
- Improving the acoustic performance of constructed buildings, apply sound insulation;
- Installing acoustic barriers without gaps and with a continuous minimum surface density of 10 kg/m^2 in order to minimise the transmission of sound through the

barrier. Barriers should be located as close to the source or to the receptor location to be effective;

- Installing vibration isolation for mechanical equipment;
- Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas;
- Re-locating noise sources to less sensitive areas to take advantage of distance and shielding;
- Placement of permanent facilities away from community areas if possible;
- Taking advantage of the natural topography as a noise buffer during facility design;
- Reducing project traffic routing through community areas wherever possible;
- Planning flight routes, timing and altitude for aircraft (airplane and helicopter) flying over community areas; and
- Developing a mechanism to record and respond to complaints.

It sets noise level guidelines (see Table 5-3) and highlights certain monitoring requirements pre- and post-development. It adds another criterion in that the existing background ambient noise level should not rise by more than 3 dBA. This criterion will effectively sterilize large areas of any development. Therefore, it is EARES's considered opinion that this criterion was introduced to address cases where the existing ambient noise level is already at, or in excess of the recommended limits.

Table 5-3: IFC Table 7.1-Noise Level Guidelines

Receptor type	One hour L_{Aeq} (dBA)	
	Daytime 07:00 - 22:00	Night-time 22:00 – 07:00
Residential; institutional; educational	55	45
Industrial; commercial	70	70

The document uses the $L_{Aeq,1hr}$ noise descriptors to define noise levels. It does not determine the detection period, but refers to the IEC standards, which requires the fast detector setting on the Sound Level Meter during measurements in Europe.

5.4.5 Night Noise Guidelines for Europe (WHO, 2009)

Refining previous Community Noise Guidelines issued in 1999, and incorporating more recent research, the WHO has released a comprehensive report on the health effects of night-time noise, along with new (non-mandatory) guidelines for use in Europe. Rather than a maximum of 30 dB inside at night (which equals 45-50 dB max outside), the WHO now recommends a maximum year-round outside night-time noise average of 40 dB to avoid sleep disturbance and its related health effects. The report notes that only below 30 dB (outside annual average) are "*no significant biological effects observed*," and that between

30 and 40 dB, several effects are observed, with the chronically ill and children being more susceptible; however, "*even in the worst cases the effects seem modest*." Elsewhere, the report states more definitively, "*There is no sufficient evidence that the biological effects observed at the level below 40 dB (night, outside) are harmful to health*." At levels over 40 dB "*Adverse health effects are observed*" and "*many people have to adapt their lives to cope with the noise at night. Vulnerable groups are more severely affected*."

The 184-page report offers a comprehensive overview of research into the various effects of noise on sleep quality and health (including the health effects of non-waking sleep arousal), and is recommended reading for anyone working with noise issues. The use of an outdoor noise standard is in part designed to acknowledge that people do prefer to leave windows open when sleeping, though the year-long average may be difficult to obtain (it would require longer-term sound monitoring than is usually budgeted for by either industry or neighbourhood groups).

While recommending the use of the average level, the report notes that some instantaneous effects occur in relation to specific maximum noise levels, but that the health effects of these "cannot be easily established."

5.4.6 Environmental Noise Guidelines for the European Region (WHO, 2018)

This document identifies levels at which noise has significant health impacts and recommends actions to reduce exposure. Compared to previous WHO guidelines on noise, this version contains five significant developments:

- Stronger evidence of the cardiovascular and metabolic effects of environmental noise;
- Inclusion of new noise sources, namely wind turbine noise and leisure noise, in addition to noise from transportation (aircraft, rail, and road traffic);
- Use of a standardised approach to assess the evidence;
- A systematic review of evidence, defining the relationship between noise exposure and risk of adverse health outcomes;
- Use of long-term average noise exposure indicators to better predict adverse health outcomes.

6 CURRENT ENVIRONMENTAL SOUND CHARACTER

6.1 EFFECT OF SEASON ON SOUND LEVELS

Natural sounds are a part of the environmental noise surrounding humans. In rural areas the sounds from insects and birds would dominate the ambient sound character, with noises such as wind flowing through vegetation increasing as wind speed increase. Work by Fégeant (2002) stressed the importance of wind speed and turbulence causing variations in the level of vegetation-generated noise. In addition, factors such as the season (e.g., dry or no leaves versus green leaves), the type of vegetation (e.g., grass, conifers, deciduous), the vegetation density and the total vegetation surface all determine both the sound level as well as spectral characteristics.

Ambient sound levels are significantly affected by the area where the sound measurement location (or a listener) is situated. When the sound measurement location is situated within an urban area, close to industrial plants or areas with a constant sound source (ocean, rivers, etc.), seasons and higher wind speeds may have an insignificant impact on ambient sound levels.

Sound levels in undeveloped rural areas (away from occupied dwellings), however, are impacted by changes in season for a number of complex reasons. The two main reasons are:

- Faunal communication is more significant during the warmer spring and summer months as various species communicate in an effort to find mates. Faunal communication is normally less during the colder months, with ambient sound levels measured during the winter period frequently being very low.
- The occurrence of temperature inversions, see Sub Section 6.1.1, and
- Seasonal changes in weather patterns, mainly due to increased wind speeds (also see Sub Section 6.1.2 6.1.1below) and potential gustiness of the wind.

For environmental noise, weather plays an important role. The greater the separation distance, the greater the influence of the weather conditions, so, from day to day, a road 1,000 m away can sound very loud or can be completely inaudible. Other, environmental factors that impact on sound propagation includes wind, temperature and humidity, as discussed in the sub-sections below.

Ambient sound levels are generally less during the colder months (due to less faunal communication) and higher during the warmer months.

6.1.1 Effect of Temperature inversions

On a typical sunny afternoon, the air is the hottest near the ground surface and temperature decreases at higher altitudes. This temperature gradient causes sound waves to refract upward, away from the ground and results in lower noise levels being heard at a measurement location. In the evening, this temperature gradient will reverse, but, during certain meteorological conditions, the normal vertical temperature gradient could be inverted so that the air is colder near the surface, with a warmer layer blanketing the lower layer. This is illustrated in Figure 6-1 below.

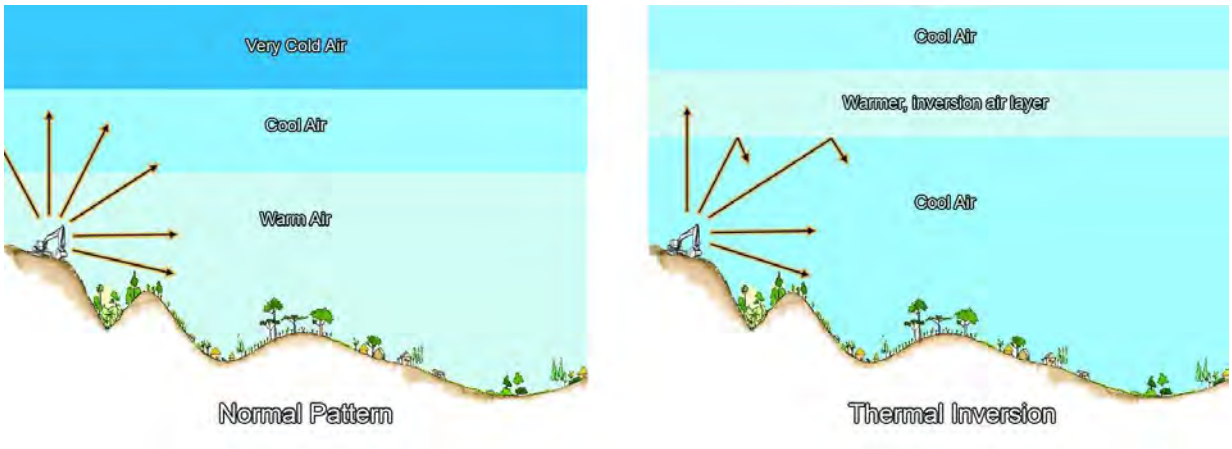


Figure 6-1: Influence of temperature inversions on the propagation of sound

When such an inversion layer is present, some of the sound waves will be refracted[4] by the temperature gradient, with the refracted sound waves returned to the ground. This effect has been noticed near airports and roads, where noises can be heard over greater distances at night than other times of day (Parnell, 2015; Saurenman, 2005; Van der Berg, 2003) for various industries.

Like wind gradients, temperature gradients can influence sound propagation over long distances, complicate sound level measurements as well as propagation modelling.

6.1.2 Effect of Wind

Wind alters sound propagation by the mechanism of refraction, that is, wind bends sound waves. Wind nearer to the ground moves more slowly than wind at higher altitudes, due to surface characteristics such as hills, trees, and man-made structures that interfere with the wind. This wind gradient, with faster wind at higher elevation and slower wind at lower elevation, causes sound waves to bend downward when they are traveling to a location downwind of the source and to bend upward when traveling toward a location upwind of the

[4] Redirecting the wave propagation direction due to a change in the density of the air which influence the speed of sound.

source. Waves bending downward means that a listener standing downwind of the source will hear louder noise levels than the listener standing upwind of the source. This phenomenon can significantly impact sound propagation over long distances and when wind speeds are high. Over short distances wind direction has a small impact on sound propagation as long as wind velocities are reasonably slow, i.e., less than 5 m/s.

Wind speed frequently plays a role in increasing sound levels in natural locations. With no wind, there is little vegetation movement that could generate noises and faunal noises (normally birds and insects) dominate, however, as wind speeds increase, the rustling of leaves increases which subsequently can increase sound levels. This directly depends on the type of vegetation in a certain area. The impact of increased wind speed on sound levels depends on the vegetation type (deciduous versus conifers), the density of vegetation in an area, seasonal changes (in winter deciduous trees are bare) as well as the height of this vegetation. This excludes unanticipated consequences, as suitable vegetation may create suitable habitats and food sources attracting birds and insects (and the subsequent increase in faunal communication).

6.1.3 Effect of Humidity and Temperature

Generally, sound propagate better at lower temperatures (down to 10ºC), and with everything being equal, a decrease in temperature from 32ºC to 10ºC could increase the sound level at a listener 600 m away by ±2.5 dB (at 1,000 Hz).

The effect of humidity on sound propagation is quite complex, but effectively relates to how increased humidity changes the density of air. Lower density translates into faster sound wave travel, so sound waves travel faster at high humidity[5]. With everything being equal, an increase in humidity from 20% to 80% would increase the sound level at a listener 600 m away by ±4 dB (at 1,000 Hz at 20ºC).

Together, the impact of temperature and humidity (together with air pressure - to a minor extent) are complex and highly dependent on the frequency composition of the noise. This is illustrated in Figure 6-2.

[5] The addition of water vapor to air (making the air more humid) reduces the density of the air. This occurs because the molar mass of water vapor (18 g/mol) is less than the molar mass of dry air (around 29 g/mol).

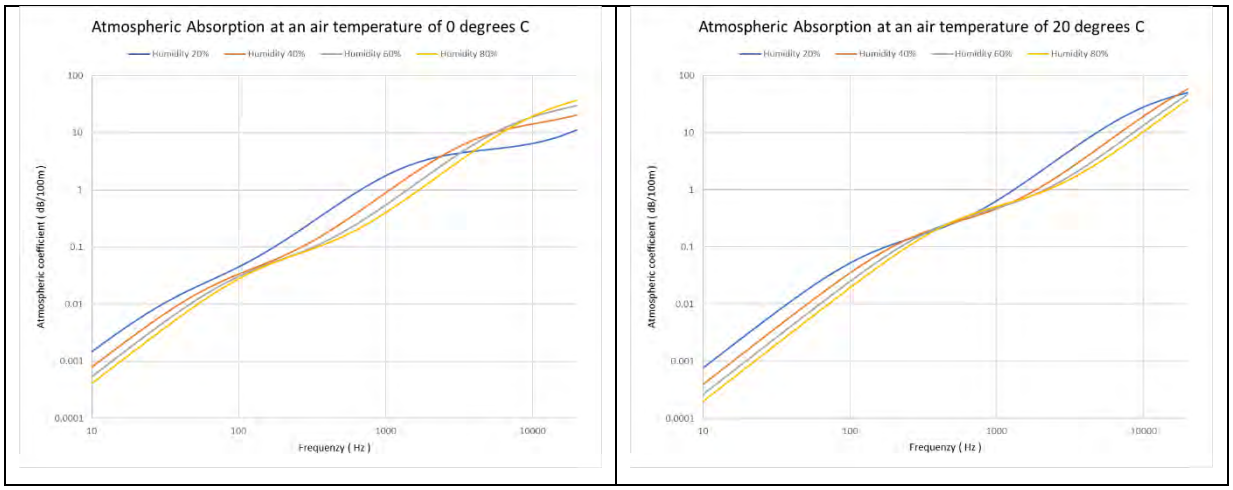


Figure 6-2: Effect of Temperature and Humidity on propagation of Sound

6.2 AMBIENT SOUND LEVEL MEASUREMENTS

Ambient (background) sound levels were measured at one location from 6 – 17 May 2025, with a number of short measurements collected closer to the existing AMB Concentrator.

All measurements considered the prescribed procedures of GNR320 of 2020 as well as that of SANS 10103:2008 "*The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication*". The equipment defined in Table 6-1 was used for the measurements.

Table 6-1: Details of Sound Level Equipment used for short-term measurements

Equipment	Model	Serial no	Calibration Date
Sound Level Meter	SVAN 977	36176	Feb 2024
Pre-amplifier	SV 12L	25685	Feb 2024
Microphone	ACO 7052E	49596	Feb 2024
Sound Level Meter	Svan 977	34160	October 2024
Pre-amplifier	SV 12L	32395	October 2024
Microphone	ACO 7052E	54645	October 2024
Calibrator	Quest CA-22	J 2080094	July 2024

The sound pressure level measurement locations are illustrated in Figure 6-3, together with the results of the short-term measurements. The longer-term measurements are discussed in section 6.2.1.

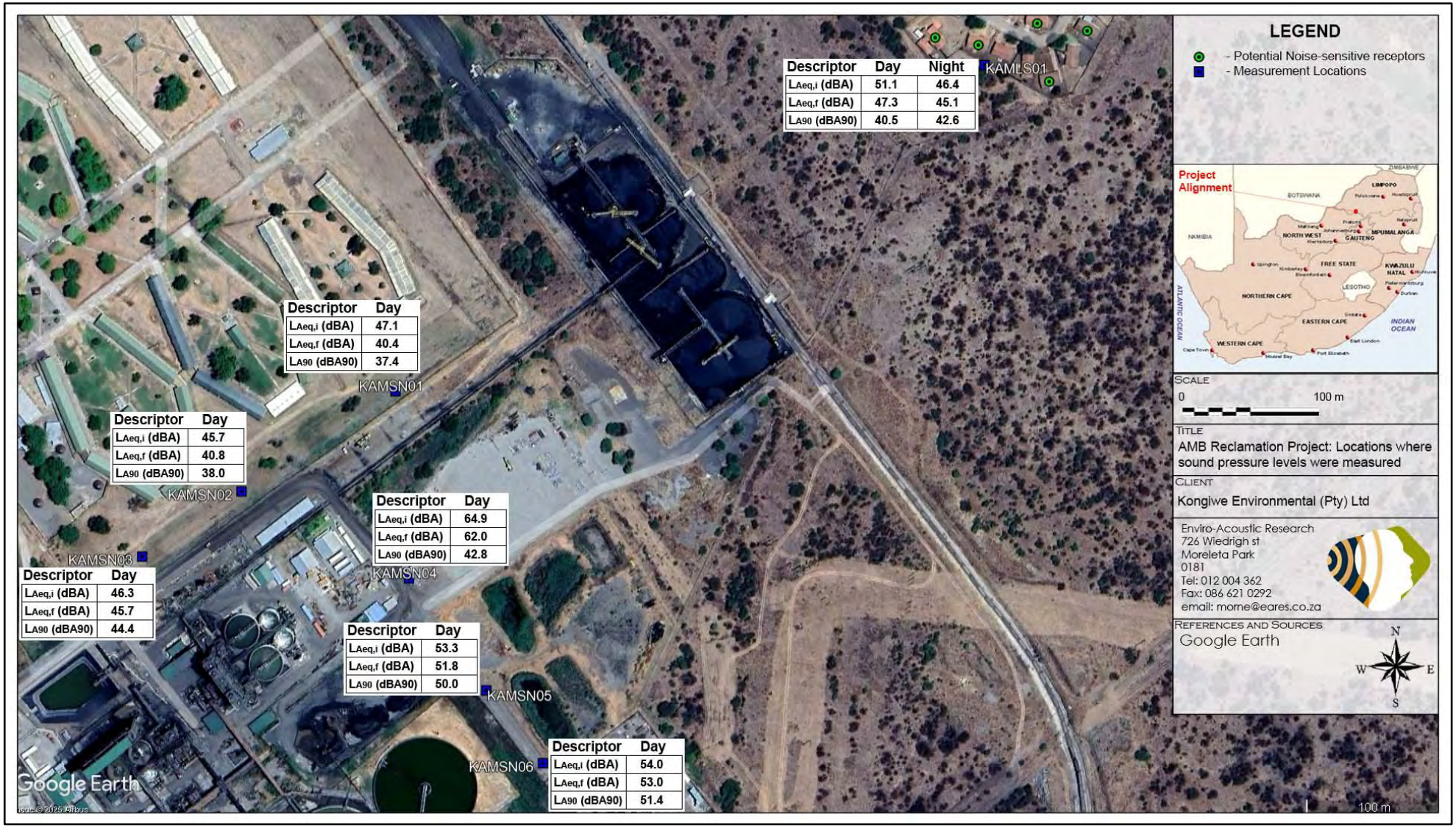


Figure 6-3: Localities where ambient sound levels were measured

6.2.1 Ambient Sound Level Measurement Location – KAMLS01

The microphone was deployed against the fence behind a residential house, away from the house. The AMB Concentrator could be partially seen at the measurement location. Bird noises were significant and generally dominant, with a number of large trees in the area. Table 6-2 defined sounds heard during equipment deployment and collection, with a photo of the measurement location presented in Appendix B.

Table 6-2: Noises/sounds heard during site visits at KAMLS01

Noises/sounds heard during onsite investigations		
Magnitude Scale Code: •Barely Audible •Audible •Dominating	During equipment deployment	
	Faunal and Natural	Birds clearly audible and generally dominant. Slight wind-induced noises.
	Sounds associated with the household	-
	Industrial & transportation	AMB Concentrator audible.
	During equipment collection	
	Faunal and Natural	Birds clearly audible and generally dominant. Some wind-induced noises at times.
	Sounds associated with the household	-
	Industrial & transportation	AMB Concentrator audible to barely audible.

Impulse time-weighted equivalent sound levels $L_{AIeq,10min}$ and fast time-weighted equivalent sound levels $L_{AFeq,10min}$ are presented in Figure 6-4 and summarised in Table 6-3 below. The maximum (L_{Amax}), minimum (L_{Amin}) and 90th percentile (L_{A90}) statistical values are illustrated in Figure 6-5.

The impulse time-weighted sound descriptor is mainly used in South Africa to define sound and noise levels. Fast-weighted equivalent sound levels are included in this report as this is the sound descriptor used in most international countries to define the ambient sound level.

The L_{A90} level is presented in this report to define the "background ambient sound level", or the sound level that can be expected if there were little single events (loud transient noises) that impacts on average sound level. The L_{A90} level is elevated both day and night and higher than the ambient sound levels expected for an urban noise district, indicating the presence of a constant background noise in the area. Night-time spectral data indicate a relative broadband noise with a relative constant spectral signature, with various different noises impacting on the daytime measurements.

There were a number of times when the maximum noise levels exceeded 65 dBA at night, though this happened less than 10 times at night. The source(s) of the maximum noises were not investigated[6]. If maximum noise levels exceed 65 dBA more than 10 times at night, it may increase the probability where a receptor may be awakened at night, ultimately impacting on the quality of sleep[7].

Table 6-3: Sound level descriptors as measured at KAMLS01

	$L_{Amax,i}$ (dBA)	$L_{Aeq,i}$ (dBA)	$L_{Aeq,f}$ (dBA)	$L_{A90,f}$ (dBA90)	$L_{Amin,f}$ (dBA)
Day arithmetic average	-	51.1	47.3	40.5	-
Night arithmetic average	-	46.4	45.1	42.6	-
Day equivalent	-	56.5	50.8	-	-
Night equivalent	-	48.0	46.7	-	-
Day minimum	-	36.0	32.7	-	27.2
Day maximum	104.1	79.3	70.7	-	-
Night minimum	-	38.3	37.1	-	33.5
Night maximum	80.5	59.6	56.4	-	-

The numerous 10-minute measurements are further classified for the day- and night-time periods in terms of the SANS 10103:2008 typical noise district areas (see Table 5-2) in Figure 6-6 (night) and Figure 6-7 (day).

[6] The source is likely from faunal sources (a bird close by) or a dog barking, household related noises, though noises from the existing AMB Concentrator cannot be excluded (impulsive noise from loading, a siren, etc.)
(7) World Health Organization, 2009, '*Night Noise Guidelines for Europe.*

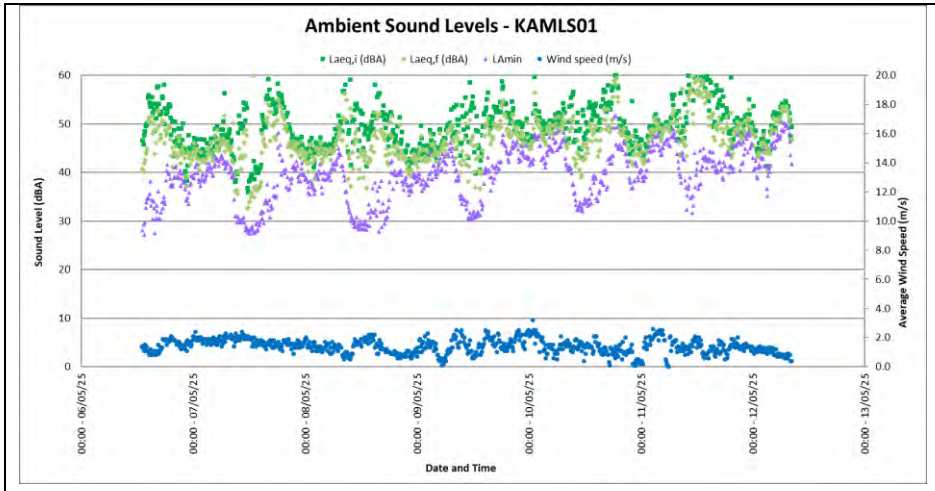


Figure 6-4: Ambient sound levels at KAMLS01

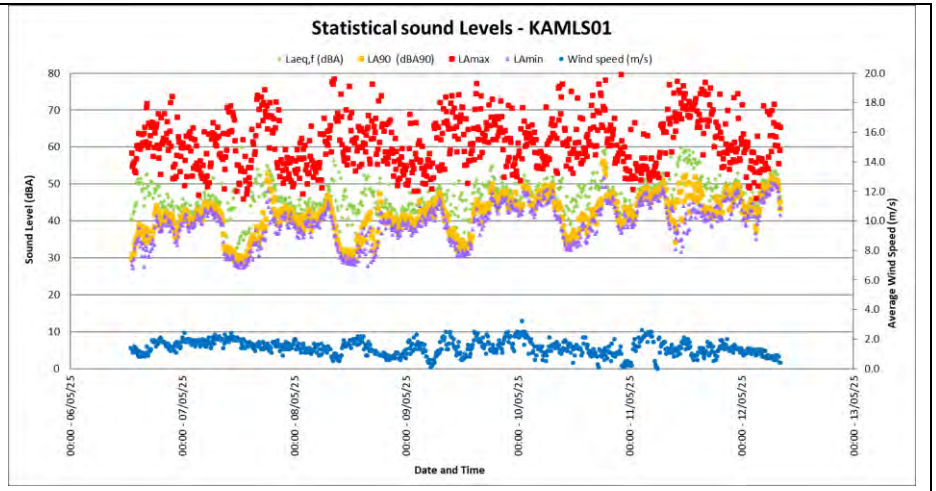


Figure 6-5: Maximum, minimum and statistical values at KAMLS01

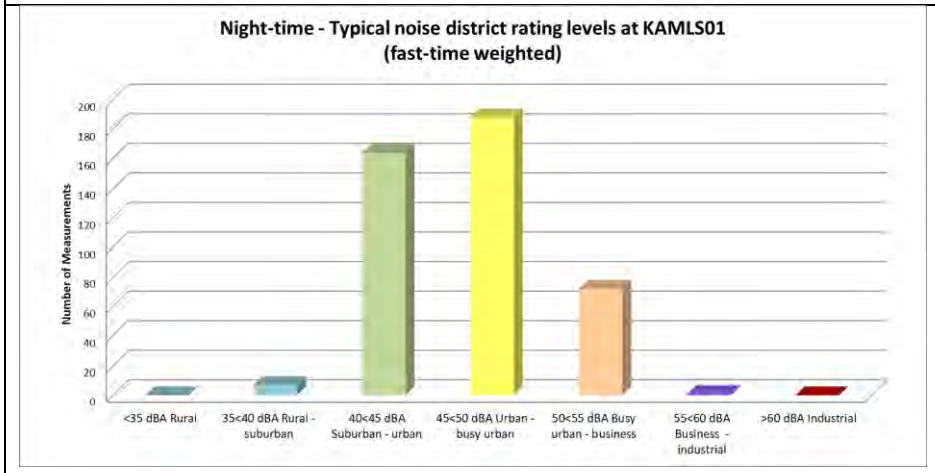


Figure 6-6: Classification of night-time measurements in typical noise districts at KAMLS01

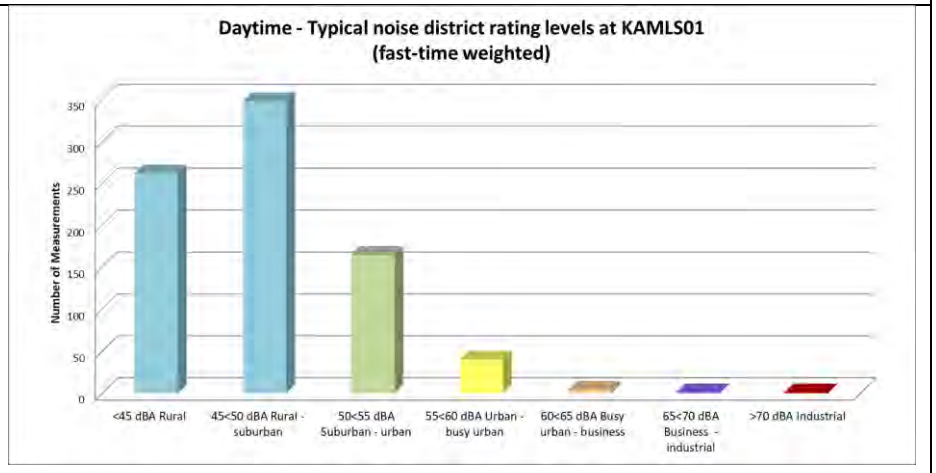


Figure 6-7: Classification of daytime measurements in typical noise districts at KAMLS01

6.3 AMBIENT SOUND LEVELS – FINDINGS AND SUMMARY

Excluding the short-term measurements, the measurements done from 6 – 17 May 2025 resulted in more than 1,079 daytime and 528 night-time (22:00 – 06:00) measurements. Each measurement was collected over a 10-minute period and included a number of sound level descriptors, including; equivalent values, minimum and maximum levels, statistical sound levels as well as spectral information. Confidence levels in the resulting data are high and it is expected that the ambient sound level data would be similar, or less at other locations with the village.

Considering the average fast-weighted sound level data collected in the area, average:

- daytime fast-weighted sound levels ranged from 32 to more than 70 dBA, with average sound levels being 47.3 dBA. This is typical of a rural to suburban noise district, setting a zone sound level of 45 dBA for the daytime period; and
- night-time fast-weighted sound levels ranged from 37 to 56 dBA, with average sound levels being 45.1 dBA. This is typical of an urban noise district, setting a zone sound level of 45 dBA for the night-time period.

Considering the requirements of the NCR (see section 5.1.1), activities relating to the proposed project should not change the existing ambient sound levels with more than 7 dBA, nor exceed the WHO and IFC noise limits (see section 5.4.4). Recommended upper noise limits therefore would be:

- 55 dBA (as recommended by the IFC, which is less than 7 dBA from the average ambient sound levels measured in the area) for daytime residential use; and
- 48 dBA (as recommended by the IFC) for night-time residential use (3 dBA is added as the existing sound levels already exceed 45 dBA).

The mine should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period and 60 dBA at night for a 70 dBA day-night noise limit).

7 POTENTIAL NOISE SOURCES

Increased noise levels are directly linked with the various activities associated with the construction as well as the operational phases of the reclamation project. Noise emitted by the construction and operations can be associated with various noise sources, including mechanical sources due to operation of equipment, material impact noises (such as the noise made when materials are dropped at a height to ground level), electrical noise (reverse hooters from equipment or the "whine" of an electrical pump) and noises from vehicles moving around. With the AMB Concentrator being existing, it is unlikely that construction activities will impact on the noise levels in the area.

As such this noise impact assessment considers conceptual scenarios to estimate the potential impact of noise on the surrounding NSR and the scenarios should not be seen as a reflection of a mining schedule or the specific noise levels at receptors at any specific time.

This assessment effectively will consider three scenarios, namely:

- Scenario 1: Potential noise levels associated with existing operational noises. The noise level contours were developed considering the activities observed during the site visit, activities that can be identified using GoogleEarth images as well as the results of the short-term sound level measurements (see Figure 6-3 and Figure 10-1). The calculated noise levels will be used to project future cumulative noise levels;
- Scenario 2: Future noise-generating activities associated with the potential operational phase of the new processing operations. Because two different location alternatives are proposed, the second scenario consider the plant location option, with the new stockpile proposed to the north-west of the existing stockpile area (see also Error! Reference source not found.); and
- Scenario 3: Future noise-generating activities associated with the potential operational phase of the new processing operations. Because two different location alternatives are proposed, the third scenario consider the same plant location option with the new stock pad located to the north-east of the existing stockpile area (see also Figure 10-7).

7.1 POTENTIAL OPERATIONAL NOISE-GENERATING ACTIVITIES

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and Platinum Group Metals (PGMs) using both hydraulic and mechanical reclamation processes.

Mechanically reclaimed material will be excavated and trucked from the TSF to the repulping plant area, where a transitory stockpile will be located. Here the material will be fed into the repulping plant. At the repulping plant the "dry" material will be converted into a slurry and fed into the pipelines that will connect to the processing plant. The repulping plant will screen out vegetation, woodchips and oversize material from the dry/mechanically removed material. Typical activities associated with TSF reclamation activities however generally do not affect the soundscape further than 500m from such activities.

Hydraulically reclaimed material will be transported from the barge pump on top of dam 2 to the Scrubber (Repulping) plant via a short new pipeline, located adjacent to the TSF. At the scrubber plant the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material that cannot make its way through the piping system (via new pipelines within existing pipeline routes).

The reclaimed material will be pumped through the new PGM Processing and the new Chrome recovery plants to extract the PGMs and Chrome. The product generated here will then be collected from product stockpiles at the PGM processing plant and from the new Chrome Stockpile/stacker next to the existing CRP stock pad for further processing offsite. Two possible location options are being investigated for the Chrome stockpile areas as well as for the new processing plants.

The chrome stockpile may be developed to the north-west (scenario 2) or north-east (scenario 3) of the existing stockpile area, with the proposed plants located between the existing stockpile and existing plant area.

Residual tailings waste material from these plants will be pumped to the TSF Thickener plant and then to an existing holding tank located at the main Amandelbult plant before it is transported via existing pipelines to the TSF 3B dam for deposition.

As with any large industrial project, there will thousands of activities and equipment that could generate noise, with the assessment mainly focusing on the main equipment or activities that would generate 95% of the noise. Activities and equipment generating low

levels will not be considered, instead using an area noise sources over the footprint of the various plant activities to account for such unidentified noise sources.

This assessment considers:

- The information gained during the site visits (both as observed as well as the sound level measurements);
- An available database of sound power levels (PWL) for typical and/or similar equipment and activities;
- GoogleEarth images, which was used to identify and qualify potential sources of noise.

While this is a simplified noise model of the actual AMB Concentrator operation, there is a medium-high confidence in the predicted sound levels. It should be noted that the modelled noise levels are higher than the noise levels as measured, likely because:

- The effect of buildings and structures were mostly not considered. Buildings and structures impact sound levels by scattering, reflecting and absorbing various frequencies; and
- Potential noise levels associated with activities (including conveyor belts) may have been over-estimated, as modelling use the PWLs of similar equipment or activities; and
- Acoustic loading factors were assumed as 50% for all activities (100% for slurry pumps), while, in reality, this could be anything from 20 – 100% between different activities.

The main difference between scenario 2 and 3 is the locations where the stock pad may be developed (refer also to Error! Reference source not found. and Figure 10-7). A list of m ining equipment (and activities) that were used for noise modelling are defined in Appendix D, with this assessment considering a potential worst-case scenario.

As with all noises, the audibility, as well as the potential of a noise impact on receptors, is determined by factors such as the sound character, spectral frequencies, number and magnitude of maximum noise events, the average noise levels etc.

7.2 Potential Noise Sources: Future noise scenario – Decommissioning

The Decommissioning Phase is considered as the phase which begins after the last mineral resource is processed, main rehabilitation activities start and ends when the facility receives a Mine Closure Certificate.

Activities that can take place include:

- Decommissioning and rehabilitation of the remaining infrastructure unless it is required for post-mining impact management or for the final end land use. This includes the following:
    - Removal of all remaining redundant infrastructure;
    - Removal of any contaminated soil;
    - The rehabilitation of disturbed areas including the necessary ripping of compacted soils and the shaping of rehabilitated areas and/or TSF to ensure free drainage;
    - Placement of topsoil on rehabilitated surface areas followed by seeding (if necessary to re-establish vegetation);
    - Monitoring and maintenance of the rehabilitated areas; and
    - Application for a Closure Certificate for the site.

However, while there are numerous activities that can take place during the decommissioning stage, the potential noise impact will only be discussed in general. This is because the noise impacts associated with the decommissioning phase is normally significantly less than both the construction and operational phases for the following reasons:

- Final decommissioning normally takes place only during the day, a time period when existing ambient sound levels are higher, generally masking most external noises for surrounding receptors; and
- There is a lower urgency of completing this phase and less equipment remains onsite (and are used simultaneously) to affect the noise levels during decommissioning.

8 METHODS: NOISE IMPACT ASSESSMENT AND SIGNIFICANCE

8.1 NOISE IMPACT ON ANIMALS[8]

A significant amount of research was undertaken during the 1960's and 70's on the effects of aircraft noise on animals. While aircraft noise has a specific characteristic that might not be comparable to industrial noise, the findings should be relevant to most noise sources. A general animal behavioural reaction to aircraft noise is the startle response with the strength and length of the startle response to be dependent on the following:

- which species is exposed;
- whether there is one animal or a group of animals, and
- whether there have been some previous exposures.

Overall, the research suggests that species differ in their response to noise depending on the duration, magnitude, characteristics and source of the noise, as well as how accustomed the animals are to the noise (previous exposure).

Extraneous noises impact on animals as it can increase stress levels and even impact on their hearing. Masking sounds may affect their ability to react to threats, compete and seek mates and reproduce, hunt and forage, communicate and generally to survive.

Unfortunately, there are numerous other factors in the faunal environment that also influence the effects of noise. These include predators, weather, changing prey/food base and ground-based disturbance, especially anthropogenic. This hinders the ability to define the real impact of noise on animals.

The only animal species studied in detail are humans, and studies are still continuing in this regard. These studies also indicate that there is considerable variation between individuals, highlighting the loss of sensitivity to higher frequencies as human's age. Sensitivity also varies with frequency with humans. Considering the variation in the sensitivity to frequencies and between individuals, this is likely similar to all faunal species. Some of these studies are repeated on animals, with behavioural hearing tests being able to define the hearing threshold range for some animals as indicated in Figure 8-1 below.

Only a few faunal (animal) species have been studied in a bit more detail so far, with the potential noise impact on marine animals most likely the most researched subject, with a

[8]Report to Congressional Requesters, 2005; USEPA, 1971; Autumn, 2007; Noise quest, 2010

few studies that discuss behavioural changes in other faunal species due to increased noises. Few studies indicate definitive levels where noises start to impact on animals, with most based on laboratory level research that subject animals to noise levels that are significantly higher than the noise levels these animals may experience in their environment (excluding the rare case where bats and avifauna fly extremely close to an anthropogenic noise, such as from a moving car or the blades of a wind turbine).

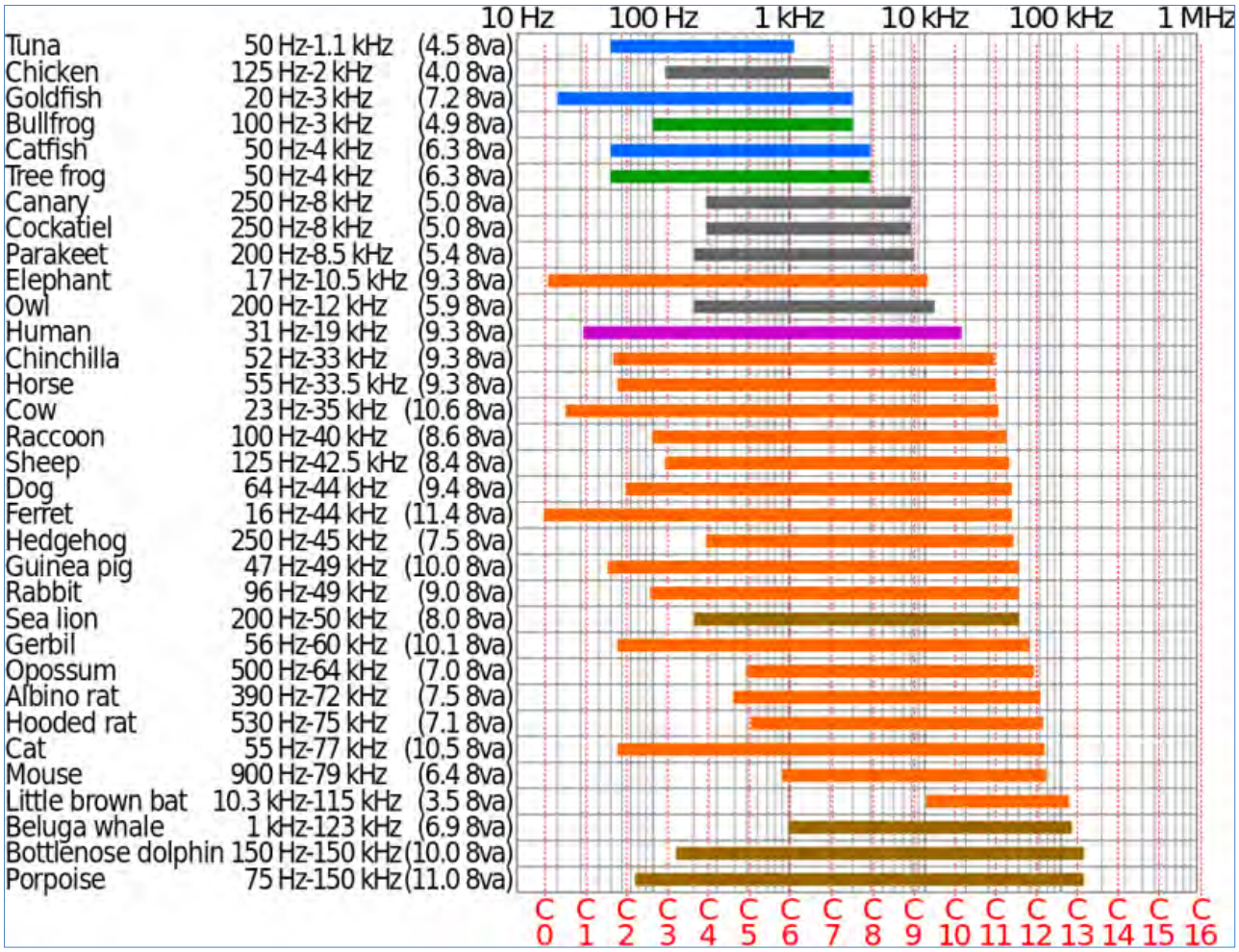


Figure 8-1: Logarithmic Chart of the Hearing Ranges of Some Animals[9]

From these and other studies, the following can be concluded that:

- Animals respond to impulsive (sudden) noises (higher than 90 dBA) by running/flying away. If the noises continue, animals would try to relocate (Drooling, 2007).

[9] https://en.wikipedia.org/wiki/Hearing_range

- Animals start to respond to increased noise levels with elevated stress hormone levels and hypertension. These responses begin to appear at exposure levels of 55 to 60 dBA (Baber, 2009).
- Animals of most species exhibit adaptation to noise (Broucek, 2014), including impulsive noises, by changing their behaviour.
- More sensitive species would relocate to a quieter area, especially species that depend on hearing to hunt or evade prey, or species that makes use of sound/hearing to locate a suitable mate (Drooling, 2007).
- Noises associated with helicopters, motor- and quad bikes do significantly impact on animals. This is due to the sudden and significant increase in noise levels due to these activities.

To date, there are, however, no guidelines or sound limits with regards to noise levels that can be used to estimate the potential significance of noises on animals.

8.1.1 Domestic Animals

It may be that domesticated animals are more accustomed to noise sources of an industrial, commercial or other anthropogenic nature, although exposure to high noise levels may still affect domestic animals' well-being. Sound levels in animal shelters can exceed 100 dB, much more than what can be expected at a domestic dwelling from an industrial, commercial or transportation noise source (10-minute equivalent)[10&11]. The high noise levels may see negative influences on animals' cardiovascular systems and behaviour.

According to Šottník, 2011, noise as high as 80 dB had no negative effect on dairy cows. As noise levels increased (up to 105 dB), feed consumption, milk yield and intensity of milk release decreased.

Unexpected high intensity noise (above 110 dB), such as low altitude jet aircraft overflights at milking time could reduce effectiveness of the milk ejection reflex, decrease efficiency of milk removal, increase residual milk, and lead to overall reduction in milk yield. However, a majority of the studies reviewed suggests that there is little or no effect of aircraft noise on cattle. Adverse effects of low altitude flights have been noted in some studies but have not been uniformly reproduced in other reports (Manci, 1988).

[10]Crista L. Coppola. Noise in the Animal Shelter Environment: Building Design and the Effects of Daily Noise Exposure.
[11] David Key, Essential Kennel Designs.

Domesticated animals may also respond differently to noises than animals in the wild. Domesticated dogs are pack animals and may respond excitedly or vocally to other noises, smells, visual and other stimulants, in contrast to wild animals that may flee due to a slight unfamiliar sound. Animals that are transported at least once in their life (such as pigs to an abattoir) would endure high noise levels for the duration of the delivery period. A change in the heart rate, renal blood flow and blood pressure of study subjects were noted in the above studies. How small changes (in environmental noise levels) may impact on domesticated animals have however not yet been studied.

8.1.2 Wildlife

Many natural based acoustics themselves may be loud or impulsive. Examples include thunder, wind-induced noises that could easily exceed 35 dBA ($L_{A90,fast}$) above wind speeds averaging 6 m/s, noise levels during early morning dawn chorus or loud cicada noises during late evening or early morning.

Potential noise impacts on wildlife are very highly species dependent. Studies showed that most animals adapt to noises and would even return to a site after an initial disturbance, even if the noise continues. The more sensitive animals that might be impacted by noise would most likely relocate to a quieter area. Stress levels can increase in animals restricted to areas where the sound levels are impacting on them (due to the level, character or both).

There are a few specific studies discussing the potential impacts of noise on wildlife associated with construction, transportation and industrial facilities. Available information indicates that noises from transportation and industrial sources may mask the sound of a predator approaching; similarly, predators depending on hearing would not be able to locate their prey.

Studies indicated that most animals adapt to noises, and would even return to a site after an initial disturbance, even if the noise is continuous. The more sensitive animals that might be impacted by noise would most likely relocate to a quieter area. Helldin (2012) however highlights that the network of access road could be a significant factor impacting on animals. Noise impacts are therefore very highly species dependent, but there are also other factors that could impact on animals (such as visibility and increased movement of people and vehicles)[12].

[12] Blickley, 2010; Cummings, 2012; Cummings, 2009; Łopucki, 2016; Noise Quest, 2010; Rabin, 2006

8.1.3 Avifauna[13]

Noise impacts on birds include:

- causing hearing damage (very loud or loud impulsive sounds);
- increasing stress levels (directly and indirectly);
- Masking (directly or indirectly) the sounds of their food, predators or mates;
- Their typical food sources may move;
- Relocation to less suitable habitats; and
- other behavioural reactions.

As with the impact on other wildlife, the impact of noise on avifauna depends on the character of the noise (including the impulsive character), the magnitude or intensity of the noise as well as the familiarity the birds have with the sound.

Similarly, different birds change their response to these sounds differently. Some may not be impacted while other species may:

- avoid noisy areas or completely relocate;
- may start to sing at different times;
- may change the frequency, pitch or character of their calls/singing/signals;
- increase the volume of their calls/singing/signals; or/and
- changes in reproductive success.

As with other animals, there are no guidelines or even studies highlighting acceptable sound levels or other criteria before noise may start to impact on birds.

8.1.4 Laboratory Animal Studies

Although many laboratory animals have wild counterparts (rats, mice) the laboratory test subjects differ in many aspects (genetics, behaviour etc.). Also, noise levels of studies are conducted at generally very high levels at over 100 dB, much more than what would be experienced in environmental settings around industrial, commercial or transportation activities[14] . Other dissimilarities to laboratory tests and a natural environment include the time exposure (duration of noise), the spectral and noise character (impulsive noise vs. constant noise) etc. Although there exist dissimilarities in tests conducted and noise levels around commercial and industrial environments, laboratory rodents exposed to high noise levels did indicate physiological, behavioural changes, hearing loss and other such effects[15].

[13] Autumn, 2007; Brumm, 2004; Cummings, 2009; Dooling, 2007; Francis, 2012; Francis, 2011; Ortega, 2012; Halfwerk, 2011; Parris, 2009, Zwart, 2014.
[14]USEPA, 1971.
[15] Baldwin, 2007.

8.1.5 Concluding Remarks - Noise Impacts on Animals

From these and other studies the following can be concluded:

- To date there are no guidelines or sound limits with regards to noise levels that can be used to estimate the potential significance of noises on animals (Blickley *et al.* 2010).
- Animals respond to impulsive (sudden) noises (higher than 90 dBA) by running away. If the noises continue, animals would try to relocate (Dooling, 2007).
- Terrestrial wildlife responses begin at noise levels of approximately 40 dBA, with 20% of papers documenting impacts below 50 dBA (Shannon *et al.* 2015).
- Animals start to respond to increased noise levels with elevated stress hormone levels and hypertension. These responses begin to appear at exposure levels of 55 to 60 dBA (Baber, 2010), with Helldin *et al.* (2012) reporting that levels of 60–75 dBA have been shown to cause stress, e.g., increased respiration and heart rate, increased vigilance, and decreased time for grazing in domestic animals such as sheep and horses.
- Animals of most species exhibit adaptation with noise (Broucek, 2014), including impulsive noises, by changing their behaviour.
- More sensitive species would relocate to a quieter area, especially species that depend on hearing to hunt or evade prey, or species that makes use of sound/hearing to locate a suitable mate (Dooling, 2007).
- Noises associated with helicopters, motor- and quad bikes significantly impact on animals (startle response). This is due to the sudden and significant increase in noise levels as well as the presence of humans (Autumn, 2007; USEPA, 1971).

8.2 WHY NOISE CONCERNS COMMUNITIES[16]

Noise can be defined as "unwanted sound", and an audible acoustic energy that adversely affects the physiological and/or psychological well-being of people, or which disturbs or impairs the convenience or peace of any person. One can generalise by saying that sound becomes unwanted when it:

- Hinders speech communication;
- Impedes the thinking process;
- Interferes with concentration;
- Obstructs activities (work, leisure and sleeping); and
- Presents a health risk due to hearing damage.

[16]World Health Organization, 1999; Noise quest, 2010; Journal of Acoustical Society of America, 2009

However, it is important to remember that whether a given sound is "noise" depends on the listener or hearer. The driver playing loud rock music on their car radio hears only music, but the person in the traffic behind them hears nothing but noise.

Response to noise is unfortunately not an empirical absolute, as it is seen as a multi-faceted psychological concept, including behavioural and evaluative aspects. For instance, in some cases, annoyance is seen as an outcome of disturbances, in other cases, it is seen as an indication of the degree of helplessness with respect to the noise source.

Noise does not need to be loud to be considered "disturbing". One can refer to a dripping tap in the quiet of the night, or the irritating "thump-thump" of the music from a neighbouring house at night when one would like to sleep.

Severity of the annoyance depends on factors such as:

- Background sound levels, and the background sound levels the receptor is used to;
- The manner in which the receptor can control the noise (helplessness);
- The time, unpredictability, frequency distribution, duration, and intensity of the noise;
- The physiological state of the receptor; and
- The attitude of the receptor about the emitter (noise source).

8.2.1 Noise Annoyance

Annoyance is the most widely acknowledged effect of environmental noise exposure, and is considered to be the most widespread. It is estimated that less than a third of the individual noise annoyance is accounted for by acoustic parameters, and that the non-acoustic factors play a major role. Non-acoustic factors that have been identified include age, economic dependence on the noise source, attitude towards the noise source and self-reported noise sensitivity (Bakker *et al.*, 2012; Council of Canadian Academies, 2015; Ellenbogen *et al.*, 2012; Halfwerk *et al.*, 2011; Hanning, 2010; Janssen *et al.*, 2011; Knopper *et al.*, 2014; Merlin *et al.*, 2013; Miedema and Vos, 2003; WHO, 2009).

On the basis of a number of studies into noise annoyance, exposure-response relationships were derived for high annoyance from different noise sources. These relationships, illustrated in Figure 8-2, are recommended in a European Union position paper published in 2002, stipulating policy regarding the quantification of annoyance. This can be used in environmental health impact assessment and cost-benefit analysis to translate noise maps into overviews of the numbers of persons that may be annoyed, thereby giving insight into

the situation expected in the long-term. It is not applicable to local complaint-type situations or to an assessment of the short-term effects of a change in noise levels.

Severity of the annoyance depends on factors such as:

- Background sound levels and the background sound levels the receptor is used to;
- The manner in which the receptor can control the noise (helplessness);
- The time, unpredictability, frequency distribution, duration, and intensity of the noise;
- The physiological and health state of the receptor; and
- The attitude of the receptor about the emitter (noise source).

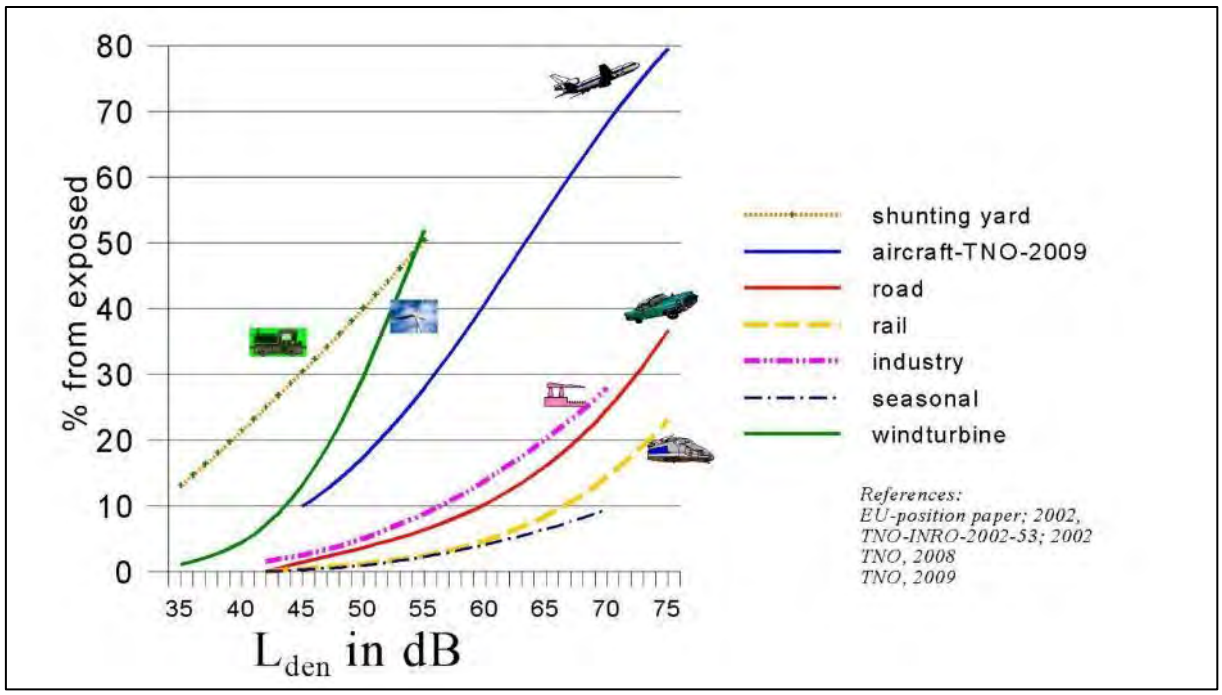


Figure 8-2: Percentage of annoyed persons as a function of the day-evening-night noise exposure at the façade of a dwelling[17]

8.2.1.1 Disturbance to Sleep

Sleep is essential for mental and physical health, and noise is one of the most reported reasons why people may experience sleep interruptions at night. This may be sudden loud noises, with the WHO (2009) reporting that, when maximum noises exceed 60 dBA, with average noise levels exceeding 40 dBA, it may increase the probability of being awakened. People report that quality of life suffer with increased instances of disturbed sleep that may also increase annoyance with a project (Bakker *et al* (2012); Van den Berg *et al* (2014)). It should be noted that Van den Berg *et al* (2008) (see also Van den Berg *et al* - 2014)

[17] Image from https://rigolett.home.xs4all.nl/ENGELS/topic.htm. Wind Turbine Annoyance curve from Pedersen (2007)

showed an indirect effect between sleep disturbances and annoyance, but not between sleep disturbance and the noise level. It is postulated that this is due to increased annoyance due to the visual impact from WTG.

8.2.1.2 Potential Health Effects from noise

The WHO (2009) does report threshold levels where people may report or experience effects from noise, with these thresholds highlighted in Table 8-1. The WHO does use the L_{Amax} and L_{night}[18] descriptors to describe these levels.

Table 8-1: Threshold levels reported by the WHO (2009)

Effect	Indicator	Threshold (dBA)
EEG awakening	$L_{Amax,inside}$	35
Onset of motility	$L_{Amax,inside}$	32
Changes in sleep patterns	$L_{Amax,inside}$	35
Waking up in the night and/or too early in the morning	$L_{Amax,inside}$	42
Increased average motility when sleeping	$L_{night,outside}$	42
Self-reported sleep disturbances	$L_{night,outside}$	42
Environmental insomnia	$L_{night,outside}$	42
Hypertension	$L_{night,outside}$	50
Myocardial infarction	$L_{night,outside}$	50
Psychic disorders	$L_{night,outside}$	60

8.2.1.3 Situational and Personal Factors

There are a few other aspects, collectively referred to as non-acoustical factors that may increase annoyance with a project [Miedema and Vos, 2003; Pedersen *et al.*, 2007). These could include:

- Situational factors (visual issues, attractiveness of area) (Merlin *et al.*, 2014; Michaud *et al.* (2016); Van den Berg *et al*, 2008);
- Socio-economic factors (age, gender, income, level of education) [Miedema and Vos, 2003; Michaud *et al.* (2016)],
- Social factors (attitude towards the applicant/producer/government, media coverage) (Pedersen *et al.*, 2007; Superior Health Council, (2013)),

[18] Refers to the European Union definition in Directive 2002/49/EC – equivalent outdoor sound pressure level associated with a particular type of noise source to which a receptor is exposed to over the 8-hour night-time period, calculated over a period of a year

- Personal factors (fear or worry in relation to noise source, sensitivity to noise, economic benefit from project, existing health condition) (Miedema and Vos, 2003; Taylor *et al* (2013); Van Kamp and Davies (2013)), and
- Attitude towards the project and exposure to negative sentiment (Bernstein *et al* (2024); Crichton *et al*. (2014), Crichton *et al* (2014)).

8.3 IMPACT ASSESSMENT CRITERIA

8.3.1 Overview: The common characteristics

The word "noise" is generally used to convey a negative response or attitude to the sound received by a listener. There are four common characteristics of sound, any or all of which determine listener response and the subsequent definition of the sound as "noise". These characteristics are:

- Intensity;
- Loudness;
- Annoyance; and
- Offensiveness.

Of the four common characteristics of sound, the intensity is the only one which is not subjective and can be quantified. Loudness is a subjective measure of the effect sound has on the human ear. As a quantity, it is therefore complicated but has been defined by experimentation on subjects known to have normal hearing.

The annoyance and offensive characteristics of noise are also subjective. Whether or not a noise causes annoyance mostly depends upon its reception by an individual, the environment in which it is heard, the type of activity and mood of the person and how acclimatised or familiar that person is to the sound.

8.3.2 Noise criteria of concern

The criteria used in this report were drawn from the criteria for the description and assessment of environmental impacts considering the latest EIA Regulations, SANS 10103:2008 as well as guidelines from the WHO.

There are a number of criteria that are of concern for the assessment of noise impacts. These can be summarised in the following manner:

- *Increase in noise levels:* People or communities often react to an increase in the ambient noise level they are used to, which is caused by a new source of the noise.

With regards to the Noise Control Regulations (promulgated in terms of the ECA), an increase of more than 5 dBA is considered a disturbing noise. See also Figure 5-1.

- *Zone Sound Levels:* Previously referred to as the acceptable rating levels, it sets acceptable noise levels for various areas. See also Table 5-2.
- *Absolute or total noise levels:* Depending on their activities, people generally are tolerant to noise up to a certain absolute level, e.g., 65 dBA. Anything above this level will be considered unacceptable.

In South Africa, the document that addresses the issues concerning environmental noise is SANS 10103:2008. It provides the equivalent ambient noise levels (referred to as Rating Levels), $L_{Req,d}$ and $L_{Req,n}$, during the day and night respectively typically associated with such areas. When a noise source is introduced that could change the ambient sound levels, communities may respond as illustrated in Figure 5-1.

Considering the average fast-weighted sound level data collected in the area, average:

- daytime fast-weighted sound levels were slightly elevated, more typical of a rural noise district, even though the measurement location have a suburban to urban developmental character, setting a zone sound level of 45 dBA for the daytime period; and
- night-time fast-weighted sound levels were elevated and typical of a rural noise district, setting a zone sound level of 45 dBA for the night-time period.

Considering the requirements of the NCR (see section 5.1.1), activities relating to the proposed project should not change the existing ambient sound levels with more than 7 dBA, nor exceed the WHO and IFC noise limits (see section 5.4.4). In the cases where existing ambient sound levels already exceed the IFC recommended noise limits, proposed projects should not change existing ambient sound levels with more than 3 dBA. Therefore, upper noise limits therefore would be:

- 55 dBA (as recommended by the IFC, which is less than 7 dBA from the average ambient sound levels measured in the area) for daytime residential use; and
- 48 dBA (as recommended by the IFC) for night-time residential use (3 dBA is added as the existing sound levels already exceed 45 dBA).

The mine should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period, and 60 dBA at night for a 70 dBA day-night noise limit).

SANS 10103:2008 also provides a guideline for estimating community response to an increase in the general ambient noise level caused by an intruding noise. If Δ is the increase in sound level, the following criteria are of relevance:

- **Δ ≤ 3 dBA:** An increase of 3 dBA or less will not cause any response from a community. It should be noted that for a person with average hearing acuity an increase of less than 3 dBA in the general ambient noise level would not be noticeable.
- **3 < Δ ≤ 5 dBA:** An increase of between 3 dBA and 5 dBA will elicit "little" community response with "sporadic complaints". People will just be able to notice a change in the sound character in the area.
- **5 < Δ ≤ 15 dBA:** An increase of between 5 dBA and 15 dBA will elicit a "medium" community response with "widespread complaints". In addition, an increase of 10 dBA is subjectively perceived as a doubling in the loudness of a noise. For an increase of more than 15 dBA, the community reaction will be 'strong' with 'threats of community action'.

Note: an increase of more than 7 dBA is defined as a disturbing noise and prohibited (National Noise Control Regulations).

8.3.3 Determining the Significance of the Noise Impact

The level of detail as depicted in the EIA Guidelines (DEAT, 1998) (DEAT, 2002)) was fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed, it was necessary to establish a rating system, which was applied consistently to all the criteria. For such purposes each aspect was assigned a value depending on its definition. This assessment is a relative evaluation within the context of all the activities and the other impacts within the framework of the Project.

The impact consequence is determined by summing the scores of Magnitude (Table 8-2), Duration (Table 8-3) and Spatial Extent (Table 8-4). The impact significance (see Sections 8.3.4 and 8.3.5) is determined by multiplying the Consequence result with the Probability score (Table 8-5). An explanation of the impact assessment criteria is defined in the following tables.

Table 8-2: Impact Assessment Criteria – Magnitude

This defines the impact as experienced by any receptor. In this report, the receptor is defined as any resident in the area but excludes faunal species.		
Rating	Description	Score
Low	Increase in average sound pressure levels between 0 and 3 dB from the expected ambient sound levels. Ambient sound levels are defined by the	2

	average of the measured day- or night-time fast-weighted sound levels during measurement dates. Total projected noise rating level is less than the Zone Sound Level (the rating level) and/or WHO/IFC noise limits in wind-still conditions.	
Low Medium	Increase in average sound pressure levels between 3 and 5 dB from the expected ambient sound levels. Total projected noise rating level between 3 and 5 above the Zone Sound Level (the rating level) and/or WHO/IFC noise limits (wind-less conditions).	4
Medium	Increase in average sound pressure levels between 5 and 7 dB from the ambient sound levels. Increase in sound pressure levels between 5 and 7 above the Zone Sound Level (the rating level) and/or WHO/IFC noise limits (wind-less conditions). Sporadic complaints expected.	6
High	Increase in average sound pressure levels between 7 and 10 from the ambient sound level. Total projected noise rating level between 7 and 10 dBA above the Zone Sound Level (the rating level) and/or WHO/IFC noise limits (wind-less condition). Medium to widespread complaints expected.	8
Very High	Increase in average ambient sound pressure levels higher than 10 dBA. Total projected noise rating level higher than 10 dB above the Zone Sound Level (the rating level) and/or WHO/IFC noise limits (wind-less-conditions). Change of 10 dBA is perceived as 'twice as loud', leading to widespread complaints and even threats of community or group action. Any point where instantaneous noise levels exceed 65 dBA at any receptor.	10

Table 8-3: Impact Assessment Criteria - Duration

The lifetime of the impact that is measured in relation to the lifetime of the proposed development (construction, operational and closure phases). Will the receptors be subjected to increased noise levels for the lifetime duration of the project, or only infrequently.		
Rating	Description	Score
Temporary	Impacts are predicted to be of short duration (portion of construction period) and intermittent/occasional.	1
Short-term	Impacts that are predicted to last only for the duration of the construction period.	2
Medium-term	Impacts predicted to last for a period up to 5 years.	3
Long-term	Impacts that will continue for the life of the Project, but ceases when the Project stops operating.	4
Permanent	Impacts that cause a permanent change in the affected receptor or resource (e.g., removal or destruction of ecological habitat) that endures/last substantially beyond the Project lifetime.	5

Table 8-4: Impact Assessment Criteria – Spatial extent

Classification of the physical and spatial scale of the impact		
Rating	Description	Score
Site	The impacted area extends only as far as the activity, such as footprint occurring within the total site area.	1
Local	The impact could affect the local area (within 1,000 m from site).	2

Regional	The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns (further than 1,000 m from site).	3
National	The impact could have an effect that expands throughout the country (South Africa).	4
International	Where the impact has international ramifications that extend beyond the boundaries of South Africa.	5

Table 8-5: Impact Assessment Criteria - Probability

This describes the likelihood of the impacts actually occurring, and whether it will impact on an identified receptor. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:		
Rating	Description	Score
Improbable	Daytime noise levels are less than 50 dBA; Night-time noise levels less than 40 dBA.	1
Possible	Daytime noise levels are less than 55 dBA; Night-time noise levels less than 45 dBA.	2
Likely	Daytime noise levels are less than 60 dBA; Night-time noise levels less than 50 dBA.	3
Highly Likely	Daytime noise levels are less than 65 dBA; Night-time noise levels less than 55 dBA.	4
Definite	Daytime noise levels exceeding 65 dBA; Night-time noise levels higher than 55 dBA.	5

In order to assess each of these factors for each impact, the following ranking scales as contained in Table 8-6 were used.

Table 8-6: Assessment Criteria: Ranking Scales

PROBABILITY		MAGNITUDE	
Description / Meaning	Score	Description / Meaning	Score
Definite/don't know	5	Very high/don't know	10
Highly likely	4	High	8
Likely	3	Medium	6
Possible	2	Low Medium	4
Improbable	1	Low	2
DURATION		**SPATIAL SCALE**	
Description / Meaning	Score	Description / Meaning	Score
		International	5
Permanent	5	National	4
Long-Term	4	Regional	3
Short-term	2	Local	2
Temporary	1	Footprint	1

8.3.4 Identifying the Potential Impacts without Mitigation Measures (WOM)

Following the assignment of the necessary weights to the respective aspects, criteria are summed and multiplied by their assigned probabilities, resulting in a Significance Rating (SR) value for each impact (prior to the implementation of mitigation measures).

Significance without mitigation is rated on the following scale:

SR<30	Low (L)	Impacts with little real effect and which should not have an influence on or require modification of the project design or alternative mitigation. No mitigation is required.
30<SR <60	Medium (M)	Where it could have an influence on the decision unless it is mitigated. An impact or benefit which is sufficiently important to require management. Of moderate significance - could influence the decisions about the project if left unmanaged.
SR>60	High (H)	The impact is significant, mitigation is critical to reduce impact or risk. Resulting impact could influence the decision depending on the possible mitigation. An impact which could influence the decision about whether or not to proceed with the project.

8.3.5 Identifying the Potential Impacts with Mitigation Measures (WM)

In order to gain a comprehensive understanding of the overall significance of the impact, after the implementation of the mitigation measures, it was necessary to re-evaluate the impact. Significance with mitigation is rated on the following scale:

SR<30	Low (L)	The impact is mitigated to the point where it is of limited importance.
30<SR <60	Medium (M)	Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
SR>60	High (H)	The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded of high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance after mitigation could render the entire development option or entire project proposal unacceptable.

9 ASSUMPTIONS AND LIMITATIONS

9.1 MEASUREMENTS OF AMBIENT SOUND LEVELS

Ambient sound levels are the cumulative effects of innumerable sounds generated at various instances both far and near. A high measurement may not necessarily mean that the area is always noisy. Similarly, a low sound level measurement will not necessarily mean that the area is always quiet, as sound levels will vary over seasons, time of day, dependant on faunal characteristics (mating season, dawn chorus[19] early hours of the morning, temperature etc.), vegetation in the area and meteorological conditions (especially wind).

Selecting an ideal measurement location could be difficult, with various criteria assessed to identify the viability of a certain location as a point to define ambient sound levels. When selecting a measurement location, the most important criteria would be:

1. Security of the instrument (minimise risk to the technician; prevent theft or sabotage of the equipment);
2. Safety of the equipment (ensure that it does not prevent, interfere or limit typical agricultural or household activities; ensure that the instrument are not in a location where an animal could damage the instrument); and lastly,
3. The suitability of the measurement location to define ambient sound levels (the presence of certain trees or equipment, wetland or other water resources will influence ambient sound level significantly).

As such, after ensuring that the instrument is safe and secure, there are various environmental factors that could influence ambient sound levels measured. These constraints and limitations are discussed below and could include:

- Seasonal changes in the surrounding environment can influence typical ambient sound levels, as many faunal species are more active during warmer periods than the colder periods. As an example, cicada is usually only active during warmer periods. Certain cicada species can generate noise levels up to 120 dB for mating or distress purposes, sometimes singing in synchronisation magnifying noise levels they produce from their tymbals[20];

[19] Environ. We Int. Sci. Tech. *Ambient noise levels due to dawn chorus at different habitats in Delhi*. 2001. Pg. 134.
[20] Clyne, D. "*Cicadas: Sound of the Australian Summer, Australian Geographic"* Oct/Dec Vol 56. 1999.

- In an area with various noise sources (roads, industry, urban development), defining ambient sound levels using the result of one 10-minute measurement may be very inaccurate (very low confidence level in the results) and measurements over a longer-term period is recommended;
- Some equipment that could influence measurements may be missed when deploying instruments, or, the equipment may not the audible. This could include equipment such as hidden water pumps and associated pipelines and outflows, ESKOM stepdown transformers, hidden compressors, inverters, condensers or other electrical equipment, etc. While not audible during deployment, such equipment may significantly influence ambient sound levels during quiet periods;
- Type, the number and sizes of trees in the vicinity of the instrument, as well as the distances between the microphone and these trees. Certain trees, especially fruiting trees could attract birds and other animals that will significantly impact on ambient sound levels;
- Type and number of animals in the vicinity of the microphone. Dogs, chickens, geese, etc. generate different noises randomly both night and day, and other livestock (sheep, goats, cattle, horses, etc.) kept in enclosures will also raise noise levels, especially if these animals are penned in large numbers;
- Measurements over wind speeds of 3 m/s could provide data influenced by wind-induced noises. However, when determining the ambient sound levels associated with increased wind speeds, it is desired to measure ambient sound levels at higher wind speeds;
- Ambient sound levels recorded near rivers, streams, wetlands, trees and bushy areas can be high due to faunal activity which can dominate the sound levels around the measurement point (specifically during summertime, rainfall event or during dawn chorus of bird songs). This generally is still considered naturally quiet and accepted as features of the natural environment, and in various cases sought after and pleasing. Ambient sound level data measured in such area however should not be used to develop an opinion in the potential prevailing ambient sound levels in the larger area;
- Exact location of a sound level meter in an area in relation to structures, infrastructure, vegetation, wetlands and external noise sources will influence measurements. It may determine whether you are measuring anthropogenic sounds from a receptors dwelling, or environmental ambient baseline contributors of significance (faunal, roads traffic, railway traffic movement etc.); and

  As a residential area develops the presence of people will result in increased dwelling related sounds. These are generally a combination of traffic noise, voices, animals and equipment (incl. TV's and Radios). The result is that ambient sound levels will increase as an area matures.

9.2 CALCULATING NOISE EMISSIONS – ADEQUACY OF PREDICTIVE METHODS

The noise emissions into the environment from the various sources as defined were calculated for the operational phase in detail, using the sound propagation model described in ISO 9613-2.

The following was considered:

- The octave band sound pressure emission levels of processes and equipment;
- The time the activities and equipment are operational and generating the noise rating levels as assumed. For this project a worst-case was assessed, assuming that most equipment (excluding the bulldozer used for clearing of vegetation) would be operating at a 100% load (generating the maximum noise rating levels), 100% of the time. In practice this is inaccurate as no activity or equipment are 100% operational of the time and the assumption will result in an over-estimated noise rating levels;
- The distance of the receiver from the noise sources;
- The impact of atmospheric absorption;
- The operational details of the proposed project, such as projected areas where activities will be taking place;
- Topographical layout; and
- Acoustical characteristics of the ground. Fifty per cent (50%) soft ground conditions were modelled, as the area where the mining activity would be taking place is well vegetated and sufficiently uneven to allow the consideration of relatively soft ground conditions. This is because the use of hard ground conditions could represent a too precautionary situation.

The noise emission into the environment due to potential project traffic was calculated using the sound propagation model described in RLS-90 used in Germany. Corrections such as the following were considered:

- Distance of receptor from the road;
- Road construction material;
- Average speeds of travel;
- Types of vehicles used; and
- Ground acoustical conditions.

This noise model generates the potential LA10 noise level, which is used in various countries (such as the United States of America, United Kingdom, Germany, Canada, Australia, New Zeeland, etc.) to define potential road traffic noise analysis (and

abatement). In this project, it illustrates the potential extent of the calculated noises (the noise rating level) of the complete project and not noise levels at a specific moment in time. It is used to define potential issues of concern and not to predict an actual noise level at a potential noise-sensitive receptor. For this, the selected model is internationally recognised and considered adequate. This noise model is recommended for use to calculate potential traffic noises in Germany, Switzerland, Netherlands, United Kingdom, France, Denmark, Italy, Denmark and Austria.

9.3 ADEQUACY OF UNDERLYING ASSUMPTIONS

Noise experienced at a certain location is the cumulative result of innumerable sounds emitted and generated both far and close, each in a different time domain, each having a different spectral character at a different sound level. Each of these sounds is also impacted differently by surrounding vegetation, structures and meteorological conditions that result in a total cumulative noise level represented by a few numbers on a sound level meter.

As previously mentioned, it is not the purpose of noise modelling to accurately determine a likely noise level at a certain receptor but to calculate a noise rating level that is used to identify potential issues of concern.

9.4 UNCERTAINTIES ASSOCIATED WITH MITIGATION MEASURES

Any noise impact can be mitigated to have a low significance; however, the cost of mitigating this impact may be prohibitive, or the measure may not be socially acceptable (such as the relocation of an NSR). These mitigation measures may be engineered, technological or due to management commitment.

For the purpose of the determination of the significance of the noise impact mitigation measures were selected that is feasible, mainly focusing on management of noise impacts using rules, policy and require a management commitment. This, however, does not mean that noise levels cannot be reduced further, only that to reduce the noise levels further may require significant additional costs (whether engineered, technological or management).

It was assumed that any mitigation measures proposed for the construction phase (if any), will be implemented and continued during the operational phase (if required).

9.5 UNCERTAINTIES OF INFORMATION PROVIDED

While it is difficult to define the character of a measured noise in terms of numbers (third octave sound power levels), it is difficult to accurately model noise rating levels at a receptor from any operation. The projected noise rating levels are the output of a numerical model with the accuracy depending on the assumptions made during the setup of the model. The assumptions include the following:

- That octave sound power levels selected for processes and equipment accurately represent the sound character and power levels of these processes and equipment. The determination of octave sound power levels in itself is subject to errors, limitations and assumptions with any potential errors carried over to any model making use of these results;
- Sound power emission levels from processes and equipment changes depending on the load the process and equipment are subject to. While the octave sound power level is the average (equivalent) result of a number of measurements, this measurement relates to a period that the process or equipment was subject to a certain load (work required from the engine or motor to perform action). Normally these measurements are collected when the process or equipment is under high load. The result is that measurements generally represent a worst-case scenario;
- As it is unknown which processes and equipment will be operational (when and for how long), modelling considers a scenario where processes and equipment are under full load for a set time period. Modelling assumptions comply with the precautionary principle and operational time periods are frequently over-estimated. The result is that projected noise rating levels would likely be over-estimated;
- Modelling cannot capture the potential impulsive character of a noise that can increase the potential nuisance factor;
- The XYZ topographical information is derived from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Global DEM data, a product of Japan's Ministry of Economy, Trade, and Industry (METI) and the National Aeronautical and Space Administration (NASA). There are known inaccuracies and artefacts in the data set, yet this is still one of the most accurate data sets to obtain 3D-topographical information;
- The impact of atmospheric absorption is simplified and very uniform meteorological conditions are considered. This is an over-simplification and the effect of this in terms of sound propagation modelling is difficult to quantify; and
- Acoustical characteristics of the ground are over-simplified with ground conditions accepted as uniform. Fifty per cent (50%) soft ground conditions will be modelled as the area where the activities are proposed is well vegetated and sufficiently uneven to allow the consideration of medium ground conditions.

9.6 UNCERTAINTY ON HOW NOISE COULD AFFECT PEOPLE

How noise affect communities are discussed in section 8.2, with this assessment considering a number of studies and guidelines such as:

- Cooper and Chan (2020) that discuss and present a number of dose-effect relationships as well as summarise a number of international guidelines and standards that can be used to assess noise effects from wind farms;
- Crichton *et al* (2014) that studied how expectations can influence symptom and mood reports in both positive and negative directions;
- Directive 2002/49/EC (2002), directing members of the European Union with a guideline on the assessment and management of environmental noise. This directive recommends the use of dose-effect relationships to assess the effect of noise on populations;
- Miedema and Vos (2013), that integrated the findings from a number of studies on the relationship between noise sensitivities and exposure to noise; and
- SANS 10103 (2008) that can be used to assess how environmental noise can be measured and used to assess annoyance in communities.

It is important to understand that guidelines and dose-effect relationship studies focus on how communities respond to noise and it is difficult to predict or foresee how an individual may respond to noise.

10 PROJECTED NOISE RATING LEVELS

Existing noise rating levels were estimated using the results of the noise monitoring done for this project. The additional activities were duplicated at the proposed location options, assuming similar PWL for the new activities. It is assumed that all activities operate both day and night.

10.1 CONCEPTUAL SCENARIO 1 – NOISE FROM EXISTING ACTIVITIES

A noise model was developed to illustrate the potential existing noise level contours, with the locations of the various noise sources conceptualised in Figure 10-1.

The projected existing noise levels are illustrated in:

- Figure 10-2 and defined per NSR in Appendix C, Table 1 and Appendix C, Table 3 for the daytime period. These noise levels were used to estimate potential cumulative noise levels for Scenarios 2 and 3; and
- Figure 10-3 as well as defined per NSR in Appendix C, Table 2 and Appendix C, Table 4 for the night-time period. These noise levels were used to estimate potential cumulative noise levels for Scenarios 2 and 3.

10.2 CONCEPTUAL SCENARIOS 2 AND 3 – FUTURE OPERATIONAL ACTIVITIES

A noise model was developed for operational scenario 2 as discussed in Section 7.1 and conceptualised in Error! Reference source not found. (TSF reclamation area not illustrated, y et it was included in the noise model). For this scenario, projected noise rating levels are illustrated in:

- Figure 10-5 and defined in Appendix C, Table 1 for the daytime period; and
- Figure 10-6 and defined in Appendix C, Table 2 for the night-time period.

A noise model was also developed for operational scenario 3 as discussed in Section 7.1 and conceptualised in Figure 10-7 (TSF reclamation not illustrated, yet considered). For this scenario, projected operational noise rating levels are illustrated in:

- Figure 10-8 and defined in Appendix C, Table 3 for the daytime period; and
- Figure 10-9 and defined in Appendix C, Table 4 for the night-time period.

10.3 Potential Decommissioning and Closure Noise Levels

The potential for a noise impact to occur during the decommissioning and closure phase will be much lower than that of the construction and/or operational phases. This is because:

1. Decommissioning activities normally are limited to the daytime period, due to the lower urgency to complete this phase; and
2. Decommissioning activities normally use smaller and less equipment, generating less noise than the typical construction or operational phases.

As such, the significance of the noise impact for decommissioning will be less than typical daytime operational activities.

10.4 Potential Post-closure Noise Levels

The potential for a noise impact to occur during the post-closure phase will be minimal and mainly relate to monitoring activities. The noise impact from this phase will not be investigated further.

10.5 Evaluation of Alternatives

10.5.1 Alternative 1: No-go option

The ambient sound levels will remain as is and the area would keep the existing noise character.

10.5.2 Alternative 2: Proposed approval of the mining project

The proposed development will raise the noise levels at the closest potential NSR, with the highest impact relating to NSR staying within 500 m from the project activities. Noises created by the project could be audible up to 2,000 m from the project area. Members of the local community may consider the increased noise levels to be annoying and even disturbing at night (with the beeping from reverse alarms frequently reported by receptors to be highly annoying). The residential community are however also directly linked to the operation, which would also foster a more positive attitude towards to future noise levels.

The project however will greatly assist in the economic growth and development challenges South Africa is facing by optimizing the extraction of the mineral resource. This will assist in providing additional employment and business opportunities for the local communities. Considering only noise[21], people in the area not directly affected by increased noise levels

[21] Considering only noise as other factors may affect other NSR

would have a positive perception of the project and could see the need and desirability of the project.

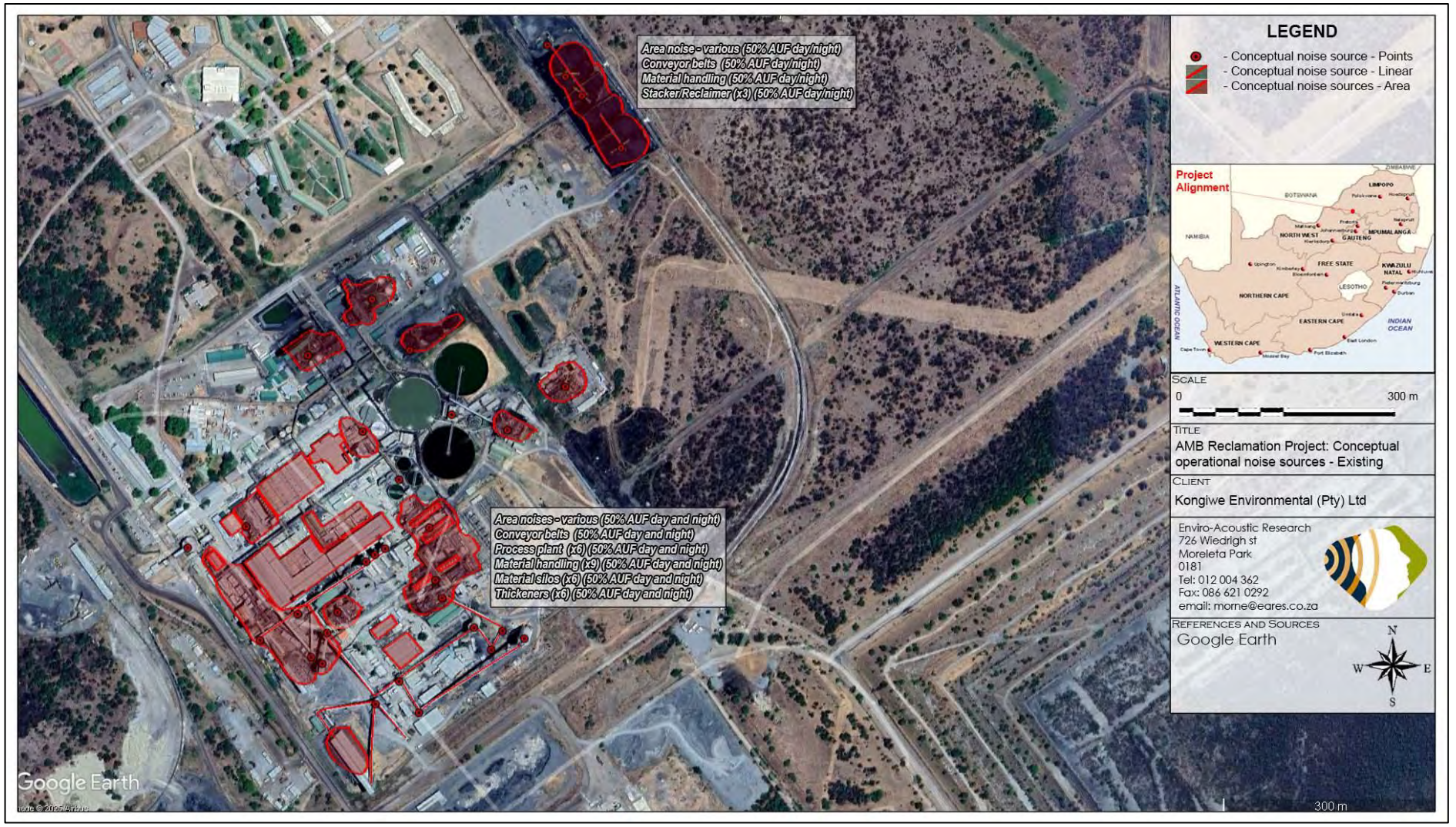


Figure 10-1: Conceptual noise-generating activities considered for existing operational activities (scenario 1)

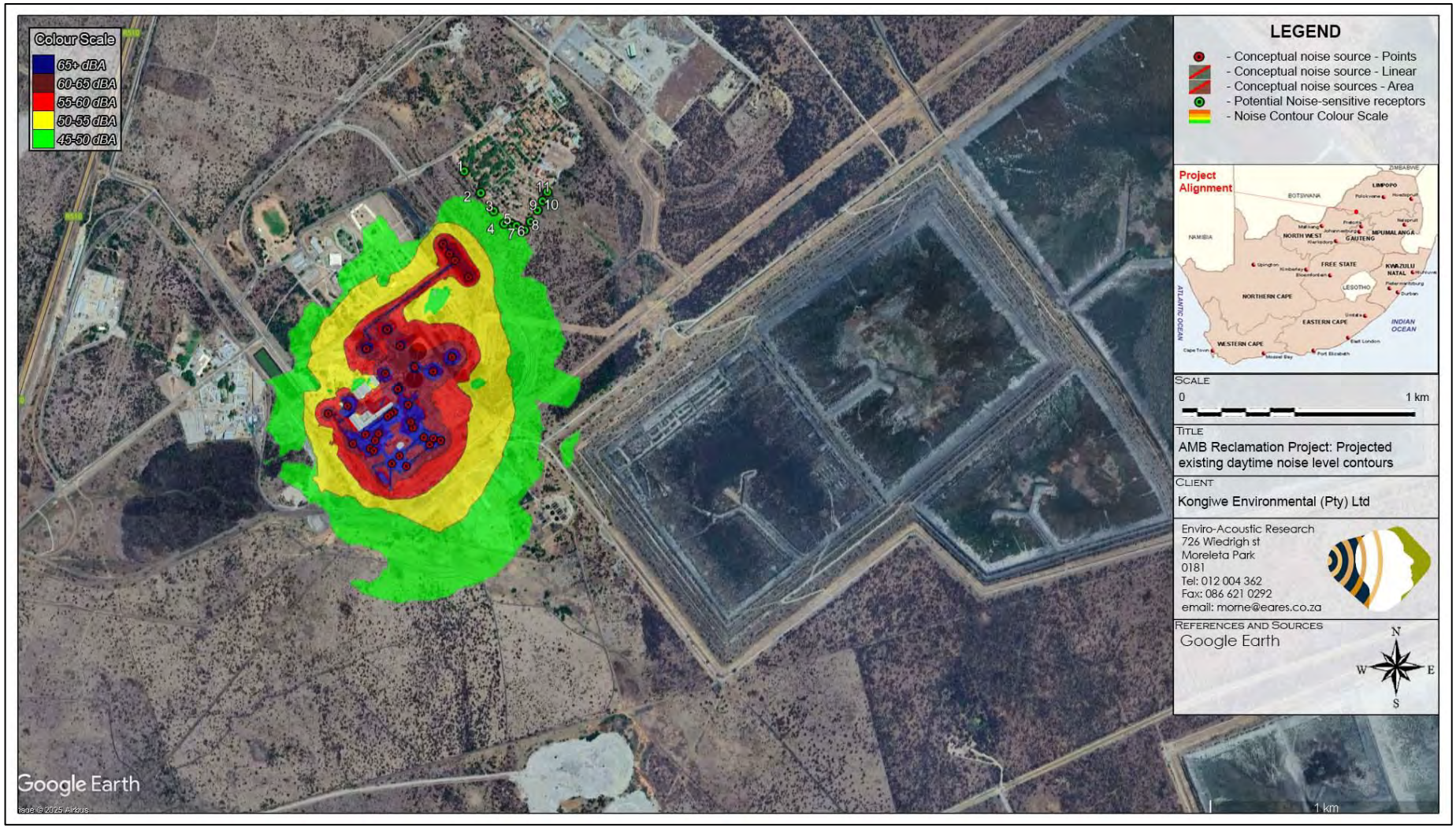


Figure 10-2: Projected daytime noise rating levels relating to the existing operational activities (scenario 1)

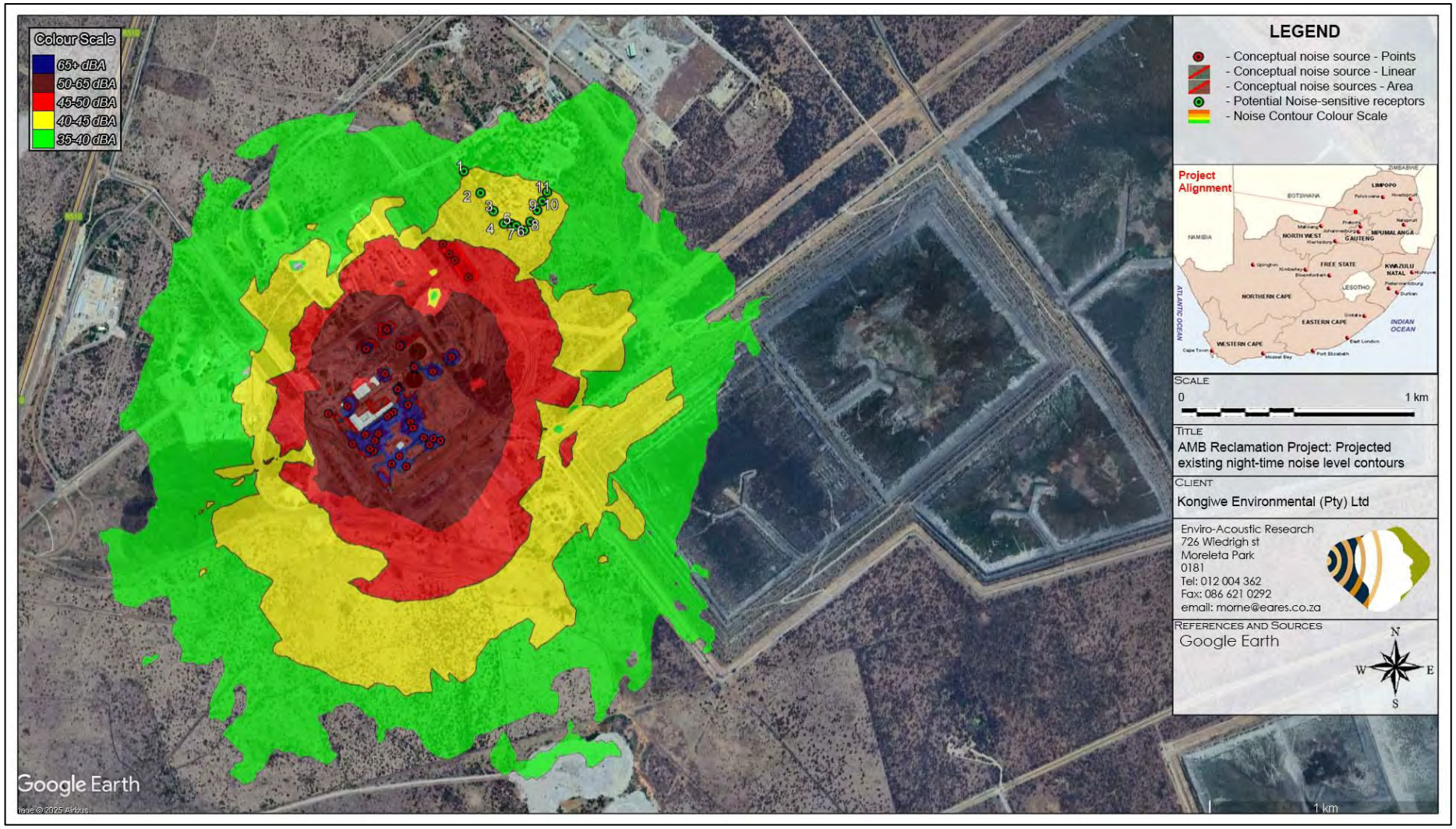


Figure 10-3: Projected night-time noise rating levels relating to the existing operational activities (scenario 1)

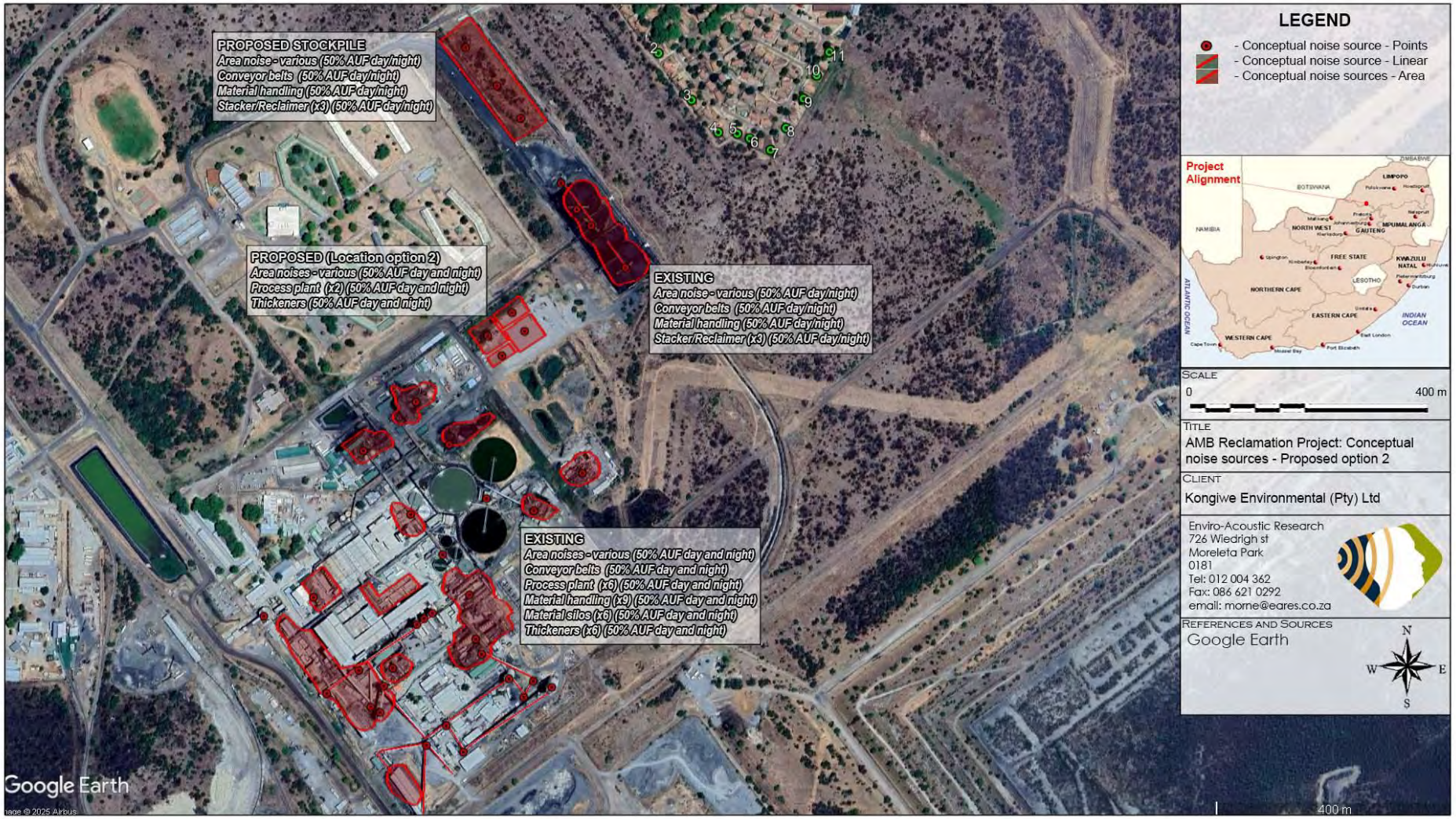


Figure 10-4: Conceptual noise-generating activities considered for the operational phase (scenario 2)

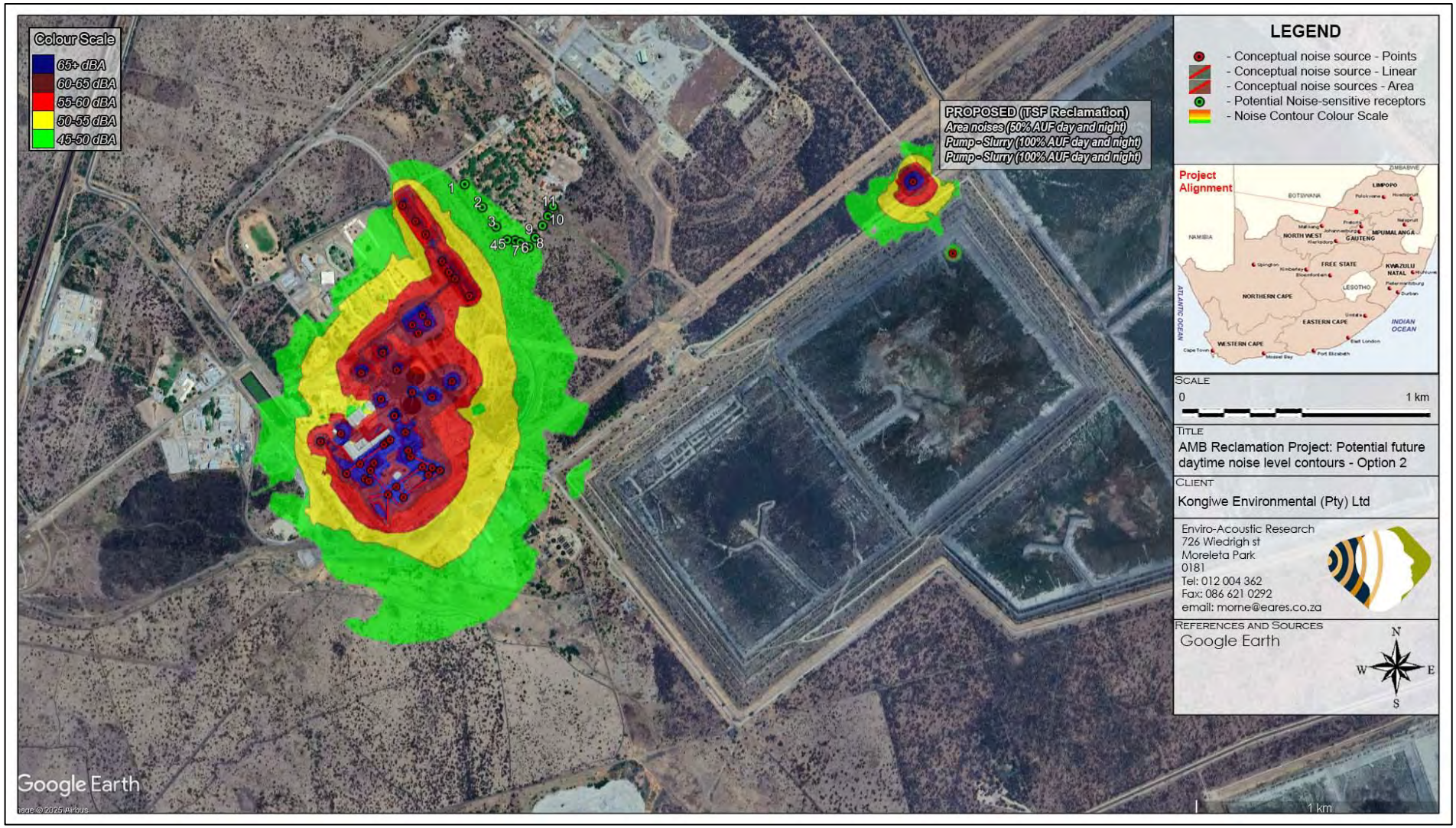


Figure 10-5: Projected cumulative daytime noise rating levels – conceptual operational activities (scenario 2)

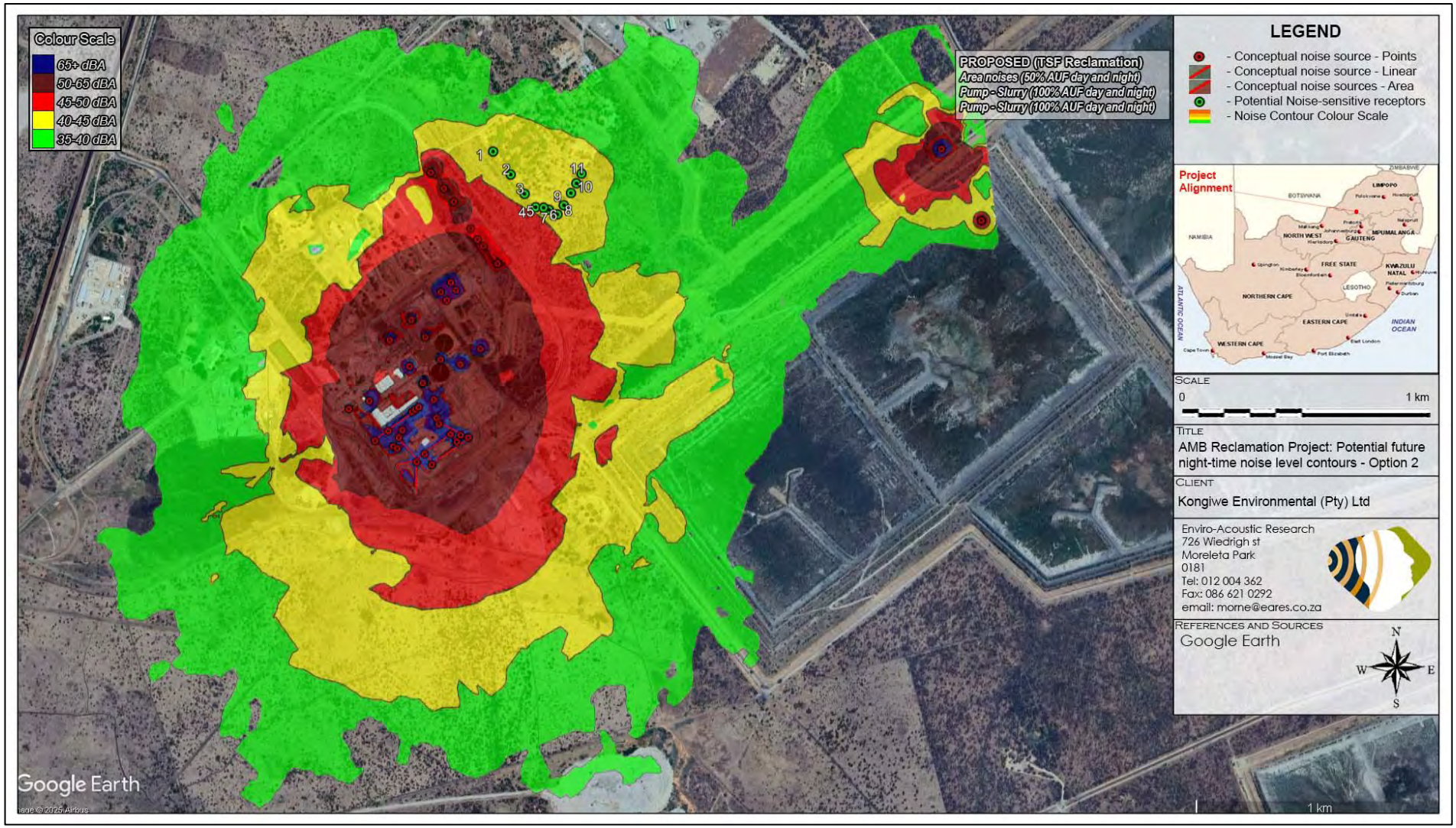


Figure 10-6: Projected cumulative night-time noise rating levels – conceptual operational activities (scenario 2)

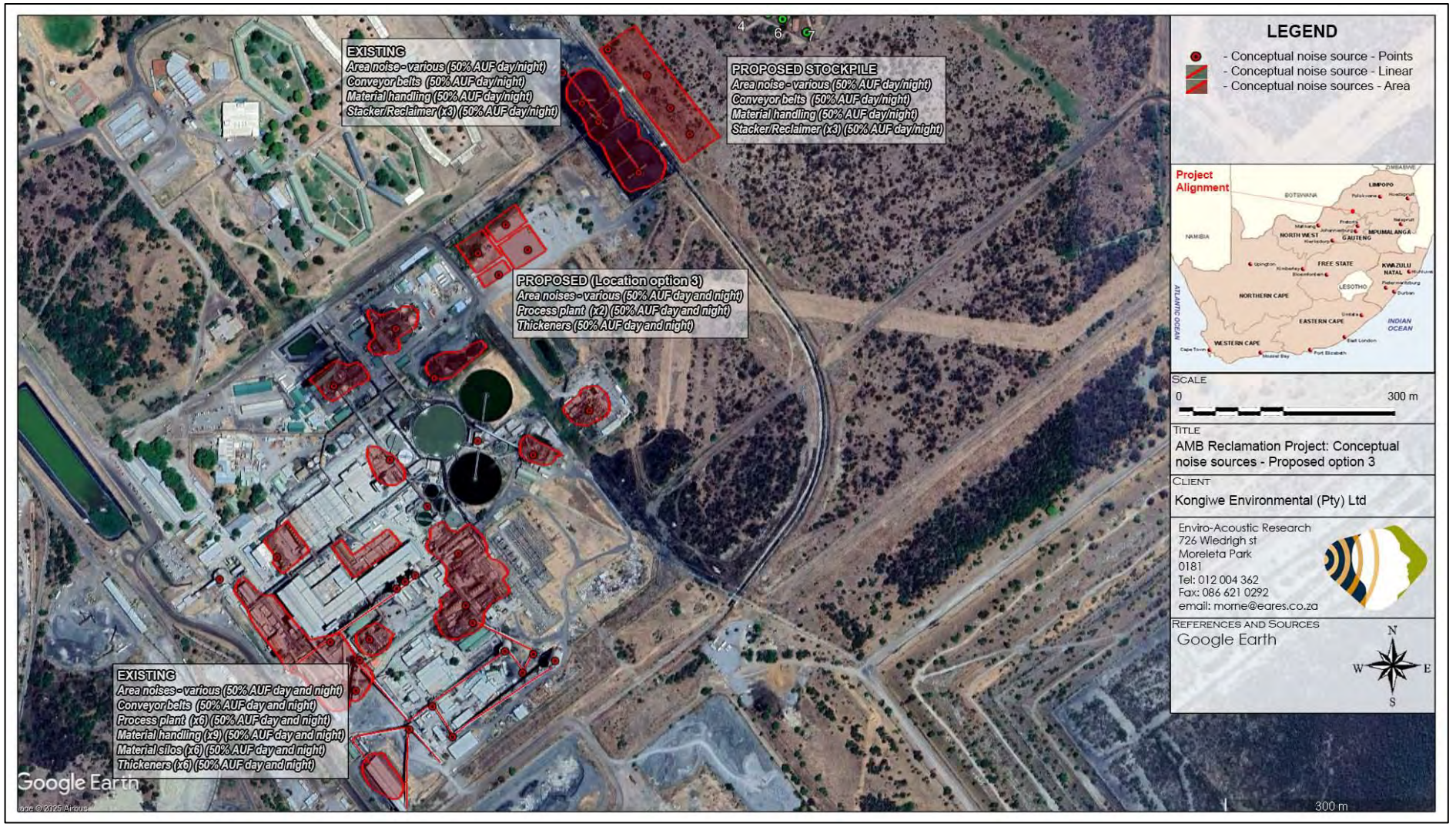


Figure 10-7: Conceptual noise-generating activities considered for the operational phase (scenario 3)

Figure 10-8: Projected cumulative daytime noise rating levels – conceptual operational activities (scenario 3)

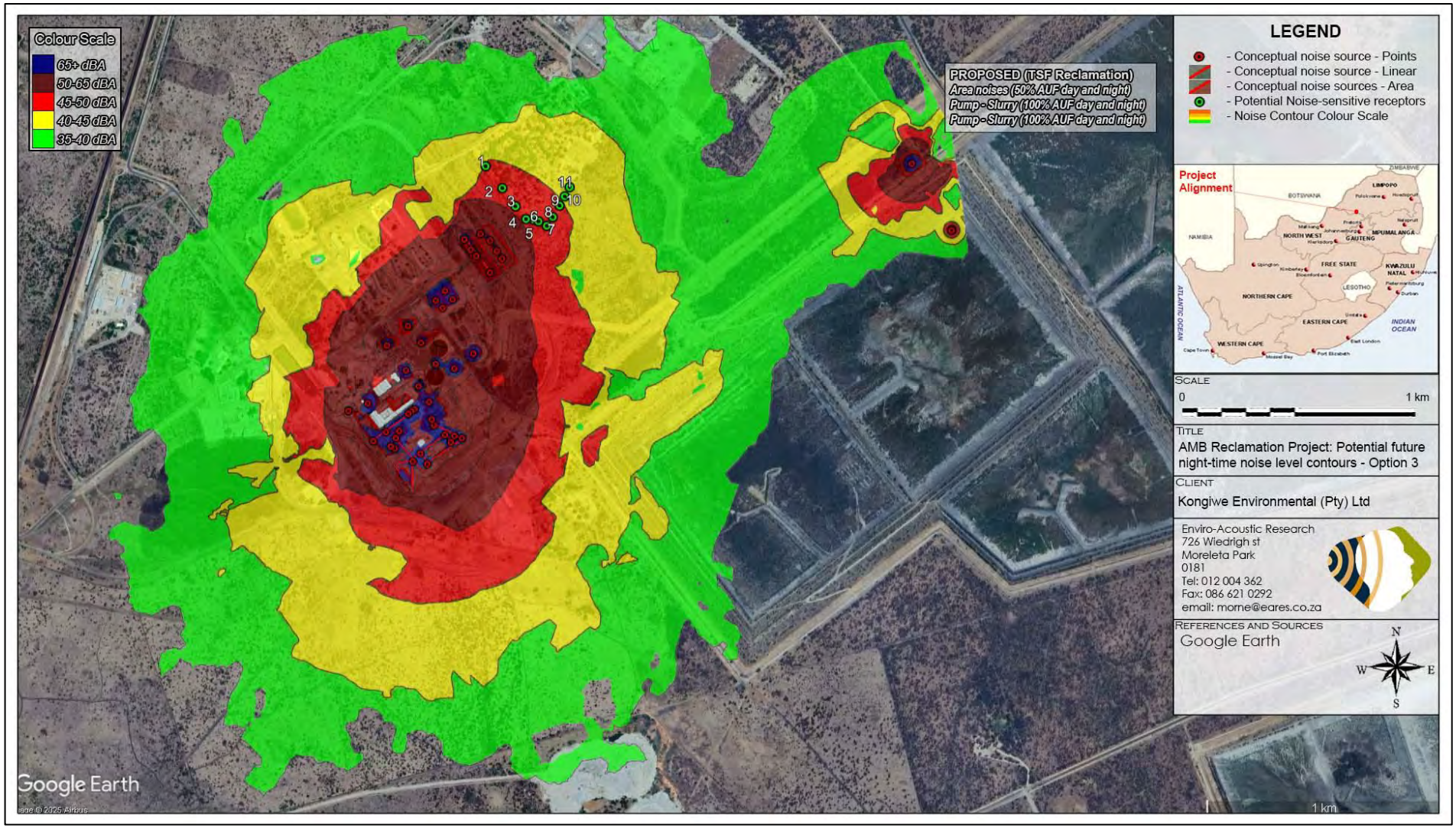


Figure 10-9: Projected cumulative night-time noise rating levels – conceptual operational activities (scenario 3)

11 SIGNIFICANCE OF THE NOISE IMPACT

This assessment considers a potential cumulative scenario, with the noise model considering various operational activities at two different locations.

11.1 OPERATIONAL PHASE NOISE IMPACT – SCENARIO 2

The identified noise-generating activities as conceptualised (see Error! Reference source not found.), with potential noise rating levels calculated in section 10.2 (with daytime noise level contours, Figure 10-5; night-time noise level contours, Figure 10-6). The potential significance of the noise impact is defined per NSR for concept scenario 2 in:

- Appendix C, Table 1 for future noise-generating activities associated with daytime activities associated with concept scenario 2, with the potential significance of the daytime noise impact summarised in Table 11-1; and
- Appendix C, Table 2 for future noise-generating activities associated with night-time activities associated with concept scenario 2, with the potential significance of the night-time construction noise impact summarised in Table 11-2.

Table 11-1: Impact Assessment: Future Daytime Activities – Scenario 2

Nature:	*Numerous simultaneous operational activities during the day*	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 47.3 dBA, with the various 10-minute measurements ranging between 32.7 to 70.7 dBA. The recommended daytime noise limit will be based on the IFC guideline level of 55 dBA for residential use. The potential noise rating levels, as well as the significance are defined per NSR in Appendix C, Table 1.	
	Without Mitigation	*With Mitigation*
Magnitude (Table 8-2)	Minor (2)	Minor (2)
Duration (Table 8-3)	Permanent (5)	Permanent (5)
Extent ($\Delta L_{Aeq,D}$>7dBA) (Table 8-4)	Local (2)	Local (2)
Probability (Table 8-5)	Improbable (1)	Improbable (1)
Significance of Impact	Low (9) – All NSR	Low (9) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	The potential significance from future operational noises would be low for scenario 2 daytime processing activities and additional mitigation measures are not required or recommended.	

	General mitigation measures are however included in section 12.1 to ensure that annoyance with the project is minimised.
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.

Table 11-2: Impact Assessment: Future Night-time Activities – Scenario 2

Nature:	*Numerous simultaneous operational activities at night*	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 45.1 dBA, with the various 10-minute measurements ranging between 37.1 to 56.4 dBA. The recommended night-time noise limit will be based on the IFC guideline level of 45 dBA for residential use, however, as per IFC recommendations, it is increased to 48 dBA due to the recommendation that an introduced project should not increase existing noise levels with more than 3 dBA (if existing sound levels already exceed this level). The potential noise rating levels, as well as the significance are defined per NSR in Appendix C, Table 2.	
	Without Mitigation	*With Mitigation*
Magnitude (Table 8-2)	Low (4)	Low (4)
Duration (Table 8-3)	Permanent (5)	Permanent (5)
Extent ($\Delta L_{Aeq,D}$>7dBA) (Table 8-4)	Regional (3)	Regional (3)
Probability (Table 8-5)	Possible (2)	Possible (2)
Significance of Impact	Low (24) – All NSR	Low (24) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	The potential significance from future operational noises would be low for scenario 2 daytime processing activities and additional mitigation measures are not required or recommended. General mitigation measures are however included in section 12.1 to ensure that annoyance with the project is minimised.	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

11.2 Operational Phase Noise Impact – Scenario 3

The impact assessment for the various operational activities defined in section 7.1 was conceptualised (see Figure 10-7 for scenario 3) and calculated in section 10.2 (with daytime noise level contours in Figure 10-8; night-time noise level contours in Figure 10-9). The potential significance of the noise impacts associated with scenario 3 is defined for operational activities in:

- Appendix C, Table 3 for noise rating levels associated with the conceptual daytime operational activities, with the potential significance of the daytime operational noise impact is summarised in Table 11-3; and
- Appendix C, Table 4 for noise rating levels associated with the conceptual night-time operational activities, with the potential significance of the night-time operational noise impact is summarised in Table 11-4.

Table 11-3: Impact Assessment: Worst-case daytime operational activities

Nature:	*Numerous simultaneous operational activities during the day*	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 47.3 dBA, with the various 10-minute measurements ranging between 32.7 to 70.7 dBA. The recommended daytime noise limit will be based on the IFC guideline level of 55 dBA for residential use. The potential noise rating levels, as well as the significance are defined per NSR in Appendix C, Table 3.	
	Without Mitigation	*With Mitigation*
Magnitude (Table 8-2)	Moderate (6)	Moderate (6)
Duration (Table 8-3)	Permanent (5)	Permanent (5)
*Extent (**Δ**$L_{Aeq,D}$>7dBA) (Table 8-4)*	Local (2)	Local (2)
Probability (Table 8-5)	Improbable (1)	Improbable (1)
Significance of Impact	Low (13) – All NSR	Low (13) – All NSR
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	The potential significance from future operational noises would be low for scenario 3 daytime processing activities and additional mitigation measures are not required or recommended. General mitigation measures are however included in section 12.1 to ensure that annoyance with the project is minimised.	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

Table 11-4: Impact Assessment: Worst-case night-time operational activities

Nature:	*Numerous simultaneous operational activities at night*	
Acceptable Rating Level	Average fast-weighted daytime sound levels were 45.1 dBA, with the various 10-minute measurements ranging between 37.1 to 56.4 dBA. The recommended night-time noise limit will be based on the IFC guideline level of 45 dBA for residential use, however, as per IFC recommendations, it is increased to 48 dBA due to the recommendation that an introduced project should not increase existing noise levels with more than 3 dBA (if existing sound levels already exceed this level). The potential noise rating levels, as well as the significance are defined per NSR in Appendix C, Table 4.	
	Without Mitigation	*With Mitigation*
Magnitude (Table 8-2)	Moderate (6)	Moderate (6)
Duration (Table 8-3)	Permanent (5)	Permanent (5)
Extent ($\Delta L_{Aeq,D}$>7dBA) (Table 8-4)	Regional (3)	Regional (3)
Probability (Table 8-5)	Likely (3)	Possible (2)
Significance of Impact	Medium (42)	Low (28)
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No loss of resources.	No loss of resources.
Comments	Scenario with numerous operational activities, including the existing activities.	
Degree of Confidence	Medium-High	
Mitigation:	The potential significance of the night-time operational noise impact is medium for the activities as conceptualised for scenario 3. This relates to the close proximity of the proposed stock pad near the NSR. Additional mitigation measures could be difficult, due to the typical heights associated with stacker reclaiming equipment, and the following measures are recommended: • In terms of noise, the stock pad location to the north-west of the existing stock pad (just south-west of the railway line) will be preferred; • If the north-east location (associated with scenario 3) is selected, potential noise levels should be discussed with the closest NSR; • AMB should include noise monitoring (sound pressure level measurements outside and inside; discussing the noise levels with NSR) at dwellings closest to the project area. If required, the buildings may require acoustic treatment (acoustic absorbent material in ceiling space, change of windows and doors to reduce the ingress of noises); • AMB may consider the construction of noise barrier walls near residential dwellings. General mitigation measures are also discussed in section 12.1.	
Cumulative Impacts:	Cumulative impacts were investigated and considered in the assessment.	
Residual Impacts:	This impact will only disappear after decommissioning and closure is completed.	

12 MITIGATION OPTIONS

This study considers the potential noise impact on the surrounding environment due to the operational activities associated with the proposed AMB project. Using conceptual worst-case noise models, it was determined that the potential noise impacts associated with the project would be:

- of a low significance for daytime operational activities associated with the AMB project (scenario 2);
- of a low significance for night-time operational activities associated with the AMB project (scenario 2);
- of a low significance for daytime operational activities associated with the AMB project (scenario 3);
- of a medium significance for night-time activities associated with the AMB project (scenario 3). This medium significance might relate to the strict EIA criteria used, and the assumption that the higher noise levels may be considered disturbing or annoying by the closest NSR. Mitigation may be difficult, though warning NSR about the potential increased noises levels prior to the development could reduce the probability of NSR considering the noise to be disturbing.

The development of the AMB project will increase noise levels at the mining village and noise complaints may develop. AMB must know that community involvement needs to continue throughout the project. Annoyance is a complicated psychological phenomenon, as with many industrial operations, expressed annoyance with sound can reflect an overall annoyance with the project, rather than a rational reaction to a perceived noise itself.

At all stages, surrounding receptors should be informed about the project, providing them with factual information without setting unrealistic expectations. It is counterproductive to suggest that the activities will be inaudible due to existing high ambient sound levels, or that noise levels will be low (based on the noise assessment). The magnitude of the sound levels will depend on a multitude of variables and will vary from day to day and from place to place with environmental and operational conditions. Audibility is distinct from the sound level, because it depends on the relationship between the sound level from the activities, the spectral character and that of the surrounding soundscape (both level and spectral character).

The project applicant must implement a line of communication (i.e., a help line where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers. The mine should maintain a commitment to the local community

(people staying within 2,000 m from construction or operational activities) and respond to noise concerns in an expedient fashion. Sporadic and legitimate noise complaints could be raised. For example, sudden and sharp increases in sound levels could result from mechanical malfunctions or maintenance issues. Problems of this nature can be corrected quickly and it is in AMB's interest to do so.

12.1 Operational Phase Mitigation Measures

The study considers the potential noise impact on the surrounding environment due to future operational activities at AMB. The potential noise impact would be of a medium significance during the night-time periods for scenario 3 (mainly due to noises from the stock pad proposed to the north-east of the existing stock pad). Measures that may assist in reducing the probability of noise impacts occurring are:

1. AMB should implement quarterly noise monitoring at the NSR closest to the proposed activities Feedback from NSR should be used to refine, and potentially update mitigation measures (which may include the relocation of certain receptors, or acoustic treatment of residential dwellings, the construction of noise barrier walls);
2. AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area.
3. AMB could investigates the use of white noise alarms instead of tonal reverse alarms on heavy vehicles operating on roads, within the mining area and at stockpile areas[22][23]. The advantages of white noise alarms above tonal alarms are;
    a. It is as safe as a tonal alarm[24].
    b. Highly audible close to the alarm (or reversing truck)[25].
    c. It generates a more uniform sound field behind a reversing vehicle[26].
    d. Greater directional information, workers can locate the source faster.
    e. Significantly less environmental noise and it creates significantly less annoyance far away.
    f. When properly installed, white noise alarms of a similar sound power emission level are more likely to comply with the ISO 9533 standard.

[22]White Noise Reverse Alarms: http://www.brigade-electronics.com/products.
[23] https://www.constructionnews.co.uk/home/white-noise-sounds-the-reversing-alarm/885410.article - White noise sounds the reversing alarm
[24]https://www.acoustics.asn.au/conference_proceedings/AAS2012/papers/p126.pdf - Which is Safer – Tonal or Broadband Reversing Alarms
[25] http://www.irsst.qc.ca/media/documents/PubIRSST/R-833.pdf - Safety of workers behind heavy vehicles
[26] https://www.vaultintel.com/blog/reversing-beeps-could-be-a-thing-of-the-past
https://brigade-electronics.com/white-sound-reversing-alarms-improving-safety-environment/

12.2 MITIGATION OPTIONS THAT SHOULD BE INCLUDED IN THE EMP AND EA

- All employees and contractors should receive Health and Safety induction that includes an environmental awareness component (noise). This is to allow employees and contractors to realise the potential noise risks that activities (especially night-time activities) pose to the surrounding environment.
- AMB must implement a line of communication (i.e., a helpline where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers, or alternative means to communicate issues. The mine should maintain a commitment to the local community and respond to concerns in an expedient fashion. Sporadic and legitimate noise complaints could develop and if valid, should be investigated. Feedback must be provided to the affected stakeholder(s) with details of any steps taken to mitigate the impact (if valid complaint) or preventative steps to minimise this from happening again.
- AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area.
- It is recommended that AMB develop and implement a noise monitoring programme.

13 ENVIRONMENTAL MANAGEMENT OBJECTIVES

The DMR guideline for EMP development requires the formulation of Objectives for Mine Closure as influenced by the Environmental Base Line description. This demonstrates the importance of considering the post-closure land use, relative to the pre-mining land use, when formulating the closure objectives.

Environmental Management Objectives is difficult to define for noise because ambient sound levels would slowly increase as development pressures increase in the area. This is due to increased traffic and human habitation and is irrespective whether the mining activity starts. The moment the mine stops noise levels will drop similar to the pre-mining levels (typical of other areas with a similar developmental character).

However, as there are a number of potential noise-sensitive receptors in the area, Environmental Management Objectives will be proposed. These objectives are based on the sound levels criteria for Residential Use (International Best Practice) while considering the National Noise Control Regulations.

Continuing management objectives would be:

- Ensure that total night-time noise levels (due to mining activities) are less than 48 dBA at all potential NSR (dwellings used for residential purposes) at night;
- The mine should ensure that night-time noise levels are less than 60 dBA at the boundary of operational areas;
- Minimise the generation of nuisance noises and address the complaint where possible; and
- the operation may not increase the existing ambient sound levels with more than 7 dB at dwellings used for residential purposes (a disturbing noise and prohibited by the South African Noise Control Regulations, see section 5.1.1).

14 ENVIRONMENTAL MONITORING PLAN

Environmental Noise Monitoring can be divided into two distinct categories, namely:

- Passive monitoring – the registering of any complaints (reasonable and valid) regarding noise; and
- Active monitoring – the measurement of noise levels at identified locations.

Active environmental noise monitoring is recommended because the projected elevated noise levels at verified NSR are higher than the night-time rating level for the area.

In addition, should a valid complaint (from a stakeholder living within 2,000 m from a noise-generating mining activity) be registered, the applicant must investigate this complaint as per the following sections. It is recommended that the noise investigation is done by an independent acoustic consultant.

It should be noted that this noise monitoring programme may be used as a guideline, as site-specific conditions may require that the monitoring locations, frequency or procedure be adapted.

14.1 MEASUREMENT LOCALITIES AND PROCEDURES

14.1.1 Measurement Localities and Frequencies

It is recommended that an acoustic specialist be appointed to assist with the design of a noise monitoring programme after considering the future mitigation measures to be implemented by AMB. Depending on the mitigation measures implemented as well as the status of NSR, quarterly noise monitoring is recommended at representative NSR locations where noise levels may be more than 45 dBA at night (refer to Appendix C). One or two noise level measurement locations may be sufficient, but, noise levels should be discussed with all NSR where noise levels are higher than 45 dBA.

When investigating a noise complaint, measurements must be conducted at the location of the person that registered a valid and reasonable noise complaint (staying within 2,000 m from the project). A second instrument should be deployed simultaneously at AMB.

In cases where noise issues are registered, noise measurements should be conducted inside bedrooms, and, if noise levels exceed 35 dBA, acoustic treatment should be considered for such buildings.

14.1.2 Measurement Procedures

Ambient sound measurements should be collected as defined in SANS 10103:2008 or an acceptable international noise monitoring protocol (such as ISO 1996). When investigating a noise complaint, measurements should be collected during a period or in conditions similar to when the receptor experienced the disturbing noise event. Due to the variability that naturally occurs in sound levels at most locations, it is recommended that semi-continuous measurements are conducted over a period of at least 36 hours, covering at least a full day- (06:00 – 22:00) and two night-time (22:00 – 06:00) periods.

15 RECOMMENDATIONS AND CONCLUSION

This ENIA covers the proposed development of the AMB Tailings Reclamation and Processing Project, just west of Amandelbult, Limpopo.

The potential worst-case noise rating levels were calculated using a sound propagation model using conceptual scenarios for two potential operational phases, which determined that the potential noise impacts at the project could be:

- of a low significance for daytime operational activities associated with the AMB project (scenario 2);
- of a low significance for night-time operational activities associated with the AMB project (scenario 2);
- of a low significance for daytime operational activities associated with the AMB project (scenario 3);
- of a medium significance for night-time activities associated with the AMB project (scenario 3). This medium significance might relate to the strict EIA criteria used, and the assumption that the higher noise levels may be considered disturbing or annoying by the closest NSR. Mitigation may be difficult, though warning NSR about the potential increased noises levels prior to the development could reduce the probability of NSR considering the noise to be disturbing.

The noise-generation scenarios considers noise-generating activities close to the verified NSR, using conceptual scenarios to assess the potential noise impact at these NSR. The scenarios do consider potential cumulative effects. Existing processing activities are generally audible at the closest NSR, and the proposed additional processing and material handling activities would raise the noise levels at the closest NSR. The increase however is not considered a fatal flaw, and it is recommended that the AMB Reclamation and Processing Project be authorised (from a noise impact perspective).

The TSF reclamation activities are further than 500m from the closest NSR, and noise from these activities will be insignificant.

In terms of acoustics, the stock pad location alternative to the north-west of the existing stock pad is preferred, instead of the location to the north-east of the existing stock pad.

This noise impact assessment is sufficient, but it is recommended that a noise monitoring programme be designed by an acoustic specialist for implementation.

16 REFERENCES

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APPENDIX A

Glossary of Acoustic Terms, Definitions and General Information

1/3-Octave Band	A filter with a bandwidth of one-third of an octave representing four semitones, or notes on the musical scale. This relationship is applied to both the width of the band, and the centre frequency of the band. See also definition of octave band.
A – Weighting	An internationally standardised frequency weighting that approximates the frequency response of the human ear and gives an objective reading that therefore agrees with the subjective human response to that sound.
Air Absorption	The phenomena of attenuation of sound waves with distance propagated in air, due to dissipative interaction within the gas molecules.
Alternatives	A possible course of action, in place of another, that would meet the same purpose and need (of proposal). Alternatives can refer to any of the following but are not limited hereto: alternative sites for development, alternative site layouts, alternative designs, alternative processes and materials. In Integrated Environmental Management the so-called "no-go" alternative refers to the option of not allowing the development and may also require investigation in certain circumstances.
Ambient	The conditions surrounding an organism or area.
Ambient Noise	The all-encompassing sound at a point being composed of sounds from many sources both near and far. It includes the noise from the noise source under investigation.
Ambient Sound	The all-encompassing sound at a point being composite of sounds from near and far.
Ambient Sound Level	Means the reading on an integrating impulse sound level meter taken at a measuring point in the absence of any alleged disturbing noise at the end of a total period of at least 10 minutes after such a meter was put into operation. In this report the term Background ambient sound level will be used.
Amplitude Modulated Sound	A sound that noticeably fluctuates in loudness over time.
Applicant	Any person who applies for an authorisation to undertake a listed activity or to cause such activity in terms of the relevant environmental legislation.
Assessment	The process of collecting, organising, analysing, interpreting and communicating data that is relevant to some decision.
Attenuation	Term used to indicate reduction of noise or vibration, by whatever method necessary, usually expressed in decibels.
Audible frequency Range	Generally assumed to be the range from about 20 Hz to 20,000 Hz, the range of frequencies that our ears perceive as sound.
Ambient Sound Level	The level of the ambient sound indicated on a sound level meter in the absence of the sound under investigation (e.g. sound from a particular noise source or sound generated for test purposes). Ambient sound level as per Noise Control Regulations.
Broadband Noise	Spectrum consisting of a large number of frequency components, none of which is individually dominant.
C-Weighting	This is an international standard filter, which can be applied to a pressure signal or to a *SPL* or *PWL* spectrum, and which is essentially a pass-band filter in the frequency range of approximately 63 to 4000 Hz. This filter provides a more constant, flatter, frequency response, providing significantly less adjustment than the A-scale filter for frequencies less than 1000 Hz.
Controlled area (as per National Noise Control Regulations)	a piece of land designated by a local authority where, in the case of- (a) road transport noise in the vicinity of a road- (i) the reading on an integrating impulse sound level meter, taken outdoors at the end of a period extending from 06:00 to 24:00 while such meter is in operation, exceeds 65dBA; or (ii) the equivalent continuous "A"-weighted sound pressure level at a height of at least 1,2metres, but not more than 1,4 metres, above the ground for a period extending from06:00 to 24:00 as calculated in accordance with SABS 0210-1986, titled: "Code of Practice for calculating and predicting road traffic noise", published under Government Notice No. 358 of 20 February 1987, and projected for a period of 15 years following the date on which the local authority has made such designation, exceeds 65 dBA; (b) aircraft noise in the vicinity of an airfield, the calculated noisiness index, projected for a period of 15 years following the date on which the local authority has made such designation, exceeds 65 dBA; or

	(c) industrial noise in the vicinity of an industry- (i) the reading on an integrating impulse sound level meter, taken outdoors at the end of a period of 24 hours while such meter is in operation, exceeds 61 dBA; or (ii) the calculated outdoor equivalent continuous "A"-weighted sound pressure level at a height of at least 1,2 metres, but not more than 1,4 metres, above the ground for a period of 24 hours, exceeds 61 dBA;
dB(A)	Sound Pressure Level in decibel that has been A-weighted, or filtered, to match the response of the human ear.
Decibel (db)	A logarithmic scale for sound corresponding to a multiple of 10 of the threshold of hearing. Decibels for sound levels in air are referenced to an atmospheric pressure of 20 μ Pa.
Diffraction	The process whereby an acoustic wave is disturbed and its energy redistributed in space as a result of an obstacle in its path, Reflection and refraction are special cases of diffraction.
Direction of Propagation	The direction of flow of energy associated with a wave.
Disturbing noise	Means a noise level that exceeds the zone sound level or, if no zone sound level has been designated, a noise level that exceeds the ambient sound level at the same measuring point by 5 dBA or more.
Environment	The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group; these circumstances include biophysical, social, economic, historical, cultural and political aspects.
Environmental Control Officer	Independent Officer employed by the applicant to ensure the implementation of the Environmental Management Plan (EMP) and manages any further environmental issues that may arise.
Environmental impact	A change resulting from the effect of an activity on the environment, whether desirable or undesirable. Impacts may be the direct consequence of an organisation's activities or may be indirectly caused by them.
Environmental Impact Assessment	An Environmental Impact Assessment (EIA) refers to the process of identifying, predicting and assessing the potential positive and negative social, economic and biophysical impacts of any proposed project, plan, programme or policy that requires authorisation of permission by law and that may significantly affect the environment. The EIA includes an evaluation of alternatives, as well as recommendations for appropriate mitigation measures for minimising or avoiding negative impacts, measures for enhancing the positive aspects of the proposal, and environmental management and monitoring measures.
Environmental issue	A concern felt by one or more parties about some existing, potential or perceived environmental impact.
Equivalent continuous A-weighted sound exposure level ($L_{Aeq,T}$)	The value of the average A-weighted sound pressure level measured continuously within a reference time interval *T*, which have the same mean-square sound pressure as a sound under consideration for which the level varies with time.
Equivalent continuous A-weighted rating level ($L_{Req,T}$)	The Equivalent continuous A-weighted sound exposure level *($L_{Aeq,T}$)* to which various adjustments have been added. More commonly used as ($L_{Req,d}$) over a time interval 06:00 – 22:00 (T=16 hours) and ($L_{Req,n}$) over a time interval of 22:00 – 06:00 (T=8 hours). It is a calculated value.
F (fast) time weighting	(1) Averaging detection time used in sound level meters. (2) Fast setting has a time constant of 125 milliseconds and provides a fast reacting display response allowing the user to follow and measure not too rapidly fluctuating sound.
Footprint area	Area to be used for the construction of the proposed development, which does not include the total study area.
Free Field Condition	An environment where there are no reflective surfaces.
Frequency	The rate of oscillation of a sound, measured in units of Hertz (Hz) or kiloHertz (kHz). One hundred Hz is a rate of one hundred times per second. The frequency of a sound is the property perceived as pitch: a low-frequency sound (such as a bass note) oscillates at a

	relatively slow rate, and a high-frequency sound (such as a treble note) oscillates at a relatively high rate.
Greenfield	A parcel of land not previously developed beyond that of agriculture or forestry use; virgin land. The opposite of Greenfield is Brownfield, which is a site previously developed and used by an enterprise, especially for a manufacturing or processing operation. The term Brownfield suggests that an investigation should be made to determine if environmental damage exists.
G-Weighting	An International Standard filter used to represent the infrasonic components of a sound spectrum.
Harmonics	Any of a series of musical tones for which the frequencies are integral multiples of the frequency of a fundamental tone.
I (impulse) time weighting	(1) Averaging detection time used in sound level meters as per South African standards and Regulations. (2) Impulse setting has a time constant of 35 milliseconds when the signal is increasing (sound pressure level rising) and a time constant of 1,500 milliseconds while the signal is decreasing.
Impulsive sound	A sound characterized by brief excursions of sound pressure (transient signal) that significantly exceed the ambient sound level.
Infrasound	Sound with a frequency content below the threshold of hearing, generally held to be about 20 Hz. Infrasonic sound with sufficiently large amplitude can be perceived, and is both heard and felt as vibration. Natural sources of infrasound are waves, thunder and wind.
Integrated Development Plan	A participatory planning process aimed at developing a strategic development plan to guide and inform all planning, budgeting, management and decision-making in a Local Authority, in terms of the requirements of Chapter 5 of the Municipal Systems Act, 2000 (Act 32 of 2000).
Integrated Environmental Management	IEM provides an integrated approach for environmental assessment, management, and decision-making and to promote sustainable development and the equitable use of resources. Principles underlying IEM provide for a democratic, participatory, holistic, sustainable, equitable and accountable approach.
Interested and affected parties	Individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, local communities, investors, workforce, consumers, environmental interest groups and the general public.
Key issue	An issue raised during the Scoping process that has not received an adequate response and that requires further investigation before it can be resolved.
L_{A90}	the sound level exceeded for the 90% of the time under consideration
Listed activities	Development actions that is likely to result in significant environmental impacts as identified by the delegated authority (formerly the Minister of Environmental Affairs and Tourism) in terms of Section 21 of the Environment Conservation Act.
L_{AMin} and L_{AMax}	Is the RMS (root mean squared) minimum or maximum level of a noise source.
Loudness	The attribute of an auditory sensation that describes the listener's ranking of sound in terms of its audibility.
Magnitude of impact	Magnitude of impact means the combination of the intensity, duration and extent of an impact occurring.
Masking	The raising of a listener's threshold of hearing for a given sound due to the presence of another sound.
Mitigation	To cause to become less harsh or hostile.
Negative impact	A change that reduces the quality of the environment (for example, by reducing species diversity and the reproductive capacity of the ecosystem, by damaging health, or by causing nuisance).
Noise	a. Sound that a listener does not wish to hear (unwanted sounds). b. Sound from sources other than the one emitting the sound it is desired to receive, measure or record. c. A class of sound of an erratic, intermittent or statistically random nature.
Noise Level	The term used in lieu of sound level when the sound concerned is being measured or ranked for its undesirability in the contextual circumstances.

Noise-sensitive development	developments that could be influenced by noise such as: a) districts (see table 2 of SANS 10103:2008) 1. rural districts, 2. suburban districts with little road traffic, 3. urban districts, 4. urban districts with some workshops, with business premises, and with main roads, 5. central business districts, and 6. industrial districts; b) educational, residential, office and healthcare buildings and their surroundings; c) churches and their surroundings; d) auditoriums and concert halls and their surroundings; e) recreational areas; and f) nature reserves. In this report, Noise-sensitive developments are also referred to as a Potential Sensitive Receptor
Octave Band	A filter with a bandwidth of one octave, or twelve semitones on the musical scale representing a doubling of frequency.
Positive impact	A change that improves the quality of life of affected people or the quality of the environment.
Property	Any piece of land indicated on a diagram or general plan approved by the Surveyor-General intended for registration as a separate unit in terms of the Deeds Registries Act and includes an erf, a site and a farm portion as well as the buildings erected thereon
Public Participation Process	A process of involving the public in order to identify needs, address concerns, choose options, plan and monitor in terms of a proposed project, programme or development
Reflection	Redirection of sound waves.
Refraction	Change in direction of sound waves caused by changes in the sound wave velocity, typically when sound wave propagates in a medium of different density.
Reverberant Sound	The sound in an enclosure which results from repeated reflections from the boundaries.
Reverberation	The persistence, after emission of a sound, has stopped, of a sound field within an enclosure.
Significant Impact	An impact can be deemed significant if consultation with the relevant authorities and other interested and affected parties, on the context and intensity of its effects, provides reasonable grounds for mitigating measures to be included in the environmental management report. The onus will be on the applicant to include the relevant authorities and other interested and affected parties in the consultation process. Present and potential future, cumulative and synergistic effects should all be taken into account.
S (slow) time weighting	(1) Averaging times used in sound level meters. (2) Time constant of one [1]second that gives a slower response which helps average out the display fluctuations.
Sound Level	The level of the frequency and time-weighted sound pressure as determined by a sound level meter, i.e. A-weighted sound level.
Sound Power	Of a source, the total sound energy radiated per unit time.
Sound Pressure Level (SPL)	Of a sound, 20 times the logarithm to the base 10 of the ratio of the RMS sound pressure level to the reference sound pressure level. International values for the reference sound pressure level are 20 micropascals in air and 100 millipascals in water. SPL is reported as L_p in dB (not weighted) or in various other weightings.
Soundscape	Sound or a combination of sounds that forms or arises from an immersive environment. The study of soundscape is the subject of acoustic ecology. The idea of soundscape refers to both the natural acoustic environment, consisting of natural sounds, including animal vocalizations and, for instance, the sounds of weather and other natural elements; and environmental sounds created by humans, through musical composition, sound design, and other ordinary human activities including conversation, work, and sounds of mechanical origin resulting from use of industrial technology. The disruption of these acoustic environments results in noise pollution.
Study area	Refers to the entire study area encompassing all the alternative routes as indicated on the study area map.

Sustainable Development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and the future needs (Brundtland Commission, 1987).
Tread braked	The traditional form of wheel brake consisting of a block of friction material (which could be cast iron, wood or nowadays a composition material) hung from a lever and being pressed against the wheel tread by air pressure (in the air brake) or atmospheric pressure in the case of the vacuum brake.
Zone of Potential Influence	The area defined as the radius about an object, or objects beyond which the noise impact will be insignificant.
Zone Sound Level	Means a derived dBA value determined indirectly by means of a series of measurements, calculations or table readings and designated by a local authority for an area. This is similar to the Rating Level as defined in SANS10103:2008.

APPENDIX B

Photos of sound level measurements

Photo C.1: Long-term measurement location

Photo C.2: Example of short-term measurement location

APPENDIX C

Calculated conceptual noise rating levels and potential significance

Appendix C, Table 1: Projected worst-case noise rating levels and impact – Conceptual daytime operational activities for scenario 2

Potential Noise-sensitive development / Receptor(s)	Recommended Rating Levels (noise limit - daytime rating level, Rural) (dBA)	Potential Existing Ambient Sound Levels (long-term average - Fast-weighted average, measured) (dBA)	Potential Existing Noise Levels (Calculated) (dBA)	Projected Noise Level, Proposed scenario 2 (dBA)	Change in rating level	Magnitude / Intensity	Duration	Extent	Probability of Impact Occurring	Significance
1	55	57.3	42.6	45.8	4.9	Minor	Permanent	Local	Improbable	Low
2	55	57.3	44.2	45.8	3.9	Minor	Permanent	Local	Improbable	Low
3	55	57.3	45.1	46.4	3.7	Minor	Permanent	Local	Improbable	Low
4	55	57.3	45.5	46.6	3.6	Minor	Permanent	Local	Improbable	Low
5	55	57.3	45.1	46.2	3.6	Minor	Permanent	Local	Improbable	Low
6	55	57.3	44.9	45.9	3.5	Minor	Permanent	Local	Improbable	Low
7	55	57.3	44.6	45.6	3.5	Minor	Permanent	Local	Improbable	Low
8	55	57.3	43.8	44.8	3.5	Minor	Permanent	Local	Improbable	Low
9	55	57.3	42.9	43.9	3.5	Minor	Permanent	Local	Improbable	Low
10	55	57.3	42.2	43.2	3.5	Minor	Permanent	Local	Improbable	Low
11	55	57.3	41.6	42.6	3.5	Minor	Permanent	Local	Improbable	Low

Appendix C, Table 2: Projected worst-case noise rating levels and impact – Conceptual night-time operational activities for scenario 2

Potential Noise-sensitive development / Receptor(s)	Recommended Rating Levels (noise limit - daytime rating level, Rural) (dBA)	Potential Existing Ambient Sound Levels (long-term average - Fast-weighted average, measured) (dBA)	Potential Existing Noise Levels (Calculated) (dBA)	Projected Noise Level, Proposed scenario 2 (dBA)	Change in rating level	Magnitude / Intensity	Duration	Extent	Probability of Impact Occurring	Significance
1	45	40.8	42.6	45.8	4.9	Low	Permanent	Regional	Possible	Low
2	45	40.8	44.2	45.8	3.9	Low	Permanent	Regional	Possible	Low
3	45	40.8	45.1	46.4	3.7	Low	Permanent	Regional	Possible	Low
4	45	40.8	45.5	46.6	3.6	Low	Permanent	Regional	Possible	Low
5	45	40.8	45.1	46.2	3.6	Low	Permanent	Regional	Possible	Low
6	45	40.8	44.9	45.9	3.5	Low	Permanent	Regional	Possible	Low
7	45	40.8	44.6	45.6	3.5	Low	Permanent	Regional	Possible	Low
8	45	40.8	43.8	44.8	3.5	Low	Permanent	Regional	Improbable	Low
9	45	40.8	42.9	43.9	3.5	Low	Permanent	Regional	Improbable	Low
10	45	40.8	42.2	43.2	3.5	Low	Permanent	Regional	Improbable	Low
11	45	40.8	41.6	42.6	3.5	Low	Permanent	Regional	Improbable	Low

Appendix C, Table 3: Projected worst-case noise rating levels and impact – Conceptual daytime operational activities for scenario 3

Potential Noise-sensitive development / Receptor(s)	Recommended Rating Levels (noise limit - daytime rating level, Rural) (dBA)	Potential Existing Ambient Sound Levels (long-term average - Fast-weighted average, measured) (dBA)	Potential Existing Noise Levels (Calculated) (dBA)	Projected Noise Level, Proposed scenario 3 (dBA)	Change in rating level	Magnitude / Intensity	Duration	Extent	Probability of Impact Occurring	Significance
1	55	47.3	42.6	45.5	4.7	Low	Permanent	Local	Improbable	Low
2	55	47.3	44.2	47.4	4.9	Low	Permanent	Local	Improbable	Low
3	55	47.3	45.1	48.6	5.1	Moderate	Permanent	Local	Improbable	Low
4	55	47.3	45.5	48.9	5.0	Moderate	Permanent	Local	Improbable	Low
5	55	47.3	45.1	48.2	4.8	Low	Permanent	Local	Improbable	Low
6	55	47.3	44.9	47.8	4.7	Low	Permanent	Local	Improbable	Low
7	55	47.3	44.6	47.3	4.6	Low	Permanent	Local	Improbable	Low
8	55	47.3	43.8	46.3	4.4	Low	Permanent	Local	Improbable	Low
9	55	47.3	42.9	45.2	4.3	Low	Permanent	Local	Improbable	Low
10	55	47.3	42.2	44.4	4.2	Low	Permanent	Local	Improbable	Low
11	55	47.3	41.6	43.7	4.2	Low	Permanent	Local	Improbable	Low

Appendix C, Table 4: Projected worst-case noise rating levels and impact – Conceptual night-time operational activities for scenario 3

Potential Noise-sensitive development / Receptor(s)	Recommended Rating Levels (noise limit - daytime rating level, Rural) (dBA)	Potential Existing Ambient Sound Levels (long-term average - Fast-weighted average, measured) (dBA)	Potential Existing Noise Levels (Calculated) (dBA)	Projected Noise Level, Proposed scenario 3 (dBA)	Change in rating level	Magnitude / Intensity	Duration	Extent	Probability of Impact Occurring	Significance
1	45	45.1	42.6	45.5	4.7	Low	Permanent	Regional	Likely	Medium
2	45	45.1	44.2	47.4	4.9	Low	Permanent	Regional	Likely	Medium
3	45	45.1	45.1	48.6	5.1	Moderate	Permanent	Regional	Likely	Medium
4	45	45.1	45.5	48.9	5.0	Moderate	Permanent	Regional	Likely	Medium
5	45	45.1	45.1	48.2	4.8	Low	Permanent	Regional	Likely	Medium
6	45	45.1	44.9	47.8	4.7	Low	Permanent	Regional	Likely	Medium
7	45	45.1	44.6	47.3	4.6	Low	Permanent	Regional	Likely	Medium
8	45	45.1	43.8	46.3	4.4	Low	Permanent	Regional	Likely	Medium
9	45	45.1	42.9	45.2	4.3	Low	Permanent	Regional	Likely	Medium
10	45	45.1	42.2	44.4	4.2	Low	Permanent	Regional	Possible	Low
11	45	45.1	41.6	43.7	4.2	Low	Permanent	Regional	Possible	Low

APPENDIX D

Details of the noise sources

Appendix D, Table 5: Noise sources used

Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	L'w dB(A)
Material handling (various)	85.4	88	96.6	99	97.1	92.5	88.9	103.2
Stacker Reclaimer	74.8	81.9	82.4	84.8	88	89.2	88	94.8
Coal silo	85.4	88	96.6	99	97.1	92.5	88.9	103.2
Plant - General	73.8	86.8	93.1	99.8	103.2	104.2	102.1	108.8
Pump	53.8	64.9	74.4	79.8	86	84.2	80	89.5
Thickeners	44.8	66.9	81.4	92.8	99	101.2	98	104.8
General Noise - Area	52.2	67.2	77.7	85.1	88.3	84.5	84.3	60
Field conveyor	75.7	79.8	87.3	83.6	86.9	87.1	91.9	75

End of Report

726 Wiedrigh st
Moreleta Park
Pretoria
0181

Cell: 082 – 565 4059
Tel: 012 – 004 0362
Fax 086 – 621 0292
E-mail: morne@eares.co.za
morne@menco.co.za
menco.morne.dejager@gmail.com

Morné de Jager

Personal Data

Identity Number	711221 5062 080
Date of Birth	21 December 1971
Sex	Male
Marital Status	Married, three children
Driver's license	Code 08
Nationality	South African
Home Language	Afrikaans (speak, read and write)
Other Languages	English (speak, read and write)
Higher Educational Qualifications	B.Ing (Chemical Engineering) [Pretoria University]
Previous Employment	Johannesburg Consolidated Investments Wates Meiring and Barnard Department of Water Affairs and Forestry M2 Environmental Connections cc
Current Employment	Enviro-Acoustic Research cc
Membership	SACNASP (South African Council for Natural Scientific Professions) - 117253 SAIOSH (SA Institute of Occupation Safety & Health) - 72765282 NACA (National Association for Clean Air) ASA (Acoustical Society of America)

Short Resumé

Morné started his career in the mining industry as a bursar Learner Official (JCI, Randfontein), working in the mining industry, doing various mining related courses (Blasting, Rock Mechanics, Surveying, Sampling, Safety and Health [Ventilation, noise, illumination etc.] and Metallurgy). He did work in both underground (Coal, Gold and Platinum) as well as opencast (Coal) for 4 years. He changed course from Mining Engineering to Chemical Engineering after his second year of his studies at the University of Pretoria.

After graduation he worked as a Water Pollution Control Officer at the Department of Water Affairs and Forestry for two years (first year seconded from Wates, Meiring and Barnard), where duties included the perusal (evaluation, commenting and recommendation) of various regulatory required documents (such as EMPR's, Water Licence Applications and EIA's), auditing of licence conditions as well as the compilation of Technical Documents.

Since leaving the Department of Water Affairs, Morné has been in private consulting for the last 20 years, managing various projects for the mining and industrial sector, private developers, business, other environmental consulting firms as well as the Department of Water Affairs. During that period he has been involved in various projects, either as specialist, consultant, trainer or project manager,

successfully completing these projects within budget and timeframe. During that period he gradually moved towards environmental acoustics, focusing on this field exclusively since 2007.

He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. He has been doing work in this field for the past 15 years and was involved with more than 500 noise studies for more than 60 clients in the last few years, including amongst others:

Project Experience – Acoustics

Wind Energy Facilities	*Full Environmental Noise Impact Assessments for - Bannf (Vidigenix), iNCa Gouda (Aurecon SA), Isivunguvungu (Aurecon), De Aar (Aurecon), Kokerboom 1 (Aurecon), Kokerboom 2 (Aurecon), Kokerboom 3 (Aurecon), Kangnas (Aurecon), Plateau East and West (Aurecon), Wolf (Aurecon), Outeniqwa (Aurecon), Umsinde Emoyeni (ARCUS) , Komsberg (ARCUS), Karee (ARCUS), Kolkies (ARCUS), San Kraal (ARCUS), Phezukomoya (ARCUS), Canyon Springs (Canyon Springs), Perdekraal (ERM), Scarlet Ibis (CESNET), Albany (CESNET), Sutherland (CSIR), Kap Vley (CSIR), Kuruman (CSIR), Rietrug (CSIR), Sutherland 2 (CSIR), Perdekraal (ERM), Teekloof (Mainstream), Eskom Aberdene (SE), Dorper (SE), Spreeukloof (SE), Loperberg (SE), Penhoek Pass (SE), Amakhala Emoyeni (SE), Zen (Savannah Environmental – SE), Goereesoe (SE), Springfontein (SE), Garob (SE), Project Blue (SE), ESKOM Kleinzee (SE), Namas (SE), Zonnequa (SE), Walker Bay (SE), Oyster Bay (SE), Hidden Valley (SE), Deep River (SE), Tsitsikamma (SE), AB (SE), West Coast One (SE), Hopefield II (SE), Namakwa Sands (SE), VentuSA Gouda (SE), Dorper (SE), Klipheuwel (SE), INCA Swellendam (SE), Cookhouse (SE), Iziduli (SE), Msenge (SE), Cookhouse II (SE), Rheboksfontein (SE), Suurplaat (SE), Karoo Renewables (SE), Koningaas (SE), Spitskop (SE), Castle (SE), Khai Ma (SE), Poortjies (SE), Korana (SE), IE Moorreesburg (SE), Gunstfontein (SE), Boulders (SE), Vredenburg (Terramanzi), Loeriesfontein (SiVEST), Rhenosterberg (SiVEST), Noupoort (SiVEST), Prieska (SiVEST), Dwarsrug (SiVEST), Graskoppies (SiVEST), Philco (SiVEST), Hartebeest Leegte (SiVEST), Ithemba (SiVEST), !Xha Boom (SiVEST), Spitskop West (Terramanzi), Haga Haga (Terramanzi), Vredenburg (Terramanzi), Msenge Emoyeni (Windlab), Wobben (IWP), Trakas (SiVest), Beaufort West (SiVest), Pienaarspoort 1 and 2 (SE), Mphepo Zambia (SLR), Koup 1 (SiVEST), Koup 2 (SiVEST), Hamlet (SE), Aeoulus (SE), Ripponn (SE), Redding (SE), Wind Garden (SE), Fronteer (SE), Hendrina North (Cabanga), Hendrina South (Cabanga), Hoogland Northern Cluster (SLR), Hoogland Southern Cluster (SLR), Jessa M, S and Z cluster of Wind Farms (SLR), Heuweltjies (SiVEST), Kraaltjies (SiVEST), Patatskloof (SiVEST), Bergriver (SE), Overberg (Arcus), Newcastle North (CESNET), Newcastle South (CESNET), Ngxwabangu (CESNET), Taaibos North (CESNET), Taaibos South (CESNET), Soutrivier North (CESNET), Soutrivier South (CESNET), Soutrivier Central (CESNET), Soyuz 1 (AEP/CESNET), Soyuz 2 (AEP/CESNET), Soyuz 3 (AEP/CESNET), Soyuz 4 (AEP/CESNET), Soyuz 5 (AEP/CESNET), Soyuz 6 (AEP/CESNET), Kaladokhwe 1 (AEP/CSIR), FE Red Sands North East (Enviro-Insight), FE Red Sands South West (Enviro-Insight), FE Red Sands North West (Enviro-Insight), FE Red Sands South East (Enviro-Insight), FE De Rust North (Enviro-Insight), FE De Rust South (Enviro-Insight), Springbok (SE), Aberdene 1 (AEP/SE), Aberdene 2 (AEP/SE), Aberdene 3 (AEP/SE), Ezelsjacht (SLR), Amsterdam (Rochdale, Emvelo, Sheepmoor) (ERM); Loxton 1, 2 & 3 (ARCUS); Kariega 1, 2, 3 & 4 (EnviroAGRI); Hugo & Khoe (ERM); Taaibosch Puts Cluster (Khoemana, Gorachouqua) (JAWS); Eland (Praxos); Houmoed (Enviro-Insight); Stinkputs (Enviro-Insight); Zuurfontein (Enviro-Insight); Karoo Cluster (1, 2, 3) (SES), Tango (Savannah), Kudu (Savannah), Angora (Savannah), Oryx (Savannah)*
Mining and Industry	*Full Environmental Noise Impact Assessments for – Delft Sand (AGES), BECSA – Middelburg (Golder Associates), Kromkrans Colliery (Geovicon Environmental), SASOL Borrow Pits Project (JMA Consulting), Lesego Platinum (AGES), Tweefontein Colliery (Cleanstream Environmental), Evraz Vametco Mine and Plant (JMA), Goedehoop Colliery (Geovicon), Hacra Project (Prescali Environmental), Der Brochen Platinum Project (J9 Environment), Brandbach Sand (AGES), Verkeerdepan Extension (CleanStream Environmental), Dwaalboom Limestone (AGES), Jagdlust Chrome (MENCO), WPB Coal (MENCO), Landau Expansion (CleanStream Environmental), Otjikoto Gold (AurexGold), Klipfontein Colliery (MENCO), Imbabala Coal (MENCO), ATCOM East Expansion (Jones and Wagner), IPP Waterberg Power Station (SE), Kangra Coal (ERM), Schoongesicht (CleanStream Environmental), EastPlats (CleanStream Environmental), Chapudi Coal (Jacana*

	Environmental), Generaal Coal (JE), Mopane Coal (JE), Glencore Boshoek Chrome (JMA), Langpan Chrome (PE), Vlakpoort Chrome (PE), Sekoko Coal (SE), Frankford Power (REMIG), Strahrae Coal (Ferret Mining), Transalloys Power Station (Savannah), Pan Palladum Smelter, Iron and PGM Complex (Prescali Environmental), Fumani Gold (AGES), Leiden Coal (EIMS), Colenso Coal and Power Station (SiVEST/EcoPartners), Klippoortjie Coal (Gudani), Rietspruit Crushers (MENCO), Assen Iron (Tshikovha), Transalloys (SE), ESKOM Ankerlig (SE), Nooitgedacht Titano Project (EcoPartners), Algoa Oil Well (EIMS), Spitskop Chrome (EMAssistance), Vlakfontein South (Gudani), Leandra Coal (Jacana), Grazvalley and Zoetveld (Prescali), Tjate Chrome (Prescali), Langpan Chromite (Prescali), Vereeniging Recycling (Pro Roof), Meyerton Recycling (Pro Roof), Hammanskraal Billeting Plant 1 and 2 (Unica), Development of Altona Furnace, Limpopo Province (Prescali Environmental), Haakdoorndrift Opencast at Amandelbult Platinum (Aurecon), Landau Dragline relocation (Aurecon), Stuart Coal Opencast (CleanStream Environmental), Tetra4 Gas Field Development (EIMS), Kao Diamonds – Tiping Village Relocation (EIMS), Royal Sheba project (Cabanga),Kao Diamonds – West Valley Tailings Deposit (EIMS), Upington Special Economic Zone (EOH), Arcellor Mittal CCGT Project near Saldanha (ERM), Malawi Sugar Mill Project (ERM), Proposed Mooifontein Colliery (Geovicon Environmental), Goedehoop North Residue Deposit Expansion (Geovicon Environmental), Mutsho 600MW Coal-Fired Power Plant (Jacana Environmentals), Tshivhaso Coal-Fired Power Plant (Savannah Environmental), Doornhoek Fluorspar Project (Exigo), Royal Sheba Project (Cabanga Environmental), Rietkol Silica (Jacana), Gruisfontein Colliery (Jacana), Lehlabile Colliery (Jaco-K Consulting), Bloemendal Colliery (Enviro-Insight), Rondevly Colliery (REC), Welgedacht Colliery (REC), Kalabasfontein Extension (EIMS), Waltloo Power Generation Project (EScience), Buffalo Colliery (Marang), Balgarthen Colliery (Rayten), Kusipongo Block C (Rayten), Zandheuvel (Exigo), NamPower Walvis Bay (GPT), Eloff Phase 3 (EIMS), Dunbar (Enviro-Insight), Smokey Hills (Prescali), Bierspruit (Aurecon), ECM Lannex (Prescali). ECM Tweefontein (Prescali), Smokey Hills (Prescali), Dalyshope (Digby Wells), Eland Platinum Mine (JEMS), Tweefontein (Prescali), Lannex (Prescali), Salene Manganese (Prescali), Baberton Gas to Power (Rayten), SISHEN Expansion (Shangoni), Goedgevonden EMP Amendment (Jacana), Rietkol Amendment (Jacana), Vlakfontein Bunker Project (Gudani), Vlakfontein West Project (Gudani), Vygenhoek Platinum (EMAssistance), Lesego Amendment (OMI Solutions), Mpenyisi Gas to Power (Nsovo), Basani Gas to Power (Nsovo), Newlands Gas to Power (Savannah), Sudor Coal (JacoK), Nooitgedacht Titanomanganese (Ikwezi), Inyanda Project (JacoK), Ermelo Project (Zyntha), (Schurvekop Coal (Cabanga), Vlakfontein Coal (EMAssistance), Zandheuvel (Jacana), Zondagsvlei Coal (Zyntha), Sereti Witbank South (Zyntha), Bright Alloys (Phakani), Gold One (Prime Resources), Consol Nigel (Zitholele), Hendrina Green Hydrogen and Ammonia project (Enertrag/WSP), Kegakilwe Diamonds (Gudani), Naudesbank (Zyntha), Brackenfell Data Centre (Linspace), Springfield & Redan (MENCO), Somkhele Project (Ophondweni, Emamahleni, Mahujini) (MENCO), Beta Gold (OMIsolutions), Rietfontein Gold (OMIsolutions), Bright Alloys Smelter (Phakani), Sweet Sensations Sand (Digby Wells), Anglo Motlhotlo (Digby Wells), Soufflet Malt (RHDHV), Braamspruit Coal (Shangoni), Southern Sphere Project (Shangoni), Renoster 1 (SRK)
Urban, Roads and Railway	*K220 Road Extension (Urbansmart), Boskop Road (MTO), Sekoko Mining (AGES), Davel-Swaziland-Richards Bay Rail Link (Aurecon), Moloto Transport Corridor Status Quo Report and Pre-Feasibility (SiVEST), Postmasburg Housing Development (SE), Tshwane Rapid Transport Project, Phase 1 and 2 (NRM Consulting/City of Tshwane), Transnet Apies-river Bridge Upgrade (Transnet), Gautrain Due-diligence (SiVest), N2 Piet Retief (SANRAL), Atterbury Extension, CoT (Bokomoso Environmental), Riverfarm Development (Terramanzi), Conakry to Kindia Toll Road (Rayten), Sutherland Road Project (Veers Group), Sassalemba Project (Enviro-Insight), Barra da Donde Angola (Enviro-Insight), Musina-Makhado SEZ (Gudani), Highbury Depot (AGES Limpopo), Mokopane project (AGES Limpopo), Deerpark Filling Station (AGES Limpopo), Highlands Estate (NALI), IPHC Wonderpark (Magoda), Busstop7,*
Airport	*Oudtshoorn Noise Monitoring (AGES), Sandton Heliport (Alpine Aviation), Tete Airport Scoping (Aurecon)*
Noise monitoring and Audit Reports	*Peerboom Colliery (EcoPartners), Thabametsi (Digby Wells), Doxa Deo (Doxa Deo), Harties Dredging (Rand Water), Xstrata Coal – Witbank Regional (Xstrata), Sephaku Delmas (AGES), Amakhala Emoyeni WEF (Windlab Developments), Oyster Bay WEF (Renewable Energy Systems), Tsitsikamma WEF Ambient Sound Level study (Cennergi and SE), Hopefield WEF (Umoya), Wesley WEF (Innowind), Ncora WEF (Innowind), Boschmanspoort (Jones and Wagner), Nqamakwe WEF (Innowind), Hopefield WEF Noise Analysis (Umoya),*

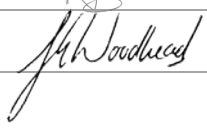
	Dassiesfontein WEF Noise Analysis (BioTherm), Transnet Noise Analysis (Aurecon), Jeffries Bay Wind Farm (Globeleq), Sephaku Aganang (Exigo), Sephaku Delmas (Exigo), Beira Audit (BP/GPT), Nacala Audit (BP/GPT), NATREF (Nemai), Rappa Resources (Rayten), Measurement Report for Sephaku Delmas (Ages), Measurement Report for Sephaku Aganang (Ages), Bank of Botswana measurements (Linnspace), Skukuza Noise Measurements (Concor), Development noise measurement protocol for Mamba Cement (Exigo), Measurement Report for Mamba Cement (Exigo), Measurement Report for Nokeng Fluorspar (Exigo), Tsitsikamma Community Wind Farm Pre-operation sound measurements (Cennergi), Waainek WEF Operational Noise Measurements (Innowind), Sedibeng Brewery Noise Measurements (MENCO), Tsitsikamma Community Wind Farm Operational noise measurements (Cennergi), Noupoort Wind Farm Operational noise measurements (Mainstream), Twisdraai Colliery (Lefatshe Minerals), SASOL Prospecting (Lefatshe Minerals), South32 Klipspruit (Rayten), Sibanye Stillwater Kroondal (Rayten), Rooiberg Asphalt (Rooiberg Asphalt), SASOL Shondoni (Lefatshe), SASOL Twisdraai (Lefatshe), Anglo Mototolo (Exigo), Heineken Inyaniga (AECOM), Glencore Izimbiwa (Cleanstream), Glencore Impunzi (Cleanstream), Black Chrome Mine (Prescali) Sibanye Stillwater Ezulwini (Aurecon), Sibanye Stillwater Beatrix (Aurecon), Bank of Botshwana (Linspace), Lakeside (Linspace), Skukuza (SiVest), Rietvlei Colliery (Jaco-K Consulting), TCTA – Mokolo Project (GIBB), Various (Linspace), Sulzer Hydromining (Sulzer), WCO WEF (Aurora), Great Kei (EDF-Renewables), Elands Platinum (JEMS), Hartebeest WEF (juwi), Mamba Cement (TMCC), Booysens (MDTE), West Rand (MDTE), Devland (MDTE), Zandheuvel (Jacana), Glencore (Kroondal, Rhovan, Rietvly, Waterval-West, Helena, Lion Smelter, Magareng, Thorncliffe, Boshoek, Rustenburg Smelter, Wonderkop) (JMA), McDonalds Albert Street (Linspace), Waterfall Data Centre (Linspace), Zondereinde (Linspace), Copper Sunset Sands (Digby Wells), Exxaro Lephalale (Digby Wells), Tawana Mining (Tawana Mining),
Project Modelling and Consulting	*JW Angola Urban Development (Rayten), Mooi-Mgeni Hydro Project (Rayten), Consmodder (Rayten), Samrand Data Centre (Rayten), Luculus Road (Rayten), Atlanta Weir (Rayten), Beestekraal Weir (Rayten)! Paul Hugo Weir (Rayten), Newcastle Coal Mine (Rayten), Boldman Coal (Rayten), Worcester N1 Upgrade (Rayten), Angola Railway Project (Rayten), Nekkies Road Project (Rayten), George N2 Bypass Road (Rayten), Vanmag project (Rayten), N2 Bypass Borrowpits (Rayten),*
Small Noise Impact Assessments	*TCTA AMD Project Baseline (AECOM), NATREF (Nemai Consulting), Christian Life Church (UrbanSmart), Kosmosdale (UrbanSmart), Louwlardia K220 (UrbanSmart), Richards Bay Port Expansion (AECOM), Babalegi Steel Recycling (AGES), Safika Slag Milling Plant (AGES), Arcelor Mittal WEF (Aurecon), RVM Hydroplant (Aurecon), Grootvlei PS Oil Storage (SiVEST), Rhenosterberg WEF, (SiVEST), Concerto Estate (BPTrust), Ekuseni Youth Centre (MENCO), Kranskop Industrial Park (Cape South Developments), Pretoria Central Mosque (Noman Shaikh), Soshanguve Development (Maluleke Investments), Seshego-D Waste Disposal (Enviroxcellence), Zambesi Safari Equipment (Owner), Noise Annoyance Assessment due to the Operation of the Gautrain (Thornhill and Lakeside Residential Estate), Upington Solar (SE), Ilangalethu Solar (SE), Pofadder Solar (SE), Flagging Trees WEF (SE), Uyekraal WEF (SE), Ruuki Power Station (SE), Richards Bay Port Expansion 2 (AECOM), Babalegi Steel Recycling (AGES), Safika Ladium (AGES), Safika Cement Isando (AGES), RareCo (SE), Struisbaai WEF (SE), Perdekraal WEF (ERM), Kotula Tsatsi Energy (SE), Olievenhoutbosch Township (Nali), , HDMS Project (AECOM), Quarry extensions near Ermelo (Rietspruit Crushers), Proposed uMzimkhulu Landfill in KZN (nZingwe Consultancy), Linksfield Residential Development (Bokomoso Environmental), Rooihuiskraal Ext. Residential Development, CoT (Plandev Town Planners), Floating Power Plant and LNG Import Facility, Richards Bay (ERM), Floating Power Plant project, Saldanha (ERM), Vopak Growth 4 project (ERM), Elandspoort Ext 3 Residential Development (Gibb Engineering), Tiegerpoort Wedding Venue (Henwood Environmental), Monavoni Development (Marindzini), Rezoning of Portion 1 (Primo Properties), Tswaing Mega City (Makole), Mabopane Church (EP Architects), ERGO Soweto Cluster (Kongiwe), Fabio Chains (Marang), GIDZ JMP (Marang), Temple Complex (KWP Create), Germiston Metals (Dorean), Sebenza Metals (Dorean), Malmesbury Abattoir Expansion (Roelcor), Mogalakwena PV Project (Zutari), Serengeti PV Review (Zutari), Nyakallo PV (GCS), Robinson Deep (IQS), Zonnebloem (Zyntha), Forzando North (Cabanga), Tumelo (Cabanga), Daggafontein projects (Kongiwe), Genesis Steyn PV (Kongiwe), ERGO Soweto Cluster (Kongiwe), Kriel PV (NALA), Mhlabatshane project (NEMAI), Coega G2P (Nsovo), Cape Roan Desalination Project (Rayten), AJCOR (Rayten), Swartfontein PV (Savannah)*

Noise Compliance Statements	*Dwarsrug BESS (SiVEST), Hyperion BESS (SE), Loeriesfontein BESS (SiVEST), Platsjambok East and West BESS (SiVEST), Waaihoek BESS (CESNET), Koeris BESS (Zurari), Frontier Gas to Power (ERM), Hyperion BESS (Savannah), Pepsico (Zutari), Umsinde Road (EnviroAgri), Khangela Road (EnviroAgri), Mopani PV projects (AGES Limpopo)*
Project reviews and amendment reports	*Loperberg (Savannah), Dorper (Savannah), Penhoek Pass (Savannah), Oyster Bay (RES), Tsitsikamma Community Wind Farm Noise Simulation project (Cennergi), Amakhala Emoyeni (Windlab), Spreeukloof (Savannah), Spinning Head (SE), Kangra Coal (ERM), West Coast One (Moyeng Energy), Rheboksfontein (Moyeng Energy), De Aar WEF (Holland), Quarterly Measurement Reports – Dangote Delmas (Exigo), Quarterly Measurement Reports – Dangote Lichtenburg (Exigo), Quarterly Measurement Reports – Mamba Cement (Exigo), Quarterly Measurement Reports – Dangote Delmas (Exigo) Quarterly Measurement Reports – Nokeng Fluorspar (Exigo), Proton Energy Limited Nigeria (ERM), Hartebeest WEF Update (Moorreesburg) (Savannah Environmental), Modderfontein WEF Opinion (Terramanzi), IPD Vredenburg WEF (IPD Power Vredenburg), Paul Puts WEF (ARCUS), Juno WEF (ARCUS), Rheboksfontein WEF (ERM), Umzinde WEF (Zutari), Kokerboom 4 (Zutari), Dwarsrug WEF (SiVEST), Highlands North (Holland), Highlands Central (Holland), Highlands South (Holland), Zandheuvel (Jacana), etc.*
Blasting Vibration Assessments	*Anglo Bierspruit (Aurecon), Arengo Iron Thabazimbi (BeyondGES), Vlakfontein Coal (EMAssistance), Gruisfontein Coal (Jacana), Glencore Goedgevonden (Jacana), Remhoogte Coal (Zyntha), Rietkuil Coal (Zyntha), Vygenhoek Platinum (EMAssistance), Dunbar Coal (Enviro-Insight), Bloemendal Coal (Enviro-Insight), Salene Manganese (Prescali), VTM Mining (Ikwezi Vanadium), Newcastle Coal project (Ericure), De Kroon (Zyntha), Naudesbank (Zyntha), Somkhele Project (Ophondweni, Emamahleni, Mahujini) (MENCO), Wagendrift (Milnex), Glenover (Prescali), Braamspruit Coal (Shangoni)*

Appendix D7
Closure and Rehabilitation Plan

BASIS OF ESTIMATE

RUSTENBURG PLATINUM MINES (PTY) LTD AMANDELBULT MINE (AMB)
MINE CLOSURE COST LIABILITY ESTIMATE
DECEMBER 2025

Rev	Name	Designation	Signature	Date
03	Karin Smit	Technician		15 December 2025
	Jared Murray	Technician		15 December 2025
	Naeem Sader	Quantity Surveyor		15 December 2025
	Geoff Woodhead	Director		15 December 2025

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SECTION 1: INTRODUCTION

1.1. Background Of Operation

The Amandelbult mining complex, managed by Rustenburg Platinum Mines Limited, is located in South Africa's Limpopo Province within the Waterberg District, falling under the jurisdiction of the Thabazimbi Local Municipality. Geographically, the operation lies along the northern limb of the Bushveld Igneous Complex, extending approximately 20 kilometres in an east–west direction. The site is positioned roughly 250 kilometres northwest of Johannesburg, about 15 kilometres north of Northam, and 30 kilometres southwest of Thabazimbi.

The Amandelbult Mine (AMB) operations target the extraction of platinum group metals (PGMs) from both the Merensky and UG2 reefs, employing a mix of underground and surface mining methods. The mine is segmented into three operational areas: western, central, and eastern zones.

Mining activities are conducted through two primary units:

Tumela Mine, which is centred around a main vertical shaft (known as No. 1 shaft), and supported by a network of incline and decline shafts located predominantly to the north of the primary shaft infrastructure.

Dishaba Mine, structured similarly, is served by a vertical shaft (No. 2 shaft), with additional supporting incline and decline shafts in its northern section.

Adjacent to these mining areas is the **AMB Concentrator Complex**, which includes both ore processing and tailings management infrastructure. This facility operates two UG2 concentrator plants—UG2 1 and UG2 2—dedicated to processing UG2 ore. Historically, a separate Merensky concentrator handled a combination of underground UG2 and Merensky ore, low-grade stockpiles, and opencast material. This Merensky plant is currently decommissioned, with the UG2 plants now responsible for processing both underground and opencast UG2 ore. A dedicated **Chrome Recovery Plant (CRP)** is also integrated into the complex, designed to recover chromite from UG2 slurry streams.

The **Tailings Storage Facility (TSF)** is composed of four main compartments: Dam 1, Dam 2, Dam 3A, and Dam 3B. Dams 3A and 3B serve as active wet tailings deposition sites, with Dam 3B being the primary deposition area in recent years. Dam 2 has been identified as a strategic source of recoverable PGMs and Chrome, and feasibility investigations are currently underway to assess the potential for reprocessing historical tailings from this compartment.

The proposed **TSF Reclamation and Processing Project** aims to reclaim and treat material from Dam 2. The objectives include: extending the lifecycle of the TSF footprint through reuse, minimizing the environmental liabilities associated with final closure, and supporting the development of a long-term, sustainable processing solution.

From a regulatory perspective, this project is subject to the requirements of Section 44 of the National Environmental Management Act (NEMA), including compliance with the Environmental Impact Assessment (EIA) Regulations of 2014, as amended. The EIA will include an assessment of cumulative environmental impacts associated with both the proposed project and other existing or planned mining activities in the surrounding region. Kongiwe Environmental (Pty) Ltd has been appointed to lead the environmental assessments.

AMB holds mining rights under DMRE references LP 30/5/1/2/3/2/1 (048) EM and LP 30/5/1/2/2/48 MR. These rights cover various portions of the following farms:

- Haakdoorndrift 374 KQ
- Elandskuil 378 KQ
- Grootkuil 376 KQ
- Middellaagte 382 KQ
- Amandelbult 383 KQ
- Zwartkop 369 KQ
- Elandsfontein 386 KQ
- Schildpadnest 385 KQ
- Moddergat 389 KQ

The immediate area surrounding the AMB complex hosts several other mining operations, including Northam Platinum's Zondereinde Mine to the south (DMRE Ref: LP37MR), Afraks Vlakpoort Mine to the west, and Limberg Mining Company's Thaba Chrome Mine to the north (DMRE Ref: LP30/5/1/2/3/2/1 (115) EM).

In addition to its mining rights, AMB also holds surface ownership of significant portions within its licensed area, including parts of Amandelbult 383 KQ and Middellaagte 382 KQ, along with other strategically positioned properties that support operational access and infrastructure development.

1.2. Processing Overview

As part of its broader initiative to optimise resource recovery and utilise existing infrastructure, the Amandelbult Mine (AMB) is proposing the reclamation and reprocessing of historic tailings from Dam 2 within the AMB Tailings Storage Facility (TSF). This operation aims to extract residual Platinum Group Metals (PGMs) and chromite through a dual-method reclamation process. Both hydraulic and mechanical techniques will be employed, with operational controls in place to ensure the structural integrity of the surrounding TSF compartments remains uncompromised throughout the reclamation programme.

1.2.1. Mechanical Reclamation

This method involves the removal of vegetation and dry tailing material from Tailing Storage Facility Dam No 2 using a truck and shovel operation. The tailings materials will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. once blended, the materials will be subjected to hydraulic mining.

1.2.2. Hydraulic Reclamation

Hydraulic reclamation will utilise a floating barge system that traverses Dam 2 in line with the reclamation progress. Extracted slurry will be directed through a short high-density polyethylene (HDPE) pipeline to the slurry transfer facility. Screening equipment will be used to remove oversized solids and organic matter such as vegetation and wood. The separated organic content will be accumulated and transported to the existing on-site composting area. Two potential locations at the base of the TSF are currently being assessed for the slurry transfer station. Following screening, the slurry will be pumped via approximately 3 km of new pipeline infrastructure—aligned with existing corridors—toward the designated processing area. To support logistics, the existing haul road between the TSF and the plant area will be upgraded, extended by roughly 1.2 km, and widened to accommodate increased vehicle movement.

1.2.3. Power and Utilities

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11 kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0.34 km to the TSF2 laydown area.

Power will be connected via a transformer located at the transfer station.

1.2.4. Process Water Supply

Water for hydraulic reclamation will be sourced through the concentrator supply routes: the supply is routed from the concentrator, process water, gland service water, and potable water will be conveyed along newly installed pipelines approximately 2.5 km in length. All pipelines will be routed around the TSF perimeter to maintain operational separation and accessibility.

1.2.5. Processing Infrastructure

The project will re-use existing infrastructure, specifically the M3 and M4 Chrome Plant and existing buildings for the existing PGM plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM Plant which features an IsaMill and Jameson Cells Floatation circuit and the other portion will go to the existing Chrome plant. The existing PCD's will be utilized throughout this process to help maintain and prevent hazardous materials leeching into the surrounding environments.

Please find Appendix 2 below for the Site layout as contained in *AngloPlat Proposed Layout Landscape V11 A3*.

1.2.6. Material Flow and Product Handling

Material reclaimed from Dam 2 will be processed through either the newly constructed PGM and Chrome recovery plants or, where suitable, the existing concentrator plant. Extracted products—PGMs and chromite—will be stored in silos or bins at the respective processing units. Chromite will be transferred to a stockpile area adjacent to the existing Chrome Recovery Plant (CRP) pad, with two layout options under consideration: one to the north and one to the east of the current pad. Both proposed sites are within close range of existing rail infrastructure to enable efficient product dispatch.

Residue material (post-processing) will be directed to the new tailings thickening facility before being discharged into an existing buffer tank at the Amandelbult plant. Final disposal will occur at TSF Dam 3B via the current tailings pipeline system.

1.2.7. Regulatory Requirements

The proposed project will be subject to various regulatory approvals and environmental compliance processes. In accordance with the National Environmental Management Act (Act No. 107 of 1998) and the National Environmental Management: Waste Act (Act No. 59 of 2008), a full Environmental Impact Assessment (EIA) will be conducted. The project is also expected to require a Water Use Licence (WUL) under Section 21 of the National Water Act (Act No. 36 of 1998), due to the anticipated interaction with surface water, process water, and waste streams.

1.3. Objective of Rehabilitation Estimate

This Basis of Estimate (BOE) provides the foundational framework for evaluating closure liabilities associated with the AMB operations. It integrates the latest available data on asset inventories, process-residue relationships, and environmental interdependencies. The estimate is designed to inform both regulatory financial provisioning and internal strategic planning efforts.

Key focus areas include the identification of information gaps and dependencies—particularly in relation to tailings storage facilities, water management systems, and ongoing rehabilitation activities. These areas have been flagged to guide future estimate refinements through targeted studies and updated operational data.

Where applicable, the estimate incorporates information from publicly disclosed site reports, such as those related to TSF governance and adaptive water quality management, to ensure consistency with established operational practices and oversight protocols. This document has been developed to align with applicable South African environmental and mining legislation, while also fulfilling internal corporate requirements for closure planning and liability management.

1.4. Regulatory Framework

1.4.1. Scoping and EIA Timeframes

The S&EIA process for the Proposed Project follows a structured timeline to meet regulatory requirements. The Draft Scoping Report (DSR) was released for a 30-day public review period. Comments received during this period were compiled in a Comments and Responses Report (CRR) and submitted with the Final Scoping Report (FSR) (Appendix C).

Once the FSR is submitted to the Department of Mineral Resources and Energy (DMRE) as the Competent Authority (CA), the DMRE has 43 days to accept or reject the report. Acceptance initiates the EIA phase, which runs for 106 days and includes a 30-day period for stakeholder review of the S&EIR documentation.

Upon submission of the Environmental Impact Assessment / Environmental Management Programme (EIA/EMPr) document, the DMRE has 107 days to issue a Record of Decision (RoD), which serves as the Environmental Authorisation (EA). Any party, including the applicant, may appeal the EA within 20 days under the National Appeal Regulations (GNR 993 of 8 December 2014, published under NEMA).

If significant amendments to the EIA/EMPr are required after initial consultation, the applicant may submit a notice to the DMRE, allowing a revised submission period of 156 days from acceptance of the Scoping Report. This period also provides stakeholders with a further 30-day review window for the amended documentation.

1.4.2. National Web-Based Environmental Screening Tool

In line with Regulation 16(1)(b)(v) of the 2014 EIA Regulations (as amended), all EA applications submitted post-October 2019 must include a Screening Report generated using the Department of Forestry, Fisheries and the Environment (DFFE)'s National Web-Based Environmental Screening Tool.

This platform enables Environmental Assessment Practitioners (EAPs) to assess the site for environmental sensitivities, identify potential development constraints, and determine the scope of required specialist inputs.

1.4.3. Scoping Methodology

The Scoping Phase lays the foundation for the subsequent EIA process, establishing the approach for specialist assessments and defining the project's environmental context. The methodology adopted in the S&EIA process is illustrated in the figure 1 below, providing a clear structure for evaluating potential impacts and identifying appropriate mitigation or enhancement measures across environmental, social, and cultural dimensions.

Figure 1: S&EIA Process

1.4.4. Public Participation Process (PPP)

A comprehensive Public Participation Process (PPP) is being undertaken in compliance with the 2014 EIA Regulations (as amended). The PPP facilitates open communication between project stakeholders, regulatory bodies, and the project proponent.

Stakeholder engagement is a key component of the process, aimed at gathering input, addressing concerns early in the project lifecycle, and ensuring transparency in the decision-making process. Kongiwe actively encourages meaningful public involvement throughout the S&EIA to support inclusive and informed project development.

SECTION 2: SCOPE OF WORK AND BATTERY LIMITS

2.1. Scope of Work

The Proposed Project focuses on the reclamation and processing of Dam 2 within the AMB TSF complex, with the primary objective of recovering Platinum Group Metals (PGMs) and Chrome. The reclamation will employ a combination of hydraulic and mechanical methods to maximise material recovery efficiency.

2.1.1. Mechanical Reclamation

Material recovered through mechanical methods will be excavated from the TSF and transported by truck to a slurry transfer station. At this facility, a temporary stockpile will be established, from which the material will be fed into the repulping plant for processing.

2.1.2. Hydraulic Reclamation

Hydraulic reclamation involves pumping material from the top of Dam 2 via a barge system. The recovered material is conveyed through a high-density polyethylene (HDPE) pipeline to the slurry transfer station, where it joins mechanically recovered material for processing.

2.1.3. Recovering and Processing

The reclamation process targets surface tailings produced by historical underground mining operations. The operation is characterised as high-volume but low risk, treating large quantities of tailings through established processing plants to recover PGMs and Chrome. Recovery rates are influenced by the characteristics of the specific material being processed.

2.1.4. Operational and Economic Considerations

Reclaiming Dam 2 is economically viable and enhances the safety and stability of operations. Post-reclamation, the TSF footprint can be reused, improving the structural stability of the integrated TSF complex. This approach reduces the need to construct a new TSF on undeveloped (greenfield) land and supports the designation of TSF reclamation as the 'Preferred Activity' over maintaining the dormant Dam 2 in situ.

2.2. Battery Limits

2.2.1. Infrastructure Intended for the Project

- **Barge Pump – Estimate Area Number 1000**
    - Purpose: Move slurry from TSF No. 2 to slurry transfer station
    - Location: On top of the TSF, moving along the lowest point
    - Components: Spindle pump, Motor, Control centre, Access ladder
- **Slurry Transfer Station – Estimate Area Number 2000**
    - Purpose: Receive slurry, screen vegetation/oversize material, feed surge tank and tailings to PGM/Chrome plant
    - Footprint: 12 000 m^2 (1.2 Ha)
    - Components: Vibrating screen, cyclones, surge tank; Process water & gland service water tanks; Compressor, MCC, transformers; Ablution facilities, offices, control room; Concrete/steel structures, pumps, piping, instrumentation
- **TSF No. 2 Laydown Area – Estimate Area Number 3000**
    - Footprint: 8 000 m^2 (0.8 Ha)
    - Diesel storage: 23 000 L tanks, Fuel dispensing & filtration systems, Refuelling bays
- **Plant Feed Pipelines – Estimate Area Number 4000**
    - Route: From TSF No. 2 to PGM/Chrome plant (~3 km, 400 mm diameter)

- **Haul Road – Estimate Area Number 5000**
    - Upgrade: Existing road lengthened by 1.2 km, widened to 8–9 m
    - Footprint: 10 800 m^2 (1.08 Ha)
- **PGM and Chrome Processing Plant – Estimate Area Number 6000**
    - Purpose: to process PGM Materials
- **Vegetation Handling Area – Estimate Area Number 7000 (included under rehabilitation only)**
    - Purpose: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No.1. This compost will therefore be spread out onto the top of TSF No 1. or used elsewhere on site as required.

2.2.2. Pipelines

- New slurry pipelines (3 km, 400 mm diameter) along existing routes
- Process water sourcing options: Existing concentrator plant & new slurry transfer station (2.5 km pipelines)

2.2.3. Access

- Access via R510 onto existing haul roads

2.2.4. Power Supply, Process Water, and Other Requirements

- **Power Supply:** 11 kV line from concentrator plant to TSF Mini Substation (~2.5 km); 11 kV lines from Mini Substation to Water Booster Stations (2.5 km and 3.2 km); Additional 11 kV line from #4 Shaft (~1.3 km)
- **Potable Water & Sewage:** Staff/contractor potable water from Magalies Water Board; Backup: JoJo tanks or connection to existing pipelines; Sewage: Conservancy tanks and serviced portable toilets

Process Water: Recycled and reused on site; Concentrator plant; Conveyed via new pipelines to reclamation site.

SECTION 3: BASIS OF ESTIMATE

3.1. Methodology

This closure cost estimate has been prepared as a Class 5 estimate, representing an early-stage assessment with approximately 0% to 2% of the final scope definition complete. The purpose of this estimate is concept screening and to provide a preliminary indication of potential closure liabilities.

The estimating approach applies capacity-factored relationships, parametric modelling, professional judgement, and analogy with similar mining operations, rather than detailed engineering or measured quantities. Data sources include industry benchmarks, closure costs from comparable projects, and broad assumptions regarding infrastructure, earthworks, and rehabilitation requirements.

This estimate is intended as a high-level planning tool to support strategic decision-making and to identify areas where additional design detail and site-specific data will be required for future, more accurate estimate classes.

For ease of reference, AACE schedule the classification of estimates as such:

	PRIMARY CHARACTERISTICS	SECONDARY CHARACTERISTICS		
ESTIMATE CLASS	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges
Class 5	0% to 2 %	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

Table A: AACE Schedule of Estimate Classification

3.2. Estimate Accuracy

The Class 5 classification is defined by the Association for the Advancement of Cost Engineering (AACE) as an estimate that carries a typical accuracy range of -20% to -50% on the low side and +30% to +100% on the high side.

This range reflects the inherent uncertainty at the concept stage and should be considered when interpreting the results. The figures presented are not intended for budget approval or contractual purposes but rather for early-stage planning and to guide the next phases of closure planning, engineering design, and cost refinement.

3.3. Pricing Assumptions

Unit rates were developed using a combination of market quotes, recent project benchmarks, and site-specific productivity factors. Rates reflect the logistical and operational realities of the site.

3.4. Supporting Information and Source Data

Key information was drawn from engineering records, cost databases, contractor input, and environmental monitoring data.

3.5. Exclusions

The estimate does not make provisions for the following:

- The existing site infrastructure that includes pipe racking where the new pipelines will be laid;
- Any mechanical items, including all pump systems and control panels;
- The overhead powerlines removal cost;
- Removal of the remined TSF's starter walls;
- Latent environmental liabilities;
- Hazardous waste remediation outside the identified scope; and
- Potential salvage value recovery from dismantled assets.

SECTION 4: CLOSURE OBJECTIVES

4.1. Closure Objectives

Please find Appendix 1 below, which refers to the closure objectives as found in *41106438-REP-00001_Rep_AAP Amandelbult CLA 2024_09Dec24_FINAL, section 7*.

SECTION 5: AGGREGATION OF COST ESTIMATE

This estimate has been compiled to a Schedule 5 (Class 5) level, reflecting conceptual planning detail and incorporating conservative assumptions. The figures cover the decommissioning of surface infrastructure (civils, structural steel, piping, cabling, and roads) as well as rehabilitation measures such as topsoil replacement and revegetation of disturbed areas.

Area Nr	Geographical Package	Civils	Building	Structural Steelwork	Piping	Cabling	Dams	Roads	Topsoil	Revegetation	Total
1000	Barge Pump	R -	R -	R 43 587	R 180 000	R 14 510	R -	R -	R -	R -	R 238 097
2000	Slurry Transfer Station	R 357 909	R 49 502	R 131 496	R 26 046	R -	R -	R -	R -	R -	R 564 953
3000	TSF No.2 Laydown Area	R 10 944	R -	R 9 502	R -	R -	R 17 708	R -	R -	R -	R 38 155
4000	Plant Feed Pipelines	R -	R -	R 18 799	R 2 874 000	R -	R -	R -	R -	R -	R 2 892 799
5000	Haul Road	R 0	R -	R -	R -	R -	R -	R 825 185	R -	R -	R 825 185
6000	PGM and Chrome Processing Plant	R 137 478	R 14 610	R 95 130	R 26 313	R 8 034	R -	R -	R -	R -	R 281 565
7000	Rehabilitation	R -	R -	R -	R -	R -	R -	R -	R 2 620 369	R 2 983 341	R 5 603 710
	Total	**R 506 332**	**R 64 113**	**R 298 514**	**R 3 106 359**	**R 22 544**	**R 17 708**	**R 825 185**	**R 2 620 369**	**R 2 983 341**	**R 10 444 463**

It is important to note that:

- The estimate does not include any potential revenue from salvage, resale, or recycling of dismantled assets.
- Mechanical items have been excluded from the estimate.
- Only activities within the defined closure scope are included; latent or unforeseen liabilities are excluded.
- Rehabilitation costs are based on reinstating disturbed areas to a safe, stable, and non-polluting condition, with topsoil and vegetation measures forming the primary means of stabilisation.

The total closure estimate, exclusive of contingency or VAT, amounts to **R 10,444,463.**

SECTION 6: SOURCE OF INPUT RATES

6.1. Preliminary and General (P&G's)

The closure cost estimate incorporates an allowance for Preliminary and General (P&G's) items, representing the indirect costs associated with project delivery. These costs cover items such as site establishment, supervision, project management, temporary services, and overheads. A 16% allowance for P&G's has been applied to the total project cost, rather than to each individual discipline.

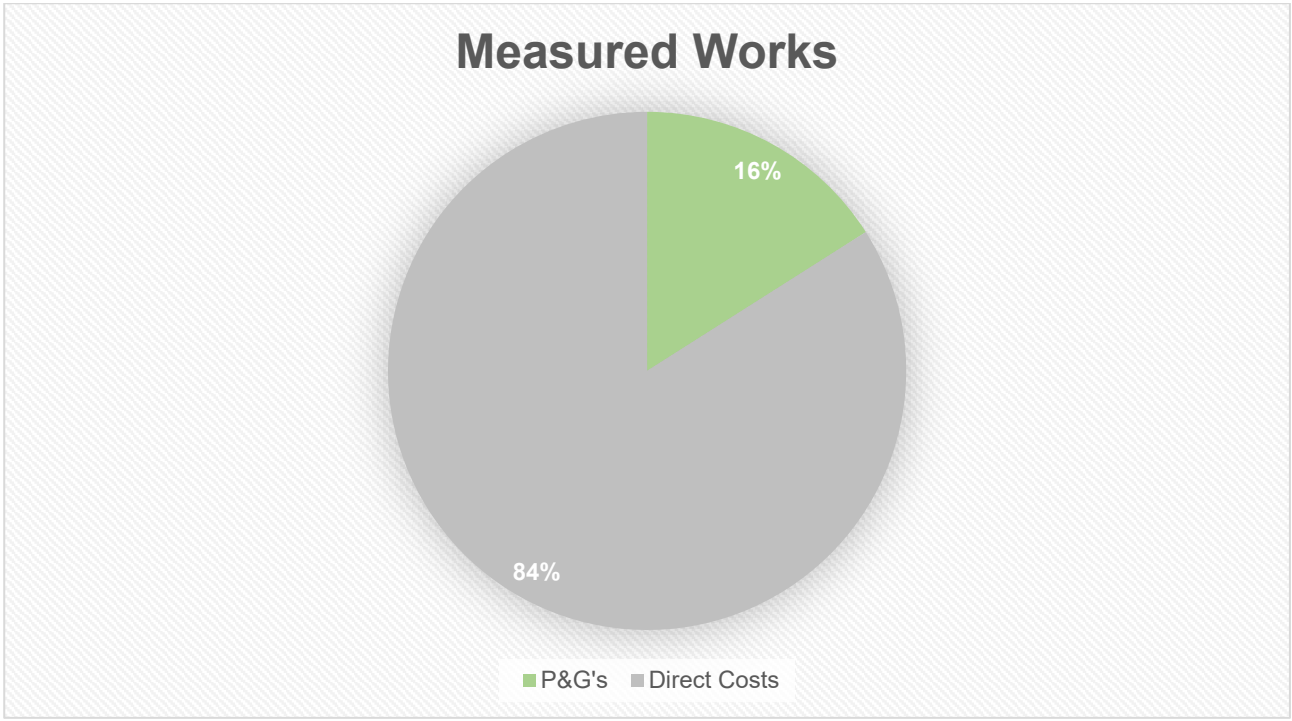
This ensures that all indirect cost requirements are adequately accounted for and provides a realistic representation of the overall financial obligation at closure.

When viewed against the total estimate, 16% represents indirect costs, while 84% represents direct closure and rehabilitation costs.

6.2. Contingency

This estimate has been prepared as a Class 5 estimate in accordance with industry-standard estimating classifications. Given the early stage of project definition and the inherent high level of uncertainty associated with Class 5 estimates—typically based on limited information and conceptual design—no contingency has been included at this stage. The estimate falls within the expected accuracy range for a Class 5 estimate, which generally spans from -50% to +100%, and is intended for the prefeasibility study phase.

The diagram below illustrates the Measured Works against the indirect costs (P&G's):



Graph 1: Measured Works

6.3. Demolition Cost Basis and Escalation

Rates for demolition-related activities have been sourced directly from a specialist demolition contractor in 2024. These base rates have been reviewed, verified for scope alignment, and escalated to reflect 2025 pricing, using indices published by the Steel and Engineering Industries Federation of Southern Africa (SEIFSA). Escalation beyond 2025—through to the projected closure period—has been applied in accordance with forecast SEIFSA cost indices, ensuring alignment with prevailing market trends and inflation expectations within the construction and demolition sectors. These escalated rates form the basis for the demolition cost components in this estimate and will be subject to future refinement as the project progresses and contractor inputs are updated.

APPENDIX 1: CLOSURE OBJECTIVES

7 CLOSURE OBJECTIVES

The successful integration and execution of closure planning at Amandelbult is critical to ensuring a sustainable post-closure transition. The following objectives and implementation strategies are outlined in Table 7-1 to guide this process:

Table 7-1 – Closure objectives

Objectives
Implementation
▪ Fully integrate closure planning into the mine's operational management systems, including mine planning and decision-making processes, to ensure that closure considerations are embedded in day-to-day operations. ▪ Maintain continuous implementation and strengthen the connection between the closure planning outcomes and the mine's core business plans. This includes ensuring alignment with mine plans and other key planning documents, creating a cohesive approach to closure. ▪ Establish a clear line of accountability for the implementation of closure planning. This includes defining roles and responsibilities, ensuring the necessary authority, and allocating the required resources, training, and competence to meet closure objectives and targets. ▪ Effectively communicate closure planning objectives, targets, and results to all personnel involved in the process. Additionally, ensure these are transparently communicated to external stakeholders to foster trust and engagement throughout the closure process. ▪ Incorporate any significant planned or unplanned changes in the operation into the latest closure planning updates and associated closure cost estimates. This ensures that the closure plan remains adaptive to evolving circumstances. ▪ Establish and continually update a robust knowledge base, encompassing environmental and socio-economic factors, which will serve as a reference point for comparing and justifying performance objectives at the time of closure. ▪ Ensure that all closure-related documentation and data records are stored securely, easily retrievable, and protected against damage, deterioration, or loss. Retention times for these documents must be clearly established, recorded, and justified. ▪ Implement comprehensive procedures that cover all aspects of the closure process. Additionally, ensure that staff involved in closure activities are properly trained in performing tasks specific to closure, enhancing the effectiveness of the closure process.
Consultation
▪ Actively involve local communities and government entities in the closure planning process, ensuring that legitimate stakeholders have a significant role in identifying and selecting appropriate closure options. ▪ Gain broad support for the planned end-use of the mine by engaging stakeholders who will be impacted by the mine's legacy post-closure. This ensures that the closure plan aligns with the needs and aspirations of the affected parties. ▪ Adequately prepare stakeholders to be flexible in the face of future changes in closure planning by setting clear agreements and defining roles and responsibilities. This ensures stakeholders are ready to adapt to unforeseen developments.

Objectives

- Promote mutual learning between the mine and its stakeholders to understand each other's concerns, finding common ground to achieve sustainable and beneficial closure outcomes for all parties involved.
- Inform neighbouring communities and other relevant stakeholders about the mine's priorities for closure and empower them to contribute input towards the development and implementation of the closure strategy. This ensures that their voices are heard in shaping the final plan.
- Minimise social risk to the local community by fostering trust and credibility among stakeholders. This will be essential for securing broad community support for the mine closure management plan, ensuring a smooth transition post-closure.
- Maintain consistent engagement with regulators throughout the operational phase to refine the closure management plan. This will assist in the streamlined approval of performance and abandonment criteria, ensuring compliance with regulatory requirements.
- Cultivate strong, credible relationships with all stakeholders through transparent and inclusive consultation processes. This enhances stakeholder ownership of the closure plan and increases their investment in its successful execution.
- Effectively manage and mitigate unrealistic expectations regarding the closure process, ensuring that all stakeholders have a clear understanding of the realistic outcomes and timelines.
- Ensure that the interests of all relevant stakeholders, including the local community, government, and employees, are considered during the closure process. This promotes an equitable approach to closure planning that benefits all parties involved.
- Ensure that formal agreements regarding closure are established with the relevant government agencies and stakeholders, laying the foundation for a legally sound and socially acceptable closure process.

Socio-economic mitigation

- Ensure that the rehabilitated mine site is left in a condition that minimizes negative impacts on both the human and natural environment. Additionally, work towards leaving a positive social legacy that contributes to sustainable development, creating lasting benefits for future generations.
- Develop and implement capacity-building initiatives and job creation opportunities during mine operations to support the socio-economic sustainability of the area after the mine closure. This will provide local communities with the skills and economic opportunities needed for a smooth transition once the mine ceases operations.
- Plan and execute the effective hand-over of pre-determined mining-related surface infrastructure and equipment for future use by other parties, ensuring that these assets are repurposed in a way that benefits the community or other sectors after the mine closure.
- Provide appropriate training and awareness programs to the State and local communities, empowering them to effectively manage and maintain mining-related surface infrastructure and financial/commercial resources transferred from the mine. This ensures that the infrastructure remains viable and sustainable after mine closure.
- Ensure that the contributions made by the mine towards the long-term socio-economic development of local communities are sustainable. This includes the creation of programs and investments that will continue to generate benefits long after the mine has closed.
- Reduce the local community's dependence on the mine throughout the LoM. This involves creating diverse economic opportunities that can support the community in the post-closure phase, mitigating potential negative impacts from the mine's closure.

Objectives

- Undertake capacity-building efforts aimed at helping communities remain stable following the withdrawal of the non-local project workforce. These efforts will focus on enhancing local resilience and the ability to thrive independently of the mine's operations.

Workforce management

- Ensure that all employees and representative unions are fully aware of the planned LoM and the associated retrenchment or downscaling activities linked to the cessation of operations. Clear communication about the timeline and expected changes is critical to minimizing confusion and uncertainty.
- Actively manage and address any unrealistic expectations regarding the closure process, thereby reducing the risk of social unrest. By providing transparent, accurate, and timely information, potential grievances and conflicts can be minimized, ensuring a smoother transition for the workforce.
- Implement appropriate training programs designed to equip the workforce with skills that will remain valuable beyond the mine's closure. These programs will focus on empowering employees with the competencies needed to pursue alternative employment or entrepreneurial opportunities in the post-closure economy.
- Work to identify viable employment and business opportunities for employees and contractors after the mine closes. This involves creating programs or partnerships that support workforce reemployment, entrepreneurship, or skills transfer to other industries, thereby fostering long-term economic sustainability for workers.
- Maintain equality and fairness between workers during the decommissioning phase and into post-closure. This includes ensuring that retrenchment processes are transparent, non-discriminatory, and aligned with local labour laws and agreements, as well as offering support to all affected workers equitably.

Concurrent rehabilitation

- Rehabilitation efforts should begin as soon as an area is no longer required for mining activities, rather than waiting until the final stages of mine closure. This proactive approach helps mitigate environmental degradation early, reduces the accumulation of environmental liabilities, and progressively improves the site's ecological condition over time. By tackling disturbances throughout the mine's life, the overall environmental footprint can be significantly reduced.
- Once mining operations have disturbed a particular area, it is crucial to restore the topsoil to provide a fertile, viable medium for vegetation growth. Recovered topsoil, which is carefully preserved during the mining process, will be used to cover disturbed areas and promote the re-establishment of natural vegetation. This is essential for soil fertility, moisture retention, and promoting long-term ecosystem health.
- The successful establishment of vegetation is key to stabilizing rehabilitated areas. This includes selecting and planting appropriate species that can thrive in the specific environmental conditions of the mine site. Vegetation will serve not only to stabilize the topsoil but also reduce the visual impact of mining activities. By restoring natural vegetation, the rehabilitated areas will blend more seamlessly into the surrounding landscape, improving the aesthetic value of the site.
- Rehabilitation trials should be conducted early in the mine's life to evaluate and refine effective rehabilitation practices. These trials will allow the team to experiment with different methods, plant species, and soil treatments to determine the most effective rehabilitation strategies. Early trials will provide valuable insights that can be used to optimize the rehabilitation process

Objectives

throughout the operational phase of the mine, ensuring better outcomes and less risk of failure during the closure phase.

- A core aim of concurrent rehabilitation is to reduce the environmental impacts of mining, particularly those related to soil loss, erosion, and visual degradation. By actively rehabilitating disturbed areas, the mine will minimize the long-term ecological footprint, improve biodiversity, and limit the exposure of bare soil, which can lead to dust generation, erosion, and habitat loss. This reduces the cumulative impact of mining activities on the surrounding environment.
- As areas are rehabilitated, it is important to restore land capabilities that align with the planned post-closure land use. This may include re-establishing agricultural potential, re-vegetating for wildlife habitat, or restoring land to be suitable for future recreational use. Progressive land capability restoration will ensure that the mine site is prepared for a sustainable post-mining future, where the land can be utilized effectively by local communities, businesses, or conservation efforts.
- Continuously monitor the effectiveness of rehabilitation activities and adapt strategies based on changing conditions and new research. Environmental conditions, such as climate change impacts, can evolve over time, so it's important to adapt rehabilitation practices as necessary. Regular monitoring and adjusting rehabilitation techniques can ensure long-term success and prevent setbacks in re-vegetation or land stability.
- Design rehabilitation strategies with an eye on future climate changes, ensuring that ecosystems will be resilient to altered precipitation patterns, temperature changes, or extreme weather events. Climate change will likely alter local conditions and may affect plant growth or ecosystem recovery. Rehabilitation efforts should be designed to increase resilience to these potential changes, ensuring that rehabilitated areas remain stable and productive in the face of shifting environmental conditions.

Decommissioning

- Dismantle, decontaminate, and remove all surface infrastructure and equipment with no post-closure utility, ensuring the disturbed footprint is restored and prepared for the planned end land use. Ensuring that all non-essential infrastructure is safely removed or stabilised facilitates the restoration of the mine for future use, aligning the mine's condition with the planned end-use. This also helps mitigate any long-term environmental impacts stemming from redundant infrastructure.
- Safeguard the local environmental quality by addressing potential physical effects and contamination (both inorganic and organic) from the mine, and maintaining catchment yield as much as possible post-closure. Preventing contamination from harmful substances, such as chemical residues or heavy metals, is crucial to ensure that the rehabilitated site does not negatively affect surrounding ecosystems or water resources. By sustaining catchment yield, the mine's closure can ensure that the surrounding environment remains resilient and functional for future use.
- Eliminate potential health and safety hazards for humans and animals by removing hazardous waste and ensuring safe disposal of any process-related contaminants. As the mine transitions from active mining to post-closure, it is crucial to remove or neutralise contaminants that could pose risks to human or animal health. The focus is on ensuring that the land is safe for future stakeholders, including wildlife and surrounding communities.
- Reinstate land capabilities over the mine site to facilitate the progressive implementation of the planned end land use, ensuring land use compatibility and sustainability. Rehabilitating the mine site to meet the planned end-use requirements, whether for agriculture, conservation, or other uses, requires restoring the land's functionality. This includes addressing soil quality, topography, and any infrastructure impacts to ensure compatibility with the intended post-closure use.

Objectives

- Ensure that the rehabilitated mine site not only meets functional requirements but also aligns with aesthetic standards set in the end land use plan. This includes cleaning up demolition waste, rubble, and any other debris to achieve an aesthetically pleasing appearance. A well-maintained, aesthetically pleasing site contributes to the social acceptability of mine closure and supports long-term community relations. An aesthetically cohesive rehabilitation also signals responsible mining practices to stakeholders, including regulators and the local community.
- Ensure that the transfer of infrastructure to third parties is sustainable, ensuring that the recipient parties are capable of maintaining and utilizing the infrastructure post-closure. Sustainable transfers mean that infrastructure that could be of value to local communities or other stakeholders will continue to serve a useful purpose without placing undue financial or operational burdens on those receiving it. This ensures the ongoing viability of the infrastructure and reduces the risk of future abandonment or disrepair.

Decontamination

- Prevent any adverse impacts on local environmental quality, particularly due to chemical contamination resulting from mining activities. This involves identifying and addressing any sources of contamination, such as hazardous chemicals, heavy metals, or pollutants, that may have been released during mining operations. The focus will be on conducting comprehensive site assessments to detect contamination and implementing strategies to remove or neutralize harmful substances to protect local ecosystems, including water sources, soil, and vegetation. The goal is to leave a mine site that is environmentally stable and does not pose long-term risks to surrounding areas.
- Minimize any potential health and safety threats posed to humans and animals that may use the rehabilitated mine site in the future. The presence of residual contaminants—whether from processing chemicals, industrial waste, or hazardous materials—must be carefully managed. The plan will include systematic identification, removal, and safe disposal of contaminants to ensure that the land is free from hazardous waste once rehabilitation is complete. This decontamination process will be designed to meet strict safety standards, ensuring that no harmful materials remain on-site that could threaten human or animal health, particularly as the land transitions to post-mining use.
- Reinstate the land's capabilities to support its intended future uses. This includes remediating areas that have been contaminated by mining operations, cleaning up soil areas impacted by mining activities, and returning the land to a functional state.

Rehabilitation

- Safely remove or stabilize all redundant surface infrastructure and disturbed areas, including mining zones, to prepare the site for its post-mining land use. This includes decommissioning buildings, plant facilities, and other non-operational structures, ensuring that they do not impede the planned end use of the land.
- Ensure that the rehabilitation activities do not introduce or exacerbate negative physical or chemical impacts on the environment. This requires careful management of residual pollutants, such as chemicals, metals, or other contaminants, to prevent contamination of soil, water, and air quality on-site and in surrounding areas.
- Address potential health and safety threats posed to humans and animals by ensuring that all hazardous materials, such as asbestos or heavy metals, are removed or properly secured to eliminate risks. Additionally, secure areas that may present physical dangers, such as open voids or deep excavations, ensuring public safety during and after the rehabilitation process.

Objectives

- Identify and remove any sources of surface water contamination on the mine, such as tailings or chemicals left over from mining processes. This will help prevent contamination from reaching downstream water bodies, which could affect local ecosystems and communities.
- Implement strategies to minimize dust generation on the rehabilitated site, reducing the potential for nuisance and health issues for surrounding communities. Techniques may include vegetation cover, water spraying, or dust-binding agents to control airborne particulates.
- Prevent the loss of valuable topsoil by ensuring that it is preserved and appropriately stored for use in rehabilitating the mine site. Topsoil is critical for establishing healthy vegetation, and its careful management ensures the success of future plant growth in the rehabilitated areas.
- Shape and profile the rehabilitated areas to create landforms that mimic the natural topography of the surrounding landscape. This will help the site blend seamlessly into its environment and prevent erosion and waterlogging by ensuring that drainage patterns are appropriate.
- Implement measures to prevent erosion in the short- to medium-term, particularly in newly rehabilitated areas, by installing erosion barriers, covering disturbed surfaces with suitable vegetation, or using geotextiles to stabilize the soil until a healthy vegetation cover is established.
- Ensure that the rehabilitated mine site is properly drained and that disturbed areas are prepared for the natural growth of vegetation. This includes creating appropriate drainage channels, ensuring they do not accumulate standing water that could harm plant growth or create breeding grounds for mosquitoes.
- Ensure that any drainage lines constructed in the rehabilitated areas are designed to avoid scouring or erosion. Erosion-prone areas will be carefully engineered to facilitate water flow while maintaining the integrity of the landscape and preventing further degradation.
- Promote the natural re-establishment of indigenous, pioneer vegetation species, which are crucial for restoring ecosystem processes and services such as soil stabilization, water filtration, and habitat for local fauna. This will be achieved through natural succession processes, supported by strategic planting or seed dispersal techniques.
- Encourage the establishment of resilient, self-sustaining vegetation communities that will naturally support local fauna by providing suitable habitats and food sources. These communities should be diverse, incorporating a variety of plant species to support a wide range of animals and insects.
- Actively remove invasive alien species that disrupt the establishment of indigenous vegetation, alter ecosystem dynamics, and detract from the visual and environmental quality of the site. This will enhance the success of rehabilitation efforts and restore ecological balance.
- Maintain a neat and aesthetically pleasing rehabilitated site through appropriate waste management, landscaping, and re-vegetation practices. This includes profiling and shaping waste dumps and other disturbed areas to blend in with the surrounding natural landscape, ensuring that the area looks natural and functions properly for the long term.
- Implement practices that foster biodiversity conservation and contribute to sustainable development goals, ensuring that the rehabilitation efforts support long-term ecological health and resilience. This includes ensuring that habitat restoration efforts promote the survival and proliferation of local species.
- Safeguard any cultural or archaeological sites and artefacts present on the mine site. All rehabilitation efforts will be conducted with due regard to preserving cultural heritage, including monitoring and managing the site to prevent damage to historical sites or objects.

Monitoring and aftercare

- Implement a robust monitoring framework to track the success of closure and rehabilitation efforts, both during the operational phase and at the time of closure. This will ensure that all

Objectives
implemented measures meet the required environmental, social, and regulatory standards, and that any deviations are addressed promptly. ▪ Where rehabilitation efforts have not been successful or have not achieved the desired outcomes, establish and implement appropriate care and maintenance practices. These will be designed to remediate issues, improve the rehabilitation process, and prevent environmental degradation or other long-term risks, ensuring that the site remains safe and compliant post-closure.
Site relinquishment
▪ Ensure that the company has successfully met all agreed completion criteria as outlined in the closure plan. This must be done to the satisfaction of the responsible authority, confirming that all regulatory requirements and performance standards have been met before relinquishment. ▪ Ensure that the mine site does not pose any long-term environmental or social liabilities. This will involve addressing all risks associated with the site, leaving behind a positive legacy and enabling the mining company to relinquish responsibility for ongoing site management. ▪ Address and resolve all community concerns raised during the mine's life cycle and closure planning. This includes ensuring that the community is fully satisfied with the closure measures in place and any legacy concerns are managed in a way that benefits the local population. ▪ Confirm that all necessary steps have been taken to absolve the company of any further responsibilities or liabilities related to the site. This will involve ensuring that all environmental, social, and legal obligations are fulfilled and that the company is no longer held liable for post-closure issues.

APPENDIX 2: PROPOSED LAYOUT

27°20'0"E
27°21'15"E
24°48'0"S
24°49'0"S

MIDDELLAAGTE
382 KQ

AMANDELBULT
383 KQ

#4 Shaft
11 KVA Overhead Line
Topsoil Stockpile
TSF 2 Laydown Area
Slurry Line
Vegetation Handling Area
Slurry Transfer Station
High Pressure Water
M3 & M4 Feed Tank
Tailings Line
Haulage Road
Barge Station 2
TK-11 Existing Tailings Handling Tank
GSW Water
Process Water Feed Option 2
Barge Station 1
High Pressure Water Tap Off For Hydrogun
ISAMILL Feed
High Pressure Water Tap Off For Hydrogun
Potable Water
New PGM IsaMill Flotation Plant
Road Option 2

Infrastructure

- 11 KVA Overhead Line
- Potable Water
- GSW Water
- Process Water Feed Option 2
- Haulage Road
- Road Option 2
- High Pressure Water
- Slurry Line
- ISAMILL Feed
- Tailings Line

KONGIWE

RUSTENBURG PLATINUM MINES

PROPOSED LAYOUT

Legend

- Non-Perennial River
- Farm Portions
- Parent Farm
- Non-Perennial River 100m Buffer
- Existing Infrastructure
- Proposed Infrastructure

0 100 200 400 600 800
Meters

Project Code: AAPL#001
Client: Rustenburg Platinum Mines (Pty) Ltd
Drawn: Z Omar
© 2025 Kongiwe Environmental (Pty) Ltd
www.kongiwe.com | Date: 22 September 2025

1:12 000

Coordinate System: WGS84 TM LO29
Projection: Transverse Mercator
Datum: WGS 1984

(A3)
2025 Satellite Imagery

Disclaimer
The information represented in this plan is for general information purposes only and is subject to change.

FILE REF:
Z:\GIS\Projects\Anglo American Platinum\AAPL#001 AngloPlat Tailings\Projects\AngloPlat Proposed Layout Landscape V11 A3.mxd

APPENDIX 3: TEAM CV

C·R·M·P
COST & RISK MANAGEMENT PROFESSIONALS

To whom it may concern,

Declaration of Independence for Amandelbult TSF

I, Jared Dylan Murray, declare that for the purposes of the current study, I:

- Acted as an independent specialist in this study;
- Have performed the work relating to this study, in an objective manner;
- Have published the results regardless of how favourable the findings were for the applicant;
- Have the relevant expertise to undertake the works associated with the study;
- Under no circumstances, will the objectivity of myself as a specialist, be compromised for the study;
- Have no vested interest in the project, be it business, financial, personal or other, in the study, after remuneration for the scope of work contracted by the applicant;
- Have ensured that the information utilized for this study is in accordance with the proposed application, and holds true to the planned work;
- Will provide any and all information to the relevant authorities, as and when requested by the authorities, regardless of the favourability of the findings;
- Have acted in accordance with all relevant authorities, requirements and legislation and understand that a false declaration is an offense and is punishable in terms of section 24f of the NEMA requirements.

Duly undersigned,

Jared Dylan Murray

Technician

Directors: Yvette Woodhead (Managing), Geoffrey Woodhead
A First Floor, 74 St Andrew St, Birdhaven, Johannesburg, 2196
C +27 (0) 83 261 2865 | E info@crmp.co.za
www.crmp.co.za

Curriculum Vitae : Jared Murray

Project Designation : Technician

Experience Overview

Full Name	:	Jared Dylan Murray
Qualification	:	Construction Project Management
Specialisms	:	Mine Closure Cost Estimating and Cost Control , Contract Administration,
Contract Expertise	:	NEC, FIDIC
Discipline Expertise	:	Civil, Structural Steelwork, Mechanical, Surface Mining, Opencast Mining
Sector Expertise	:	Mining, Rehabilitation, Building

Employment Record

Period	Company	Position
2020 – Present	Cost and Risk Management Professionals	Technician

Project Experience

Project Owner	Project	Services / Contract Type / Value
Aquarius Platinum	Marikana Fixed Asset and Rehabilitation Estimate, South Africa	Estimating / Confidential
LogiProc	Administration, South Africa	Administration Services
Sylvania	Site Rehabilitation measure, South Africa	Estimating / $18m
Salene Manganese	Opencast Mining Services, South Africa	Commercial Management / Quantity Surveying/ Cost Management
HNERA	Administration, South Africa	Administration Services/ Graphic design
Mutoshi Copper Mine	Site Rehabilitation measure, Democratic Republic of Congo	Estimating / $27m
Nkwe Platinum Mine	Site Rehabilitation measure, South Africa	Estimating / $1.1m
EastPlats	Site Rehabilitation measure, South Africa	Estimating / $4.3m
Etoile Copper Mine	Site Rehabilitation measure, Democratic Republic of Congo	Estimating / $32m
University of Witwatersrand	Resource and Teaching Centre Construction, South Africa	Quantity Surveying/ Cost Management/ $3.5m
University of Witwatersrand	Phantom Heads Lab Renovation, South Africa	Quantity Surveying/ Cost Management/$700k
University of Witwatersrand	Prosthodontics Lab Renovation, South Africa	Quantity Surveying/ Cost Management/$130k
University of Witwatersrand	Medical Campus Gardens, South Africa	Estimating/ $0.5m
University of Witwatersrand	Health Sciences Library, South Africa	Estimating/$5m
Sishen Kumba Iron Ore	Site Rehabilitation measure, South Africa	Estimating / $28m
MSA – Wescoal	Site Rehabilitation measure, South Africa	Estimating / $230m

Curriculum Vitae : Yvette van den Berg

Project Designation : Lead Quantity Surveyor

Personal Particulars

Full Name	:	Yvette van den Berg
Date of Birth	:	27th of November 1974
Education	:	University of Port Elizabeth (1996)
		UNISA (2006)
Qualification	:	BSc(Hon)(Quantity Surveying) - 1996
		National Diploma in Cost and Management Accounting – 2006
Professional Registration	:	South African Council for the Quantity Surveying Profession (SACQSP) – IT3168
		Royal Institute for Chartered Surveyors (RICS) – CRM0366232
Specialisms	:	Estimating, Contract Administration, Project Controls, Quantity Surveying
Contract Expertise	:	NEC3, NEC4, FIDIC, GCC, Bespoke
Discipline Expertise	:	Bulk Earthworks, Building, Civil, Structural Steelwork, Mechanical

Current Employer and Work Experience

Period	Company	Position
1996 – 1999	Lofty's Construction	Jr Quantity Surveyor
2000 – 2002	Professional Cost Consultants (PCC)	Quantity Surveyor
2002 – 2008	Davis Langdon	Local Director
2008 – 2020	Integrated Project Alliance	Treasurer
2014 to date	Cost and Risk Management Professionals	Director / Lead Quantity Surveyor

Project Experience

Project Owner	Project	Services / Contract Type / Value
Anglo American – Kumba Iron Ore Ltd	Sishen Mine, Mine Closure Estimate Review, South Africa	Peer Review / Estimating / $30m
Calculated Property Investments cc	Nuleaf Factory Refurbishment	Contract Administration, Quantity Surveying / FIDIC
Crocodile River Mine (Barplats (Pty) Ltd)	Plant Optimization: • Civil works	Contract Administration, Quantity Surveying
Debswana	Jwaneng Underground Project	Capital Cost Estimate
Finastra	Greenfields Office Development	Commercial Management / Quantity Surveying
Medi Clinic	Vereeniging : Building & Renovations (Implementation) , South Africa	Quantity Surveying
Medi Clinic	Cape Town : Building & Renovations (Implementation), South Africa	Quantity Surveying
Medi Clinic	Somerset West : Building & Renovations (Implementation), South Africa	Quantity Surveying
Primefuels	New Freight Terminal Centre, Zambia	Pre-feasibility Study / $27m
Regina Molloy	Alterations to Home, South Africa	Quantity Surveying / Dispute Resolution
Royal HaskoningDHV	Soufflet Maltings Sedibeng – New plant	Estimating
SASOL	Polyethylene 3 : Civil Works, Piping and Mechanical Equipment (Implementation), South Africa	Quantity Surveying
SASOL	TNPE : Civil Works (Feasibility), South Africa	Estimating
Shell	Shell Downstream SA Facility Programme	Contract Administration
Star Contractors Group	The Grove Shopping Centre, Pretoria, South Africa	Dispute Resolution

Project Owner	Project	Services / Contract Type / Value
Stefanutti Stocks Botswana (Pty) Ltd	Kasane Airport, Botswana	Civils & Building : Re-measurement for Final Account
TATA Steel	Richard's Bay : Buildings and Civil works (Implementation), South Africa	Quantity Surveying / $3m
Trans-Africa Energy	Takoradi Tema Pipeline (TTP) Project Class 4 Capital Cost Estimate	Estimating
Transnet	New Multi Product Pipeline (Order of Magnitude Study) South Africa	Estimating
Salene Manganese Mine	Mine Closure Estimate	Estimating
Sentula	N'Komati Anthracite Mine, South Africa	Contract Administration / Quantity Surveying / $12.5m
Sylvania	Mine Closure Estimate	Estimating
University at Witwatersrand	Health Sciences Campus – New Lecture Rooms	Quantity Surveying – Full service / $4m
University at Witwatersrand	Health Sciences Campus – Dental Simulation Lab	Quantity Surveying – Full service / $1m
University at Witwatersrand	PVT Post Graduate Centre	Quantity Surveying – Full service / $2m

Curriculum Vitae : Geoff Woodhead

Project Designation : Commercial Manager

Experience Overview

Full Name	:	Geoffrey Erik Woodhead
Qualification	:	BSc (Quantity Surveying) (pending)
Specialisms	:	Commercial Management, Risk Management, Estimating, Contract Administration, Project Controls, Quantity Surveying, Dispute Resolution
Contract Expertise	:	NEC3, NEC4, FIDIC, GCC, Bespoke
Discipline Expertise	:	Civil, Structural Steelwork, Mechanical, Surface Mining, Underground Mining, Beneficiation, Mine Closure and Rehabilitation
Sector Expertise	:	Public Infrastructure, Mining, Process, Industrial, Rail, Port & Marine, Oil & Gas

Employment Record

Period	Company	Position
2002 – 2006	Davis Langdon	Quantity Surveyor
2006 – 2009	Davis Langdon	Senior Quantity Surveyor
2009 – 2012	AECOM	Associate
2012 – 2015	AECOM	Executive Practice Area Lead: Cost Management Market Sector Lead: Mining & Metals
2016 to date	Cost and Risk Management Professionals	Director / Commercial Manager

Project Experience

Project Owner	Project	Services / Contract Type / Value
Anglo American Platinum	Fixed Asset Register, South Africa	Estimating
Lonmin	Rehabilitation Trust Fund Estimate, South Africa	Estimating
Aquarius Platinum	Marikana Fixed Asset and Rehabilitation Estimate, South Africa	Estimating / Confidential
Aquarius Platinum	Kroondal Fixed Asset and Rehabilitation Estimate, South Africa	Estimating / Confidential
Sentula	Fixed Asset Register and Valuation, South Africa	Quantity Surveying / Estimating
AngloGold Ashanti	West Wits Fixed Asset and Rehabilitation Estimate, South Africa	Estimating / Confidential
Anglo American Platinum	Pandora JV – 9 to 10 Level Deepening, South Africa	Contract Administration, Quantity Surveying / NEC 3 / $48m
Anglo American Thermal Coal	Emalahleni Water Treatment Plant, South Africa	Quantity Surveying / $11m
Aquarius Platinum	Kroondal Underground Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $320m
Aquarius Platinum	Kroondal Opencast Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $92m
Aquarius Platinum	Kroondal Concentrator Plant Operations and Maintenance, South Africa	Contract Administration, Quantity Surveying / Bespoke / $42m
Aquarius Platinum	Kroondal Sustaining Capital, South Africa	Contract Administration, Quantity Surveying / Bespoke / $3m
Aquarius Platinum	Marikana Underground Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $220m
Aquarius Platinum	Marikana Moolmans Dispute, South Africa	Dispute Resolution, Quantity Surveying / Bespoke
Aquarius Platinum	Marikana Opencast Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $220m
Aquarius Platinum	Marikana Concentrator Plant Operations and Maintenance, South Africa	Contract Administration, Quantity Surveying / Bespoke / $31m
Aquarius Platinum	Everest Underground Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $80m

Project Owner	Project	Services / Contract Type / Value
Aquarius Platinum	Everest Opencast Mining, South Africa	Quantity Surveying / Bespoke / $62m
Aquarius Platinum	Everest Concentrator Plant Operations and Maintenance, South Africa	Contract Administration, Quantity Surveying / Bespoke / $6m
Aquarius Platinum	Kwezi Shaft, South Africa	Quantity Surveying / FIDIC / $23m
Aquarius Platinum	K6 Shaft Development, South Africa	Quantity Surveying / FIDIC / $8m
Aquarius Platinum	Marikana Rehabilitation Estimate, South Africa	Estimating / Confidential
Aquarius Platinum	Kroondal Rehabilitation Estimate, South Africa	Estimating / Confidential
Ridge Mining	Blue Ridge Underground Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $70m
Ridge Mining	Sheba's Ridge Feasibility Study Estimate, South Africa	Estimating
Ridge Mining	Concentrate Transportation, South Africa	Procurement
Ridge Mining	Blue Ridge Concentrator Plant Operations and Maintenance, South Africa	Contract Administration, Quantity Surveying / Bespoke / $16m
Lonmin	Eastern Platinum U9 Opencast Mining, South Africa	Contract Administration / FIDIC
Lonmin	Eastern Platinum C-Stream Concentrator, South Africa	Quantity Surveying
Lonmin	Eastern Platinum Karee Concentrator, South Africa	Quantity Surveying
Lonmin	Saffy Shaft Sustaining Capital, South Africa	Contract Administration, Quantity Surveying
Platmin	Pilanesberg Platinum Mine, South Africa	Contract Administration, Quantity Surveying
Platmin	PGM Concentrator Plant Operations and Maintenance, South Africa	Contract Administration, Quantity Surveying / Bespoke / $86m
Platmin	Tuschenkomst Opencast Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $600m
Platmin	Magazynskraal, South Africa	Estimating
De Beers	Letlakane Diamond Mine, Botswana	Estimating
ABSA	Data Center, Midrand	Quantity Surveying / Final Account

Project Owner	Project	Services / Contract Type / Value
Vedanta	Hindustan Zinc - Rapura Agutcha Vertical Shaft Development, India	Quantity Surveying
Acacia Gold	Bulyanhulu Gold Mine Upper East Development, Tanzania	Contract Administration, Quantity Surveying / Bespoke / $80m
Atlantic Mining	Batafong Bauxite Mine Pre-Feasibility Study, Guinea	Estimating / $400m
Transnet	New Multi Product Pipeline, South Africa	Contract Administration, Quantity Surveying / NEC3 / $2bn
Transnet	Ngqura Manganese Export Terminal, South Africa	Contract Management / $800m
Transnet	Phalaborwa and Komatipoort Rail Yard Extensions, South Africa	Estimating / $5m
Transnet	Tippler 3, Port of Saldanha South Africa	Estimating
North West Rail Company	Chingola to Solwezi to Trident Freight Rail Capital Estimate, Zambia	Contract Administration, Quantity Surveying, Estimate / FIDIC
African Rainbow Minerals	Nkomati Nickel Mine Opencast Mining, South Africa	Contract Administration, Quantity Surveying / Bespoke / $410m
Norilsk Nickel	Tati Nickel Mine Opencast Mining, Botswana	Contract Administration, Quantity Surveying / Bespoke / $210m
Lesotho Diamond Corporation	Kao Diamond Plant Operations and Maintenance, Lesotho	Contract Administration, Quantity Surveying/ FIDIC
Grandwell Holdings	Mdaba Diamond Mine, Zimbabwe	Contract Administration, Quantity Surveying/ FIDIC
Arcelor Mittal	Vanderbijl Park Sinter Plant Extension, South Africa	Estimating
Thuthuka Group	Vaal River Pump Station Dispute Resolution, South Africa	Dispute Resolution
Impala Platinum	Marula Concentrator Plant, South Africa	Quantity Surveying
Fraser Alexander	Leeupan Coal Mine, South Africa	Dispute Resolution
Mimosa Platinum Mine	Phase 6 Pre-Feasibility Study, South Africa	Contract Administration
Taung Gold	Evander No.6 Shaft, South Africa	Estimating
Severstal	Putu Iron Ore Contractors Camp,	Estimating

Project Owner	Project	Services / Contract Type / Value
	Liberia	
Northam Platinum	Booysendal Platinum Mine, South Africa	Estimating, Quantity Surveying
Blackthorn Resources	Kitumba Copper Mine, Zambia	Estimating
SASOL	Kriel South, South Africa	Quantity Surveying / FIDIC / $28m
SASOL	Polyethylene 3, South Africa	Quantity Surveying / NEC3 / $387m
Gem Diamonds	Ghaghoo Diamond Mine, Botswana	Dispute Resolution / Commercial Management
Fraser Alexander	BOOM (Build, Own, Operate, Maintain), South Africa	Contract Management
Bauer Drilling Technologies	Project Africa, South Africa	Contract Management
Nkomati Nickel Mine	Owner Operator Feasibility Study, South Africa	Feasibility Study / $820m
Alphamin Resources	Bisie Tin Project, Democratic Republic of Congo	Contract Management
EastPlats	Crocodile River Mine: Tailings Retreatment Project, South Africa	Programme Management / $52m
Sentula Mining	N'Komati Anthracite Mine: Expansion Project, South Africa	Contract Administration / Quantity Surveying / $12.5m
Sentula Mining	N'Komati Anthracite Mine: Underground Mining, South Africa	Contract Administration / Quantity Surveying / $93.5m
Sentula Mining	N'Komati Anthracite Mine: Opencast Mining, South Africa	Contract Administration / Quantity Surveying / $27.5m
Sentula Mining	N'Komati Anthracite Mine: Load and Haul of ROM, South Africa	Contract Administration / Quantity Surveying
Rio Tinto	Oyu Tolgoi: Ventilation Shaft 3 & 4, Mongolia	Feasibility Study / Quantity Surveying / $500m
Lucara Diamonds	Boteti Mine – Underground Feasibility Study Boswana	Feasibility Study / Quantity Surveying / $32m
Unicorn Capital Partners	Matadeni Underground Feasibility Study, South Africa	Feasibility Study / Quantity Surveying / Risk Management
Unicorn Property Developments	Wolwekrans Industrial Park South Africa	Feasibility Study / Quantity Surveying / Risk Management
P2E Consulting	Samancor Driefontein Chrome Sorting BOOM South Africa	Contract Administration / Quantity Surveying

Project Owner	Project	Services / Contract Type / Value
Al Alem	New gold processing plant Saudi Arabia	Risk Management
Anglo American and African Rainbow Minerals	Modikwa Underground Development South Africa	Commercial Management / Quantity Surveying / $102m
Bushveld Vametco	Owner Operator Feasibility Study South Africa	Estimating / $130m
Finastra	Greenfields Office Development South Africa	Commercial Management / Quantity Surveying / $2m
Wescoal	Moabvelden Opencast Mining South Africa	Commercial Management / Quantity Surveying / $ 82m
Sylvania	Rehabilitation Estimate South Africa	Estimating
Roy Hill Iron Ore	Autonomous haulage system Australia	Commercial Management / $18m
Seriti	New Vaal Load and Haul South Africa	Commercial Management / Quantity Surveying / $7m
Crocodile River Mine	Underground Stoping South Africa	Quantity Surveying / $50m
Sishen Iron Ore Mine	Rehabilitation Estimate South Africa	Estimating / $66m
VanMag	Rehabilitation Estimate South Africa	Estimating / $8m
Salene Manganese	Opencast Mining Services South Africa	Commercial Management / Quantity Surveying / $12m
Prime Fuels Zambia	Inland Port with London Metals Exchange warehouse Zambia	Estimating
Chemaf	Mutoshi Copper Cobalt Project Democratic Republic of Congo	Commercial Management / Bespoke and FIDIC / $682m
Chemaf	Etoile Expansion Project Democratic Republic of Congo	Estimating / $612m
Anglo American Platinum	Mogalakwena Underground Development South Africa	Commercial Management / Quantity Surveying / $33m
Cardinal Resources	Namdini Gold Mine Opencast Mining Ghana	Commercial Management / Quantity Surveying / $520m
Cardinal Resources	Namdini Gold Mine Gold Beneficiation Plant Ghana	Commercial Management / Quantity Surveying / $130m
Cardinal Resources	Namdini Gold Mine Tailings Storage Facility Ghana	Commercial Management / Quantity Surveying / $54m

Project Owner	Project	Services / Contract Type / Value
Tharisa Minerals	Extension to Tailings Storage Facility	Quantity Surveying / $18m
Trans-Africa Energy Limited	Takoradi Tema Pipeline (TTP) Project	Quantity Surveying / confidential
African Rainbow Minerals	Bokoni Platinum Mine Restart Project	Quantity Surveying / confidential
Fodere	Zero Waste Slag Plant	Quantity Surveying / confidential
Nkomati Nickel Mine	Water Treatment Facility (13Mℓ per day)	Quantity Surveying / confidential
Soufflet Malt	Sedibeng Malt Plant	Quantity Surveying / confidential
Southern Sphere Platinum	Project Burgersfort	Estimating / Procurement / Contract Management
Toyota South Africa	New Logistics Warehouse at 9 Joyner Road, Durban	Quantity Surveying / $52m
Toyota South Africa	Vehicle Logistics Centre, Prospecton Road Durban	Quantity Surveying / $98m
Moxico Ajlan & Bros Mining Company	Khnaiguiyah Copper Zinc Project	Quantity Surveying / confidential
Tharisa Minerals	Mine Closure Cost Estimate	Estimating
Mantra	Mkuju River	Estimating
Ernst & Young	Due Dilgence of Project Makgabaneng	Quantity Surveying / confidential

Curriculum Vitae : Naeem Sader

Project Designation : Quantity Surveyor

Experience Overview

Full Name	:	Naeem Hasan Sader
Qualification	:	NDip Civil Engineering & Quantity Surveying
		QCP Certificate Quantity Surveying, Construction Management and Project Management
Specialisms	:	Measurement, Estimating, Contract Administration, Quantity Surveying
Contract Expertise	:	NEC3, FIDIC, GCC, Bespoke
Discipline Expertise	:	Civil, Structural Steelwork, Mechanical, Opencast Mining, Rehabilitation Works
Sector Expertise	:	Public Infrastructure, Mining, Process Plant, Petro-chemical

Employment Record

Period	Company	Position
2004 – 2009	Davis Langdon	Quantity Surveyor
2009 – 2018	Davis Langdon	Senior Quantity Surveyor
2020 – 2021	Sedtrade	Project Manager and Quantity Surveyor
2023 – 2023	Zutari South Africa	Quantity Surveyor and Estimator
2024 – Present	CRMP	Quantity Surveyor

Project Experience

Project Owner	Project	Services / Contract Type
SASOL	Polyethylene 3	Quantity Surveying / NEC3
Xstrata	Metix Xstrata Project	Quantity Surveying / FIDIC
Assmang BKM	Iron Ore Project	Quantity Surveying / Bespoke
Anglo American Coal and BHP Billiton	Phola Coal Project	Quantity Surveying / Bespoke
Bateman	Douglas Middelburg Optimisation	Structural Steel and Materials Audit
Xstrata	Merafe Smelter Rehabilitation	Estimating and Measurement

Project Owner	Project	Services / Contract Type
Northam Platinum	Booysendal Plant	Quantity Surveying / FIDIC
Impala Platinum	16 Shaft	Roads, Earthworks, Civils, Buildings and Structural Steelwork measurement and generation of Site Variation Requests
Aquarius Platinum	K6 Shaft, Rustenburg	Quantity Surveying, Estimating
Tenova / Bateman	Kusile Materials Handling Project	Quantity Surveying, Estimating, Audit
African Rainbow Minerals	Nkomati Nickel Mine Opencast Mining	Quantity Surveying, Contract Administration / Bespoke / R 3.6 billion
ABSA Bank	New and Existing Branch Fit-outs	Estimating, Quantity Surveying
General Electric, Cameroon	New Office Fit-out in Yaounde, Cameroon	Architectural measurement and produce Bill of Quantities/ JBCC
Coca Cola Lesotho	New Office Building	Architectural measurement and produce Bill of Quantities/ JBCC
Free State Department of Human Settlements	Refengkhotso RDP Housing Project	Project Manager and Quantity Surveyor / Bespoke / R 324 million
Moxico Ajlan Bros Mining	Khnaiguiyah Copper Zinc Project	Contract Management / Bespoke
Toyota South Africa	New Logistics Warehouse	Contract Management / FIDIC

Appendix D8
Heritage Impact Assessment

Wednesday, December 17, 2025

Department of Mineral and Petroleum Resources (DMPR)
101 Dorp Street
Polokwane
0699

Attention: Ms Reshoketswe Mphaphuli
By Email: Reshoketswe.Mphaphuli@dmre.gov.za

Final comment from the South African Heritage Resources Agency (SAHRA) for the Reclamation and Processing of the Amandelbult Tailing Storage Facility (TSF) – Limpopo Province (LP) 30/5/1/2/3/2/1(00048) EM.

Dear Ms Mphaphuli,

PGS Heritage (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd to undertake a Heritage Impact Assessment (HIA) that forms part of the Scoping and Environmental Impact Assessment (EIA) for the proposed reclamation and processing of the tailings material from the Amandelbult Tailings Storage Facility (TSF): Dam No.2 (Proposed Project). During the fieldwork, no heritage features or resources were identified.

The Applicant, Rustenburg Platinum Mines Limited (Amandelbult Mine), is an operational mining facility with an appointed heritage specialist on site. Any heritage or archaeological discoveries encountered during the construction phase will be managed in accordance with the approved Amandelbult Mine Chance Finds Procedure.

The South African Heritage Resources Agency (SAHRA), as a commenting authority, has reviewed the submitted Heritage Impact Assessment (HIA) and acknowledged the findings thereof (Refer to Comments and Responses Report). SAHRA issued interim comments requesting that the KML file or map included in the HIA be revised to accurately reflect the correct development boundary, and that the Draft Environmental Impact Assessment (EIA) Report be uploaded to their portal. The requested information has since been submitted to SAHRA, and their final comments are currently awaited.

It is proposed that the final comments received from SAHRA be submitted to the DMPR, following which any recommendations contained therein may be appropriately incorporated into the Environmental Authorisation.

Your faithfully,

Umeshree Naicker
Environmental Assessment Practitioner

RECLAMATION AND PROCESSING OF THE TAILINGS MATERIAL FROM THE AMANDELBULT TSF: DAM NO.2

Heritage Impact Assessment

Template Number	Document Number	Revision	Date
PGS PJ REP 007 01	869HIA-001	3.0	16/10/2025

PGS HERITAGE

+ 27 (0) 12 332 5305 | +27 (0) 86 675 8077 | contact@pgsheritage.co.za | PO Box 32542, Totiusdal, 0134

Offices in South Africa, Kingdom of Lesotho and Mozambique

Head Office:
906 Bergarend Streets
Waverley, Pretoria,
South Africa

Directors: HS Steyn, PD Birkholtz, W Fourie

REVISION HISTORY

Version	Issue Date	Description of Changes
01	08/05/2025	First draft
02	25/08/2025	Update of general project description, integration of cultural landscape assessment
03	16/10/2025	Update of the general project description and maps with final layout plan

Declaration of Independence

- I, Nicholas Fletcher, declare that –
- General declaration:
- I act as the independent heritage practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting heritage impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in section 38 of the National Heritage Resources Act (NHRA) when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- All the particulars furnished by me in this form are true and correct;
- I will perform all other obligations as expected from a heritage practitioner in terms of the Act and the constitutions of my affiliated professional bodies; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the NEMA.

Disclosure of Vested Interest

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

HERITAGE CONSULTANT: PGS Heritage (Pty) Ltd

CONTACT PERSON: Nicholas Fletcher – Archaeologist

Tel: +27 (0) 83 254 7552

Email: nic@pgsheritage.co.za

SIGNATURE:

ACKNOWLEDGEMENT OF RECEIPT

Report Title	Heritage Impact Assessment: Reclamation And Processing Of The Tailings Material from the Amandelbult TSF: Dam No.2		
Control	**Name**	**Signature**	**Designation**
Author	Nicholas Fletcher		PGS Heritage Archaeologist
Reviewer	Coen Nienaber		PGS Heritage Bio-archaeologist and Heritage Resources Unit Manager
Reviewer	Wouter Fourie		PGS Heritage Principal Heritage Specialist
Reviewed	Grant Cornish-Bowden		Client

CLIENT: Kongiwe Environmental (Pty) Ltd

CONTACT PERSON: Grant Cornish-Bowden
Tel: +27 (10) 140 6508
Email: gcornish-bowden@kongiwe.com

SIGNATURE: _____

The Heritage Impact Assessment Report has been compiled considering the National Environmental Management Act (Act No. 107 of 1998) (NEMA): Appendix 6 of the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended, 2017) requirements for specialist reports as indicated in the table below.

Requirements of Appendix 6 – GN R326 EIA Regulations of 7 April 2017	**Relevant section in report**
1.(1) (a) (i) Details of the specialist who prepared the report	Page ii of Report – Contact details and company
(ii) The expertise of that person to compile a specialist report including a curriculum vita	Section 1.2 – refer to Appendix C
(b) A declaration that the person is independent in a form as may be specified by the competent authority	Page ii of the report
(c) An indication of the scope of, and the purpose for which, the report was prepared	Section 1.1
(cA) An indication of the quality and age of base data used for the specialist report	N/A
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 5
(d) The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 4.4
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	Appendix A and B
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 4
(g) An identification of any areas to be avoided, including buffers	Section 4
(h) A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 4.3
(i) A description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.3
(j) A description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment	Section 4
(k) Any mitigation measures for inclusion in the EMPr	Section 6
(l) Any conditions for inclusion in the environmental authorization	Section 6
(m) Any monitoring requirements for inclusion in the EMPr or environmental authorization	Section 6
(n)(i) A reasoned opinion as to whether the proposed activity, activities or portions thereof should be authorised and	Section 6 and 7
(n)(iA) A reasoned opinion regarding the acceptability of the proposed activity or activities; and	
(n)(ii) If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	Section 6
(o) A description of any consultation process that was undertaken during the course of carrying out the study	Informal consultation in fieldwork.
(p) A summary and copies if any comments that were received during any consultation process	Not applicable. To date no comments regarding heritage resources that require input from a specialist have been raised.
(q) Any other information requested by the competent authority.	Not applicable.
(2) Where a government notice by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	No protocols or minimum standards for HIAs or PIAs

EXECUTIVE SUMMARY

PGS Heritage (Pty) Ltd was appointed by Kongiwe Environmental (Pty) Ltd to undertake a Heritage Impact Assessment (HIA) that forms part of the Scoping and Environmental Impact Assessment (EIA) for the proposed reclamation and processing of the tailings material from the Amandelbult Tailings Storage Facility (TSF): Dam No.2. The proposed project is situated on the Remaining Extent and Portion 1 of the farm Amandelbult 383KQ and the Remaining Extent of the farm Middellaagte 382KQ, Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province.

According to the Palaeontological Map of the South African Heritage Resources Information System (SAHRIS) the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website).
No further studies will be needed.

During the fieldwork, no heritage features or resources were identified.

Mitigation considerations and buffers to consider from the EIA phase are:

- No heritage resources are currently threatened in the direct development footprint, however, not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. It should be noted most of the study area was accessible for the fieldwork survey, but the vegetation is thick bush and pine and visibility of sites such as Stone Age or Iron Age are difficult to locate.
- During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken. The approved AMD Chance finds procedure must be implemented in the case of such discoveries.

The AMD complex development in South Africa's mining landscape represents a significant part of the country's cultural heritage, transforming the Bushveld over the past 60 years. While less impactful than the Witwatersrand gold rush, it contributes to South Africa's layered cultural heritage as recognised by the NHRA. The mining landscape holds both tangible and intangible value, as defined by the Burra Charter. Associated with the Western Platinum Belt development, the AMD complex has had a comparatively lesser impact on technological and social changes. Ongoing TSF reclamation is assessed to have minimal impact on the cultural landscape. However, it is noted that the documentation of environmental applications and management of mining projects has resulted in data readily available and collected electronically, which provides a rich trove of available data as opposed to the mining development of the late 19th century.

The development and implementation of Cultural Heritage Management Plans (as is the case at the Amandelbult Mining Complex) by responsible companies such as Valterra Platinum provides the opportunity

to not only conserve known cultural heritage resources in all its forms, but also to document the history of contemporary communities for prosperity through integration with social projects.

Mitigation measures are described in **Table 10** of this report.

Conclusion

It is the combined considered opinion of the heritage specialists that the proposed project will have no direct impact on any heritage resources.

With the implementation of recommended mitigation measures (chance finds procedures) the overall impact on heritage resources will be reduced to acceptable levels during the activities of the project.

PGS has determined that there are no heritage or palaeontological resource concerns that would preclude the proposed project from proceeding.

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TERMINOLOGY AND ABBREVIATIONS

Archaeological resources

This includes:

- material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which the South African Heritage Resources Agency (SAHRA) considers to be worthy of conservation;
- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place or influence its stability and future wellbeing, including:

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land; and
- any removal or destruction of trees, or removal of vegetation or topsoil

Early Stone Age

The archaeology of the Stone Age between 700 000 and 2 500 000 years ago.

Heritage

That which is inherited and forms part of the National Estate (historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

Heritage resources

This means any place or object of cultural significance and can include (but not limited to) as stated under Section 3 of the National Heritage Resources Act (NHRA),

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, and
- sites of significance relating to the history of slavery in South Africa;

Holocene

The most recent geological time period which commenced 12 000 years ago.

Late Stone Age

The archaeology of the last 30 000 years associated with fully modern people.

Late Iron Age (Early Farming Communities)

The archaeology of the last 1000 years up to the 1800's, associated with iron-working and farming activities such as herding and agriculture.

Middle Stone Age

The archaeology of the Stone Age between 30 000-300 000 years ago, associated with early modern humans.

Palaeontology

Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

Abbreviations	Description
ASAPA	Association of South African Professional Archaeologists
AMB	Amandelbult Mining Complex
BA	Basic Environmental Assessment
BGG	Burial Grounds and Graves
BP	Before Present
CFP	Chance Find Procedure
CHMP	Cultural Heritage Management Plan
DFFE	Department of Forestry, Fisheries and the Environment
CRP	Chrome Recovery Plant
EA	Environmental Authorization
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ESA	Early Stone Age
EMPr	Environmental Management Program
GN320	Notice 320 of the Government Gazette 43110
GSW	Gland Service Water
HDPE	High-Density Polyethylene
HIA	Heritage Impact Assessment
LOO	Life of Operation
LIA	Late Iron Age
LSA	Late Stone Age
MSA	Middle Stone Age
NEMWA	National Environmental Management: Waste Act
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
PGM	Platinum Group Metals
RWD	Return Water Dam
PCD	Pollution Control Dam
PGS	PGS heritage (Pty) Ltd
RWD	Return Water Dam
s	Section of the Act
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
TSF	Tailings Storage Facility
WUL	Water Use Licence

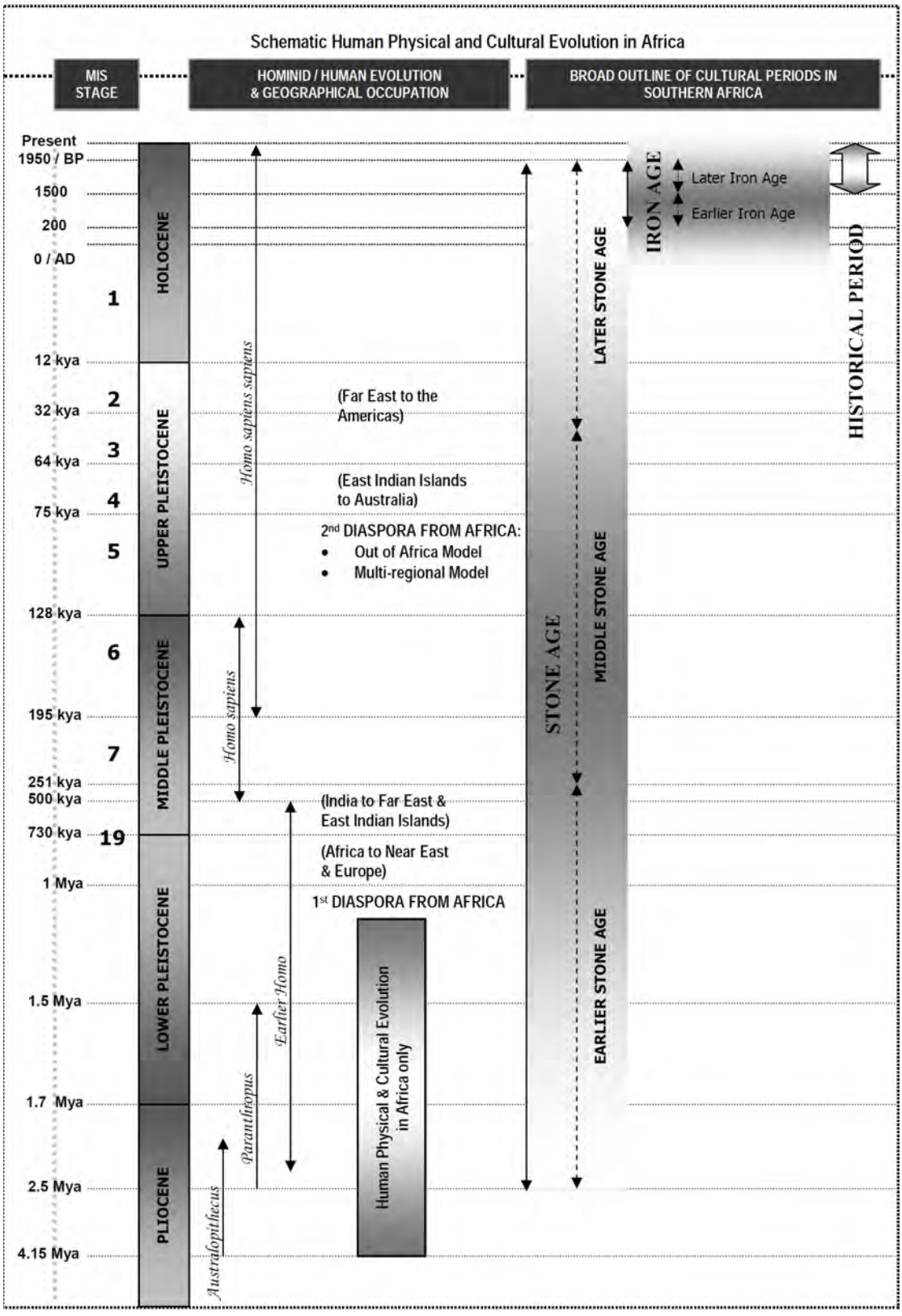


Figure 1 - Human and Cultural Timeline in Africa

1 INTRODUCTION

PGS Heritage (Pty) Ltd (PGS) was appointed by Kongiwe Environmental (Pty) Ltd to undertake a Heritage Impact Assessment (HIA) that forms part of the Scoping and Environmental Impact Assessment (S&EIA) for the proposed reclamation and processing of the tailings material from the Amandelbult Tailings Storage Facility (TSF): Dam No.2. The proposed project is situated on the Remaining Extent and Portion 1 of the farm Amandelbult 383KQ and the Remaining Extent of the farm Middellaagte 382KQ, Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province.

1.1 Scope of the Study

The aim of the study is to identify heritage sites and finds that may occur in the proposed project area. The HIA aims to inform the EIA, to assist the developer in managing the possible discovered heritage resources in a responsible manner, to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act (Act 25 of 1999) (NHRA).

1.2 Specialist Qualifications

This HIA Report was compiled by PGS.

The staff at PGS has a combined experience of nearly 70 years in the heritage consulting industry. PGS and its staff have extensive experience in managing HIA processes. PGS will only undertake heritage assessment work where they have the relevant expertise and experience to undertake that work competently.

Nicholas Fletcher, author of this report is a MA (Archaeology) graduate from the University of Pretoria, South Africa, specialising in Iron Age communities in Southern Africa.

Coen Nienaber, the PGS Bio-archaeologist and Heritage Resources Unit Manager has 17 years' experience in heritage resources management and is an internationally qualified and experienced bio-archaeologist that holds a BA Hons in Archaeology, a BSc Hons in Physical Anthropology and a MSc Environmental Management from the University of Pretoria and is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist.

Wouter Fourie, Principal Heritage Practitioner, is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist and is accredited as a Principal Investigator; he is further an Accredited Professional Heritage Practitioner with the Association of Professional Heritage Practitioners (APHP). He has almost 30 years of experience in the heritage assessment and management field. He holds a BA (specialising in Archaeology, Anthropology and Geography) and a BA (Hons.) in Archaeology (cum laude) both from the University of Pretoria. He has completed an MPhil with specialisation in Conservation of the Built Environment at the University of Cape Town.

1.3 Assumptions and Limitations

Not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. Although most of the study area was accessible for the fieldwork survey there was very little ground visibility throughout most of the study area due to vegetation cover. Fieldwork was also focused on areas not previously disturbed, or where mining activities have taken place, thus focusing on areas with the highest potential to yield heritage resources.

Therefore, should any heritage features and/or objects be located or observed outside the identified heritage sensitive areas during the construction activities, a heritage specialist must be contacted immediately. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This applies to burial grounds and graves (BGG) as well. If any graves or burial places are located during the development, the procedures and requirements pertaining to graves and burials will apply as set out in the Chance Finds Procedure (CFP).

Changes in footprint and infrastructure layout after fieldwork resulted in a small section of already disturbed areas not surveyed during the fieldwork. These areas will be covered and cleared by an archaeologist according to the VP Cultural Heritage Management Plan (CHMP), AMB and Chance Finds Procedure (CFP) documents.

1.4 Legislative Context

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- Notice 320 of the Government Gazette 43110 (GN 320) - general requirements for undertaking an initial site sensitivity verification where no specific assessment protocol has been identified (20 March 2020);
- National Environmental Management Act (Act 107 of 1998) (NEMA), – Appendix 6;
- National Heritage Resources Act (NHRA), Act 25 of 1999.

1.4.1 Notice 320 of the Government Gazette 43110

Although minimum standards for archaeological (2007) and palaeontological (2012) assessments were published by the South African Heritage Resources Agency (SAHRA), GN.648 requires sensitivity verification for a site selected on the national web-based environmental screening tool for which no specific assessment protocol related to any theme has been identified. The requirements for GN 320 are listed in

Table 1 and the applicable section in this report noted.

Table 1: Reporting requirements for GN 320

GN 320	Relevant section in report	Where not applicable in this report
1.2 (a) a desktop analysis, using satellite imagery;	section 4.3	
1.2 (b) a preliminary on site inspection to identify if there are any discrepancies with the current use of land and environmental status quo versus the environmental sensitivity as identified on the national web-based environmental screening tool, such as new developments, infrastructure, indigenous/pristine vegetation, etc.	section 4.1	-
1.3(a) confirms or disputes the current use of the land and environmental sensitivity as identified by the national web-based environmental screening tool;	section 4.1	-
1.3(b) contains motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity;	section 4.1	-

1.4.2 National Environmental Management Act (Act 107 of 1998) (NEMA) – Appendix 6 requirements

The HIA report has been compiled considering the NEMA Appendix 6 requirements for specialist reports as indicated in the table below. For ease of reference, the table below provides cross-references to the report sections where these requirements have been addressed.

1.4.3 The National Heritage Resources Act (NHRA) (Act 25 of 1999)

- NHRA
  - Protection of Heritage Resources – Sections (s) 34 to 36; and
  - Heritage Resources Management – s38

The NHRA is utilised as the basis for the identification, evaluation, and management of heritage resources and in the case of Cultural Resource Management those resources specifically impacted on by development as stipulated in s38. This study falls under s38(8) and requires comment from the relevant heritage resources authority.

S24(2) of the NEMA requires environmental authorisation from the environmental authority for certain activities that have been identified and must undergo an Environmental Impact Assessment (EIA) or BA process. Similarly, s38 of the NHRA lists specific development activities that require notice to the heritage resources authority to determine if an HIA process is necessary. Approval from the heritage authority is mandatory before proceeding with the development activities.

To avoid redundancy and facilitate coordination between NEMA and NHRA requirements, s38(8) of the NHRA states that if the development activities listed in s38(1) require an EIA under NEMA, a separate HIA and approval from the heritage resources authority are unnecessary. However, the environmental authority must ensure that the heritage resources authority's requirements for HIA are fulfilled and that its comments and recommendations are considered before granting environmental authorisation.

Therefore, if a NEMA EIA is required for the development activities listed under s38 of the NHRA, separate HIA and EIA processes may not be followed, and different decisions may not be issued under NHRA and NEMA. The EIA process will be followed, and if the heritage resources authority requires HIA, it must be conducted as one of the EIA specialist studies.

The environmental authority must ensure that the heritage resources authority's requirements for the assessment are met. A separate heritage approval may not be issued, but the environmental authority must consider the heritage resources authority's comments and recommendations before granting or refusing environmental authorisation.

This study is part of an environmental authorisation process and as such SAHRA will be a commenting authority under s38(8) of the NHRA.

1.4.4 Valterra Platinum Heritage Management Framework

Valterra Platinum has developed a company-wide Cultural Heritage Management Framework that includes a Cultural Heritage Management Plan (CHMP) and Chance Finds Procedure (CFP) for each of its operations. This suite of documents provides the basis for the management of both known and unknown heritage resources.

2 TECHNICAL DETAILS OF THE PROJECT

2.1 Locality

The study area is situated approximately 20 km south of Thabazimbi and 21 km northwest of Northam and falls within the Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province (Figure 2 - Regional Locality of study area).

2.1.1 Site Description

The study area is situated on the Remaining Extent and Portion 1 of the farm Amandelbult 383KQ and the Remaining Extent of the farm Middellaagte 382KQ and has a footprint of 117ha.

Figure 2 - Regional Locality of study area

2.2 Technical Project Description

The following description was provided by Kongiwe Environmental (Pty) Ltd.

2.2.1 Project Background

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. AMB is divided into two separate mines, namely Tumela and Dishaba, both of which deliver ore to the AMB Concentrator.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with tailings being deposited mainly on 3B, but also on 3A from time to time.

Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021.

The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000.

The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility.

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of platinum group metals (PGMs) and Chrome. The reclamation will also potentially open additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

2.2.2 Description of Project Activities

AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex, with the objective of recovering Chrome and PGMs using both hydraulic and mechanical reclamation processes. While undertaking the reclamation of Dam 2, AMB will ensure the continued stability of the surrounding Dams in the TSF complex for the continued operation of the remaining Dams located within the TSF complex.

Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2.
Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The Project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed
tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

The project will require environmental permitting in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the National Environmental: Waste Management Act, 2004 (Act No 59 of 2008) (NEM:WA). The project triggers the need for an Environmental Impact Assessment (EIA) to be undertaken.

2.2.3 Method of Reclamation

Amandelbult Mine (AMB) proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities. These methods will be implemented either independently or simultaneously in line with the reclamation schedule.

Mechanical Reclamation: This method involves the removal of vegetation and dry tailings material from Tailings Storage Facility (TSF) Dam No. 2 using a truck-and-shovel operation. The tailings material will be transported to a designated area within TSF 2 for blending purposes, combining coarse and fine fractions. Once blended, the material will be subjected to hydraulic mining.

Hydraulic Reclamation: This technique uses water monitors (or hydroguns) to deliver a high-pressure water jet to hydraulically excavate unconsolidated tailings material within the TSF. The water from the hydroguns mixes with the tailings and forms a slurry with a high solids content. The hydroguns will move on top of the TSF following the progression of reclamation.

The perimeter embankments of the TSF are maintained to function as containment barriers, that the slurry remains within the designated site footprint. The mobilised slurry gravitates through strategically designed trenches along the bench of the tailings deposit, directing flow towards a collection area (sump) located at the lowest elevation of the active operational area. At this sump, barge-mounted pump system is deployed to extract and transfer the slurry for further processing.

The barge pump will transport the slurry over a short distance to the slurry transfer station. At this point, any remaining vegetation in the slurry will be removed using a vibrating screen. This screening process takes place before the slurry enters the surge tank, ensuring that vegetation is effectively separated from the slurry, as previously described. Reclamation will take place in predetermined benches (or cuts) and will move unidirectionally until the entire TSF has been reclaimed.

2.2.4 Pipelines

Two new slurry pipelines to transport slurry from the reclamation site to the plant will be required.

These pipelines will be located along existing pipeline routes. The pipelines will run approximately 3 km from the TSF Dam No. 2 to the processing facility and have an approximate dimension of 400 mm.

Process water, gland service water (GSW) and potable water will be pumped from the existing AMB Concentrator Plant to the Transfer Station positioned adjacent TSF No.2 via new pipelines which will follow the existing pipeline routes to the transfer station. The pipelines will be approximately 2.5 km in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.in length each. From the Transfer station, Process water will be pumped a short distance to the hydro guns for the process of hydraulic reclamation.

2.2.5 Access

Access to the site will be from the R510 onto existing haul roads used by the mine. All operations will be undertaken on the mine footprint and will make use of existing and operational haul roads. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road adjacent to the TSF, will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

2.2.6 Power Supply, Sewage, Process Water and other requirements

Powerlines and other electricity reticulation will be required, to provide power to the reclamation station. Power will come from the current substation at #4 shaft location to the slurry transfer station. The powerline will connect from the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. Power will be connected via a transformer located at the transfer station.

Potable water for the consumption by staff and contractors will be purchased from the Magalies water board, with a contingency for portable JoJo tanks or connection to existing water pipeline infrastructure.

Additionally, sewage infrastructure will need to be constructed at the TSF laydown areas. Conservancy tanks will be installed where required. The conservancy tanks will be serviced by honey suckers, with sewage taken away to the Amandelbult Sewage treatment plant for final

disposal. Additionally serviced portable toilets will be used on site prior to the construction of the conservancy tanks.

Process water feed option 2 and GSW will be recycled and reused on site. Water required for the reclamation activities will be sourced from the current concentrator plant on site and conveyed through the proposed process water pipeline mentioned above. Approximately 1000m3/h of water will be required for the reclamation activities.

Diesel Storage and refilling infrastructure will be required at the TSF Laydown Area, this laydown area will be located close to the TSF. This laydown area will be used to refuel and maintain larger machinery (yellow machines). The diesel storage specifications are listed below. These requirements are listed below:

- Storage tanks (approximately 27 000L);
- Fuel dispensing system;
- Fuel filtration and conditioning system;
- Fuel monitoring devices; and
- Refuelling bays.

2.2.7 Work Schedule

The anticipated life span of the Project is approximately 20 years. It is expected that there will be a 2year construction and ramp up period which will include the placement of infrastructure and site preparation. This will then allow for the 18-year Life of Operation (LOO) where hydraulic and mechanical reclamation will take place. After the removal of the material from TSF Dam No. 2, it is envisioned that the footprint will be re-used for tailings deposition as part of the operational TSF that will undertake on site. The overall TSF footprint will form part of AMB's overall Rehabilitation Strategy and Closure Plan.

2.2.8 Technical Details

The following infrastructure will be used on site for the reclamation and processing of the TSF Dam No. 2:

Barge Pump (1 & 2): The barge pump is used to move the generated slurry from the TSF No.2 to the slurry transfer station. The barge pump will be positioned on top of the TSF and move around the location of the lowest point. The barge pump will consist of:

- Spindle pump;
- Concrete Bund;
- Motor;
- Control centre; and
- Access ladder.

High Pressure water tapped off for Hydroguns: High-pressure water is tapped off and directed to these hydroguns, which dislodge tailings material from the TSF, converting it into a slurry mixture of water and fine mineral particles. Once mobilised, the slurry is channelled to Barge Station 1 and Barge Station 2. These stations serve as intermediate pumping hubs, maintaining consistent flow and pressure as the slurry is transported through pipelines.

Slurry Transfer Station: The slurry transfer station receives the slurry from the barge pump. The slurry transfer station screens out vegetation and oversize material from the slurry. The slurry transfer station then feeds a surge tank which then feeds tailings to the PGM/Chrome plant for processing. The Slurry booster station located at the foot of the TSF will occupy a footprint of approximately 12 000 m2 (1,2 Ha). Additionally process water will also be supplied to the hydroguns from this transfer station. The Slurry Transfer Station consists of:

- A vibrating screen
- Set of cyclones
- Process water tank
- Gland service water tank
- Compressor
- MCC
- Transformers
- Substations
- Overhead Crane
- Mini workshop
- Firewater tank
- Ablution facilities
- Offices
- Control room
- Surge tank

- Concrete and Steel structures
- Pumps
- Piping
- Instrumentation

TSF No.2 Laydown area: The laydown area will be located next to the TSF no 2 and be used to maintain and refuel larger machinery (Yellow Machines). This will have an approximate footprint of 8 000m2 (0,8 Ha). The diesel storage will have the following specifications:

- *Storage tanks (approximately 23 000L)*
- *Fuel dispensing system*
- *Fuel filtration and Conditioning system*
- *Fuel monitoring devices*
- *Refuelling bays*

Contractors Laydown area: This area will be used to by the contractors to house material, equipment and vehicles and as an operational base during the construction

Vegetation handling area: The oversized vegetation from TSF 2 will be chipped and turned into compost at an area located on TSF No. 1. This compost will therefore be spread out onto the top of TSF No. 1.

PCDs: The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices.

Gravel / Haul Road: An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 Km and widened by approximately 8-9 m. the area of the road will be approximately 1.1 Ha (11 000m2).

PGM and Chrome Processing Plant: The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the existing PGM Plant, which will be located within the Merensky footprint. For PGM recovery, a portion of the slurry is sent to the newly constructed PGM plant, which features an IsaMill and Jamesons Cells flotation circuit and other portion will go to existing chrome plant. The IsaMill performs ultra-fine grinding to liberate PGMs from the surrounding gangue material. The finely ground slurry then enters the Jameson cells, where chemical reagents and air bubbles are used to selectively separate PGMs from the rest of

the material. The resulting PGM concentrate is collected for further refining off site. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto TSF Dam 3B, following standard thickening protocols. The existing plant will consist of:

- TSF PGM Processing Plant to be upgraded. Material from TSF Dam 2 is hydraulically conveyed to the PGM Plant, where Platinum Group Metals (PGMs) are efficiently extracted. The PGM plant incorporates Jameson cells, which are instrumental in maximizing PGM recovery by generating a high-grade PGM concentrate. This concentrate undergoes further treatment within the existing AMB concentrator plant, resulting in the formation of a dewatered product, known as a filter cake. The filter cake is subsequently stockpiled, forming a critical feedstock for the PGM Recovery Plant, thereby facilitating effective material handling and subsequent processing of recovered PGMs. The residual tailings from this recovery process are then transported to the thickening plant, where the slurry is conditioned and thickened to the appropriate density for deposition onto Dam 3B, following standard thickening protocols.

- TSF Chrome Recovery Plant – Current plant to be used - This phase introduces a chrome flotation circuit at the tail of the PGM circuit. The circuit features a comprehensive chrome flotation system designed to optimize recovery efficiency and product quality. The process begins with feed preparation, where the material is conditioned to achieve optimal particle size and chemical properties for flotation. The flotation system comprises a sequence of rougher, cleaner, and recleaner flotation stages, which are critical to achieving high-grade chrome concentrate. Advanced Turbo cells and column cells will be employed in the flotation process, strategically combined to maximise chrome recovery efficiency. The use of oxide collectors ensures effective separation of chrome minerals from the tailings stream, even in challenging conditions. The rougher cells focus on bulk recovery, while the cleaner and recleaner cells further refine the reclaimed material.

- TSF Tailings Thickening Plant – Current thickening plant to be used- A tailings thickening plant is a facility designed to reduce the water content in tailings (the waste material generated from mineral processing) to optimize water recovery and prepare the tailings for safe disposal. By thickening the tailings, the plant enhances the efficiency of water recycling and improves the stability of the TSF.

TSF PGM Silos/Bins: The material reclaimed from the TSF after its processing from the plant will be placed in existing product silos/bins. It is proposed that this will be located at the Concentrator.

Topsoil Stockpiles: Topsoil will be stripped from the areas where construction will be undertaken. This will be stockpiled in an area just north of the TSF Laydown Area. This area will have a footprint of 15 000 m2 (1,5 Ha). Topsoil will be stockpiled to a height of 3m. The proposed site will have a total available volume of 45 000 m3.

Tailings Deposition: This will be undertaken by making use of the existing tails circuit. Residual tailings from the TSF Thickener will be transported to the TK-11 Handling tank and then transported to the TSF 3B via existing pipelines.

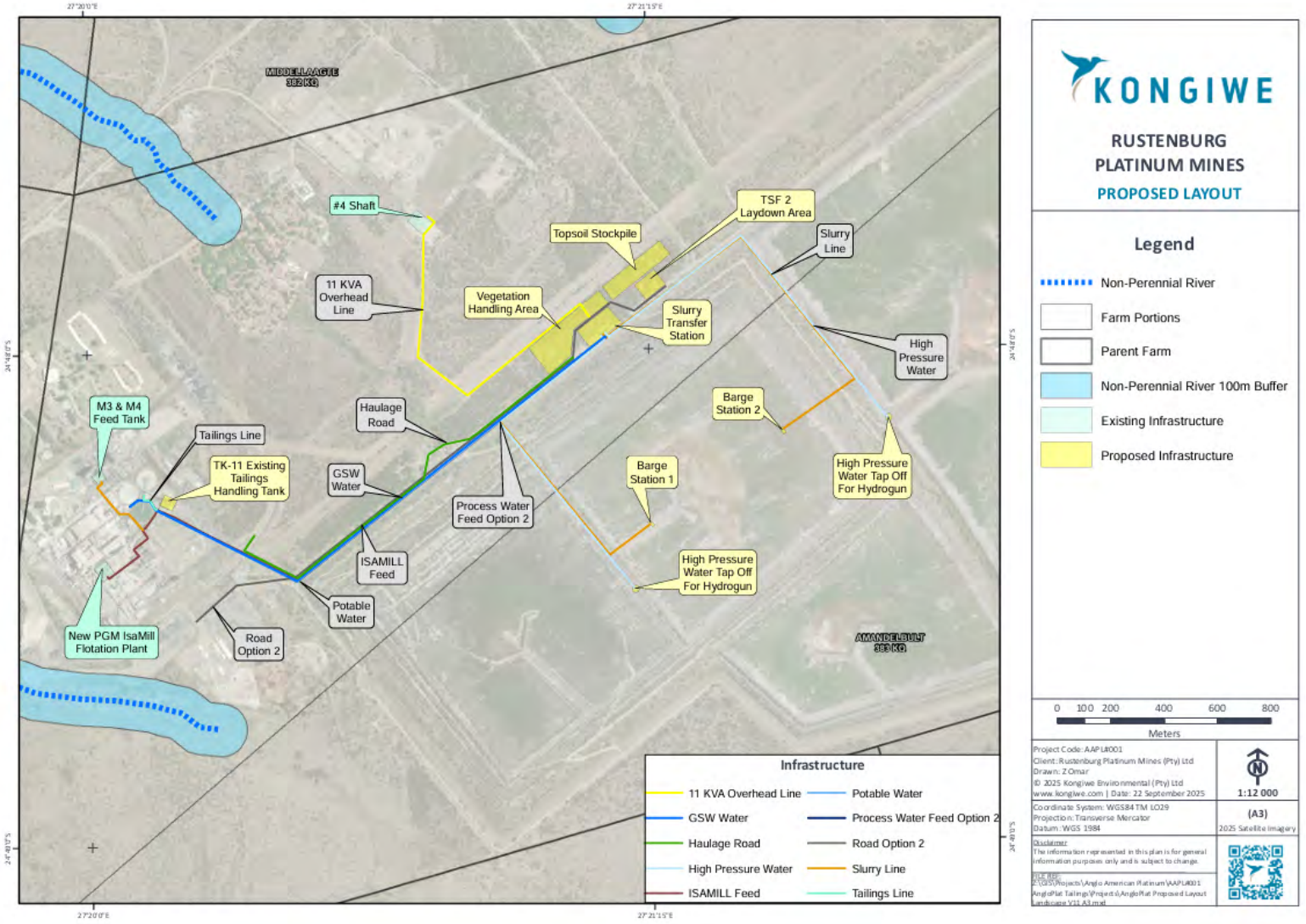


Figure 3 - Proposed layout plane

3 ASSESSMENT METHODOLOGY

The section below outlines the assessment methodologies utilised in the study.

3.1 Methodology for Assessing Heritage Site Significance

This HIA report was compiled by PGS for the proposed reclamation and processing of the tailings material from the Amandelbult TSF: dam no.2. The applicable maps, tables and figures are included, as stipulated in the NHRA and NEMA. The HIA process consists of three steps:

Step I – Literature Review and initial site analysis: The background information to the field survey relies greatly on the Heritage Background Research which was undertaken through archival research and evaluation of satellite imagery and topographical maps of the study area.

Step II – Physical Survey: A physical survey was conducted by a combination of vehicle and pedestrian access through the proposed project area by one qualified heritage specialist and one field assistant (between 10 and 11 April 2025), aimed at locating and documenting sites falling within and adjacent to the proposed development footprint.

Step III – The final step involved the recording and documentation of relevant heritage resources identified in the physical survey, the assessment of these resources in terms of the HIA criteria and report writing, as well as mapping and constructive recommendations.

The significance of heritage sites is based on four main criteria:

- Site integrity (i.e. primary vs. secondary context),
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter)
    - Low - <10/50 m^2
    - Medium - 10-50/50 m^2
    - High - >50/50 m^2
- Uniqueness; and
- Potential to answer present research questions.

Impacts on these sites by the development will be evaluated as follows:

3.1.1 Site Significance

Site significance classification standards use is based on the heritage classification of s3 in the NHRA and developed for implementation keeping in mind the grading system approved by SAHRA for archaeological impact assessments. The updated classification and rating system as developed by Heritage Western Cape (2021) is implemented in this report

Site significance classification standards prescribed by the Heritage Western Cape Guidelines (2016), were used for the purpose of this report (**Table 2** and **Table 3**).

Table 2: Rating system for archaeological resources

Grading	Description of Resource	Examples of Possible Management Strategies	Heritage Significance
I	Heritage resources with qualities so exceptional that they are of special national significance. Current examples: Langebaanweg (West Coast Fossil Park), Cradle of Humankind	May be declared as a National Heritage Site managed by SAHRA. Specific mitigation and scientific investigation can be permitted in certain circumstances with sufficient motivation.	Highest Significance
II	Heritage resources with special qualities which make them significant, but do not fulfil the criteria for Grade I status. Current examples: Blombos, Paternoster Midden.	May be declared as a Provincial Heritage Site managed by Provincial Heritage Authority. Specific mitigation and scientific investigation can be permitted in certain circumstances with sufficient motivation.	Exceptionally High Significance
III	Heritage resources that contribute to the environmental quality or cultural significance of a larger area and fulfils one of the criteria set out in s3(3) of the Act but that does not fulfil the criteria for Grade II status. Grade III sites may be formally protected by placement on the Heritage Register.		
IIIA	Such a resource must be an excellent example of its kind or must be sufficiently rare. Current examples: Varschedrift; Peers Cave; Brobartia Road Midden at Bettys Bay	Resource must be retained. Specific mitigation and scientific investigation can be permitted in certain circumstances with sufficient motivation.	High Significance
IIIB	Such a resource might have similar significances to those of a Grade III A resource, but to a lesser degree.	Resource must be retained where possible where not possible it must be fully investigated and/or mitigated.	Medium Significance
IIIC	Such a resource is of contributing significance.	Resource must be satisfactorily studied before impact. If the recording already done (such as in an HIA or permit application) is not sufficient, further recording or even mitigation may be required.	Low Significance

Grading	Description of Resource	Examples of Possible Management Strategies	Heritage Significance
NCW	A resource that, after appropriate investigation, has been determined to not have enough heritage significance to be retained as part of the National Estate.	No further actions under the NHRA are required. This must be motivated by the applicant or the consultant and approved by the authority.	No research potential or other cultural significance

Table 3: Rating system for built environment resources

Grading	Description of Resource	Examples of Possible Management Strategies	Heritage Significance
I	Heritage resources with qualities so exceptional that they are of special national significance. Current examples: Robben Island	May be declared as a National Heritage Site managed by SAHRA.	Highest Significance
II	Heritage resources with special qualities which make them significant in the context of a province or region, but do not fulfil the criteria for Grade I status. Current examples: St George's Cathedral, Community House	May be declared as a Provincial Heritage Site managed by Provincial Heritage Authority.	Exceptionally High Significance
II	Such a resource contributes to the environmental quality or cultural significance of a larger area and fulfils one of the criteria set out in s3(3) of the Act but that does not fulfil the criteria for Grade II status. Grade III sites may be formally protected by placement on the Heritage Register.		
IIIA	Such a resource must be an excellent example of its kind or must be sufficiently rare. These are heritage resources which are significant in the context of an area.	This grading is applied to buildings and sites that have sufficient intrinsic significance to be regarded as local heritage resources; and are significant enough to warrant that any alteration, both internal and external, is regulated. Such buildings and sites may be representative, being excellent examples of their kind, or may be rare. In either case, they should receive maximum protection at local level.	High Significance
IIIB	Such a resource might have similar significances to those of a Grade III A resource, but to a lesser degree. These are heritage resources which are significant in the context of a townscape, neighbourhood, settlement or community.	Like Grade IIIA buildings and sites, such buildings and sites may be representative, being excellent examples of their kind, or may be rare, but less so than Grade IIIA examples. They would receive less stringent protection than Grade IIIA buildings and sites at local level.	Medium Significance

Grading	Description of Resource	Examples of Possible Management Strategies	Heritage Significance
IIIC	Such a resource is of contributing significance to the environs These are heritage resources which are significant in the context of a streetscape or direct neighbourhood.	This grading is applied to buildings and/or sites whose significance is contextual, i.e. in large part due to its contribution to the character or significance of the environs. These buildings and sites should, as a consequence, only be regulated if the significance of the environs is sufficient to warrant protective measures, regardless of whether the site falls within a Conservation or Heritage Area. Internal alterations should not necessarily be regulated.	Low Significance
NCW	A resource that, after appropriate investigation, has been determined to not have enough heritage significance to be retained as part of the National Estate.	No further actions under the NHRA are required. This must be motivated by the applicant and approved by the authority. S34 can even be lifted by Heritage Western Cape for structures in this category if they are older than 60 years.	No research potential or other cultural significance

3.2 Methodology used in the classification and category of cultural heritage observations

The methodology used to determine the classification and category of cultural heritage observations was provided by Valterra Platinum for their Amandelbult Mining Complex(AMB) and is detailed below. The AMB impact significance matrix methodology was followed; however, no resources of cultural or heritage significance were found. Due to the absence of these resources, no impact significance matrix was completed, and no field ratings were calculated.

However, should any heritage resources be identified during project activity the CFP (Refer: **Section of the document 7 below**) will need to address the AMB impact significance matrix methodology as described in Table 4.

Table 4: AMB Heritage Impact and Management Matrix

Background
The cultural significance input sheet is based largely on the Australian ICOMOS Burra Charter (2013) as well as the NHRA. The purpose of this input sheet is to determine if cultural heritage observations have cultural significance and assign an objective numeric value to identified cultural significance. Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations, which may be embodied in the observation, its fabric, setting, use, associations, meanings, records and related observations. As observations can have a range of values for different individuals or groups, assessment must therefore be evidence-based by analysing evidence gathered through the physical investigation of the observation, research and consultation. This cultural significance assessment includes five value criteria - aesthetic, historic, scientific, social or spiritual values. It is important to note that an observation is not necessarily more significant if more than one criterium is satisfied. The highest ranked criterium is therefore used as a primary indicator. The input sheet is used to develop a statement of significance that is a concise and distilled summary of the cultural significance of the observation and wider landscape that must summarise each aspect, whilst those aspects considered most important are highlighted. Less important elements can detract from the overall statement of significance and must therefore be identified as well. The contribution of each element must thus be recognised. It is often useful to identify those elements that are not significant or detract from significance. This will assist in policy formulation The statement of informs cultural heritage management and conservation decisions, commensurate with the attributes assessed. For example, if an observation is assigned high significance due to social value, archaeological mitigation may not be the correct management measure. The statement must be supported by sound evidence, be able to withstand scrutiny and be replicable provided that another person has access to the same information sources.

Methodology

The input sheet utilises several distinct elements aimed at standardising the input to enable accurate analyses.
The first set of input elements describes the type of cultural heritage observation being assessed e.g., archaeological, burial grounds and graves, historic, etc.

The second set of input elements identifies and ranks the cultural significance of each observation. These input elements include:

- How the observation contributes to one or more of the values summarised as aesthetic, historical, scientific, social and spiritual values.
- The observation's sensitivity to negative change.
- The observation's representivity or rarity.

The cultural significance rating is the sum of the highest assigned value, sensitivity, representivity and confidence ratings to provide a value out of 125. The cultural significance is then described as low, medium, high or very high.

Not all values need to be considered and the assessor has the option to note that a specific value is not applicable or not considered in the assessment. Values not considered or assessed do not affect the final cultural significance rating.
The assessment also provides for unknown values that equal 0. Where a 0 value is assigned, the final cultural significance rating is flagged as an issue that requires further research or evidence.

As the cultural significance assessment is intended to be evidence-based, the assessor must include a summary of the evidence used to inform each rating. This may include published research, interviews, databases, reports that are available in the public domain. Evidence must be discussed in detail in a report and referenced to enable any third party to test the assigned cultural significance, a baseline report or the statement of significance. The confidence level should reflect available evidence. Zero or low confidence levels are problematic and may require reassessment or further research.

Where cultural heritage observations are multicomponent, the assessor is required to consider the predominant or most significant aspect of an observation. For example, an observation of an historic settlement with tangible or reported evidence of graves must consider graves as the main cultural heritage type. Where such a settlement has no evidence of graves, the settlement itself must be considered as the main type.

Finally, the assessment automatically calculates minimum required cultural heritage management considerations aligned to the IFC PS 8, relevant AMB cultural heritage strategies and procedures. These considerations must inform all management and mitigation recommendations made by the assessor. As stated above, it is important to consider the attributes that are assessed when designing management considerations.

Value descriptions (ICOMOS 2013, Burra Charter Practice Note: Understanding and assessing cultural significance) The attributes discussed below do not represent cultural significance in and by themselves. Rather, these attributes are used to determine first, if a cultural heritage observation includes aspects related to the attributes and second, how those aspects contribute to the value of the identified attributes.	
Aesthetic *Does the observation include any demonstrable aspects that can contribute to its aesthetic value?* *Is it known?* *Aesthetic value largely relies on subjective evidence obtained from informants.*	Refers to existing sensory and perceptual experiences of a place or object i.e., responses to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced. Similar to 'spiritual value' aesthetic value is culturally influenced, largely subjective (in the eye of the beholder) and intangible, it should ideally only be assessed if the subjective experience is known (reported by informants) and recorded. Should no information be recorded, then ask: ▪ Does the place have special compositional or uncommonly attractive qualities involving combinations of colour, textures, spaces, massing, detail, movement, unity, sounds, scents? ▪ Is the place distinctive within the setting or a prominent visual landmark? ▪ Does the place have qualities which are inspirational or which evoke strong feelings or special meanings? ▪ Is the place symbolic for its aesthetic qualities: for example, does it inspire artistic or cultural response, is it represented in art, photography, literature, folk art, folk lore, mythology or other imagery or cultural arts? ▪ Does the place display particular aesthetic characteristics of an identified style or fashion? ▪ Does the place show a high degree of creative or technical achievement?

Value descriptions (ICOMOS 2013, Burra Charter Practice Note: Understanding and assessing cultural significance) The attributes discussed below do not represent cultural significance in and by themselves. Rather, these attributes are used to determine first, if a cultural heritage observation includes aspects related to the attributes and second, how those aspects contribute to the value of the identified attributes.	
Historic *Does the observation include any aspects that can contribute to an understanding of the broad history of an area?* *Historic here must not be confused with the so-called Historic period.*	Historic here refers to the contribution of an observation to an understanding of the history of an area, landscape, etc. and not to a time period. Intended to encompass all aspects of history e.g., the history of aesthetics, art and architecture, science, spirituality and society [also associations with important events, figures, groups or organisations]. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence. Ask: ▪ Is the place associated with an important event or theme in history? ▪ Is the place important in showing patterns in the development of history locally, in a region, or on a state-wide, or national or global basis? ▪ Does the place show a high degree of creative or technical achievement for a particular period? ▪ Is the place associated with a particular person or cultural group important in the history of the local area, state, nationally or globally?

Value descriptions (ICOMOS 2013, Burra Charter Practice Note: Understanding and assessing cultural significance) The attributes discussed below do not represent cultural significance in and by themselves. Rather, these attributes are used to determine first, if a cultural heritage observation includes aspects related to the attributes and second, how those aspects contribute to the value of the identified attributes.	
Scientific *Does the observation include any aspects that can contribute to existing or new information, data, understanding, etc?*	Refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions. To establish potential, it may be necessary to carry out some form of testing or sampling. For example in the case of an archaeological site, this could be established by a test excavation. Ask: ▪ •Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?
Social *Does the observation include any demonstrable aspects that are associated with a particular community or cultural group?*	Refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them. Ask: ▪ Is the place important as a local marker or symbol? ▪ Is the place important as part of community identity or the identity of a particular cultural group? ▪ Is the place important to a community or cultural group because of associations and meanings developed from long use and association?

Value descriptions (ICOMOS 2013, Burra Charter Practice Note: Understanding and assessing cultural significance) The attributes discussed below do not represent cultural significance in and by themselves. Rather, these attributes are used to determine first, if a cultural heritage observation includes aspects related to the attributes and second, how those aspects contribute to the value of the identified attributes.	
Spiritual *Does the observation include any demonstrable aspects that can contribute to its spiritual value? Is it known? Spiritual value largely relies on subjective evidence obtained from informants.*	Spiritual value refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations, and be expressed through cultural practices and related places. The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm. Spiritual values may be interdependent on the social values and physical properties of a place. Similar to 'aesthetic value' spiritual value is culturally influenced, largely subjective, experiential and intangible, it should ideally only be assessed if the subjective experience is known (reported by informants) and recorded. Should no information be recorded, then ask: ▪ Does the place contribute to the spiritual identity or belief system of a cultural group? ▪ Is the place a repository of knowledge, traditional art or lore related to spiritual practice of a cultural group? ▪ Is the place important in maintaining the spiritual health and wellbeing of a culture or group? ▪ Do the physical attributes of the place play a role in recalling or awakening an understanding of an individual or a group’s relationship with the spiritual realm? ▪ • Do the spiritual values of the place find expression in cultural practices or human-made structures, or inspire creative works?

3.3 Methodology used in determining the significance of environmental impacts

The methodology used to determine the environmental impact significance was provided by Kongiwe Environmental and is explained in **Appendix A**.

4 CURRENT STATUS QUO

4.1 Site Description

Th majority of the study area is overgrown with dense grass cover with approximately 0 - 15% surface visibility (**Figure 8** and **Figure 10**). The visibility over the mini substation, laydown area, vegetation/oversized stock pile and scrubber/repulping plant with transfer station was the highest with approximately 40% (**Figure 6**). Certain areas towards the east of the study area along the high-pressure water pipe, were waterlogged (**Figure 7)**.

Vegetation in the study area is entirely characterised by the Dwaalboom Thornveld, it is described by Mucina and Rutherford (2006:460) as:

"Distribution, Limpopo and North-West Provinces: Flats north of the Dwarsberge and associated ridges mainly west of the Crocodile River in the Dwaalboom area but including a patch around Sentrum. South of the ridges it extends eastwards from the Nietverdiend area, north of the Pilanesberg to the Northam area. Altitude 900–1 200 m.

Vegetation & Landscape, Features Plains with layer of scattered, low to medium high, deciduous microphyllous trees and shrubs with a few broad-leaved tree species, and an almost continuous herbaceous layer dominated by grass species. *Acacia tortilis* and *A. nilotica* dominate on the medium clays (at least 21% clay in the upper soil horizon but high in the lower horizons. On particularly heavy clays (55% clay in all horizons) most other woody plants are excluded and the diminutive *A. tenuispina* dominates at a height of less than 1 m above ground. On the sandy clay loam soils (with not more than 35% clay in the upper horizon but high in the lower horizons) *A. erubescens* is the most prominent tree (Pauw 1988). The alternation of these substrate types creates a mozaic of patches typically 1–5 km across, for example in the unit west of Thabazimbi.

Climate, Summer rainfall with very dry winters. Median annual precipitation ranges from about 500–600 mm. This unit has the highest mean annual potential evaporation of savanna vegetation units outside the two Kalahari bioregions. Frost is fairly frequent in winter.

Figure 4 - Western view from TSF 2 lay down area.

Figure 5 - View from the centre of the property towards the west.

Figure 6 - Tall grass pastures in the central section of the study area.

Figure 7 - Southern view from water booster line option .2

Figure 8 - Northern View of TSF PGM processing plant option 2.

Figure 9 - Eastern view of water booster line for water booster option 2.

4.2 Overview of the study area and surrounding landscape

Table 5: Cultural and historical overview of study area and surroundings

DATE	DESCRIPTION
2.5 million – 250 000 years ago	The Earlier Stone Age (ESA) is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these technological phases is known as Oldowan which is associated with crude flakes and hammer stones and dates to approximately 2 million years ago. The second technological phase in the ESA of Southern Africa is known as the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial handaxe. The Acheulian phase dates back to approximately 1.5 million years ago. During an archaeological survey of the Amandelbult Mining Lease Area in 1994, no ESA archaeological sites were identified (Van Schalkwyk et.al., 1994). This relative lack in archaeological sites associated with the ESA was also observed during an intensive archaeological and heritage survey undertaken within the Marakele National Park (roughly 35 km north-east of the present study area) (Birkholtz & Steyn, 2002). The nearest known researched and published ESA site is an open site named Blaaubank, which is located in a gravel donga near Rooiberg (some 40 km east by southeast of the present study area). Lithics associated with both the ESA and Middle Stone Ages (MSA) were identified at this site (Wadley et.al., 2016).
250 000 to 40 000 years ago	The MSA dates to between 250 000 to 40 000 years Before Present (BP). MSA dates of around 250 000 BP originate from sites such as Leopards Kopje in Zambia, while the late Pleistocene (125 000 BP) yields a number of important dated sites associated with modern humans (Deacon & Deacon, 1999). The MSA is characterised by flake and blade industries, the first use of grindstones, wood and bone artefacts, personal ornaments, use of red ochre, circular hearths and a hunting and gathering lifestyle. A number of MSA occurrences and findspots were identified during the archaeological and heritage survey of the Amandelbult Mining Lease Area in 1994 (Van Schalkwyk et.al., 1994). These occurrences were all identified to the west of the R510 tar road between Rustenburg and Thabazimbi.

Figure 10 - Example of Early Stone Age Later Acheulian handaxes identified at Blaaubank near Rooiberg. Cropped section of an illustration published in Mason (1962:199).

DATE	DESCRIPTION
40 000 years ago to the historic past	The Later Stone Age (LSA) is the third phase identified in South Africa's Stone Age history. This phase in human history is associated with an abundance of very small stone artefacts known as microliths. A number of LSA occurrences and findspots were identified during the archaeological survey of the Amandelbult Mining Lease Area in 1994. These occurrences were primarily identified in proximity to large rocky outcrops (Van Schalkwyk et.al., 1994). Interestingly, research on the LSA in the Waterberg Plateau suggests a discontinuity between the MSA and LSA settlement of several thousand years, with settlement of the area by LSA hunter gatherers occurring in the 11th and 12th Centuries and coinciding with settlement by Iron Age peoples (Van der Ryst 1998). While the relationship between Stone Age people and Iron Age settlers was initially characterised by peaceful interaction and trade, the relationship seems to have degraded into one of subjugation of the former, a process that was exacerbated by an influx of increasing numbers of white settlers into the area as well. The farm Vaalpenspan 90 KQ, located some distance to the north of the study area, is a reminder of the marginalised remnants of the hunter gatherers, 'Vaalpense' being the name given to people of mixed agropastoralist and hunter gatherer descent (Van der Ryst 1998; Birkholtz & Steyn 2002). In southern Africa, the LSA is characterised by the appearance of rock art in the form of paintings and engravings. As far as is presently known, the nearest LSA rock art site to the study area is located roughly 10 km north-west of the study area, where a cave containing the remnants of LSA rock art was identified during an archaeological survey of the farms Buffelsfontein 353 KQ and Tygerskloof 354 KQ (Huffman, 2004). Another known LSA rock art site is located near the confluence of the Crocodile and Pienaars Rivers, some 43 km to the southeast (Bergh, 1999). Furthermore, the Waterberg located north of the study area, is known for its many rock art sites, including those containing shaded paintings such as at Haakdoorndraai (Pager, 1973) and the depiction of a fat tailed sheep at Dwaalhoek 185 KQ (Van der Ryst 1998). These two farms are located roughly 85 km north-east of the present study area.
The Study Area and Surroundings during the Iron Age	
The arrival of early farming communities during the first millennium, heralded in the start of the Iron Age for South Africa. The Iron Age is that period in South Africa's archaeological history associated with pre-colonial farming communities who practiced cultivation and pastoralist farming activities, metal working, cultural customs such as lobola and whose settlement layouts show the tangible representation of the significance of cattle (known as the Central Cattle Pattern) (Huffman, 2007). The tangible remains of the Iron Age are frequently identified in the general surroundings of the study area, and these may include potsherds, stonewalled settlements, grinding stones and metal smelting and forging sites	
AD 350 – AD 650	The Bambata facies of the Benfica Sub-Branch of the Kalundu Ceramic Tradition represents the earliest known Iron Age period within the surroundings of the study area. The decoration on the ceramics from this facies is characterised by "...*fine decoration, multiple bands and cross-hatching on long rim, alternating blocks of stamped and incised lines in neck*." (Huffman, 2007:215).

DATE	DESCRIPTION
AD 750 – AD 1000	The Diamant facies of the Kalundu Ceramic Tradition represents the second known Iron Age period within the surroundings of the study area. The decoration on the ceramics from this facies is characterised by "...*tapered rims with broadly incised herringbone*." (Huffman, 2007:225).
AD 1000 – AD 1300	The Eiland facies of the Kalundu Ceramic Tradition represents the second known Iron Age period within the surroundings of the study area. The decoration on the ceramics from this facies is characterised by "...*fine herringbone with stamping*." (Huffman, 2007:221).
AD1350 – AD 1750	Ongoing research in KwaZulu-Natal has focused on the second phase of the Blackburn sequence, known as Moor Park. During the fourteenth century, the Moor Park farmers were the first to colonize the higher altitude grasslands of South Africa's interior. In doing so, they opened up possibilities for greater economic specialization and interdependence, not least because of the impossibility of smelting iron where suitable fuel was lacking. The same lack of timber also encouraged the adoption of stone as a building material (Mitchell and Whitelaw, 2005). The Moor Park facies of the Blackburn Branch of the Urewe Tradition is associated with pottery characterised by punctates, rim notching and appliqué (Huffman, 2007).
AD 1500 – AD 1700	The Madikwe facies of the Blackburn Branch of the Urewe Ceramic Tradition represents the next phase in the Iron Age of the study area and surroundings. This facies can likely be dated to between AD 1500 and AD 1700. The decoration on the ceramics associated with this facies is characterised by multiple bands of cord impressions, incisions, stabs and punctates separated by colour (Huffman, 2007). As indicated above, the Madikwe facies represents one of three parallel Iron Age facies, which had developed from the original Moloko facies known as Icon. As such, the Madikwe facies was the contemporary of the Olifantspoort and Letsibogo facies, and developed into the Buispoort facies (AD 1700 – AD 1850) (Huffman, 2007).
AD 1650 – AD 1820	The Uitkomst facies of the Blackburn Branch of the Urewe Ceramic Tradition represents another Iron Age period identified for the surroundings of the study area. This facies can likely be dated to between AD 1650 and AD 1820. The decoration on the ceramics associated with this facies is characterised by stamped arcades, appliqué of parallel incisions, stamping and cord impressions and is described as a mixture of the characteristics of both Ntsuanatsatsi (Nguni) and Olifantspoort (Sotho) (Huffman, 2007). The type-site is Uitkomst Cave, which is situated approximately 130 km south by south-east of the study area. The site was excavated by Professor R.J. Mason of the University of the Witwatersrand as part of a project to excavate five cave sites in the Witwatersrand-Magaliesberg area. These five sites are Glenferness, Hennops River, Pietkloof, Zwartkops and Uitkomst. Uitkomst was chosen as the type site for the particular Iron Age material excavated at these sites as the Uitkomst deposit was found to be well stratified and the site "...illustrates the combination of a certain kind of pottery with evidence for metal and food production and stone wall building found at the open sites..." (Mason, 1962:385). The Uitkomst pottery is viewed as a combination of Ntsuanatsatsi and Olifantspoort, and with the Makgwareng facies is seen as the successors to the Ntsuanatsatsi facies. The Ntsuanatsatsi facies is closely related to the oral histories of the Early Fokeng people and represents the earliest known

DATE	DESCRIPTION
	movement of Nguni people out of Kwazulu-Natal into the inland areas of South Africa. Regarding this theory, the Bafokeng settled at Ntsuanatsatsi Hill in the present-day Free State Province. Subsequently, the BaKwena lineage had broken away from the Bahurutshe cluster and crossed southward over the Vaal River to come in contact with the Bafokeng. As a result of this contact a Bafokeng-Bakwena cluster was formed, which moved northward and became further 'Sotho-ised' by coming into increasing contact with other Sotho-Tswana groups. According to this theory, this eventually resulted in the appearance of Uitkomst facies type pottery which contained elements of both Nguni and Sotho-Tswana speakers (Huffman, 2007). Huffman states that that the Uitkomst facies is directly associated with the Bafokeng (Huffman, 2007). However, it worth noting that not all researchers agree with this preposition of the Bafokeng origins. In their book on the history of the Bafokeng, Bernard Mbenga and Andrew Mason indicate that the research of Prof. R.J. Mason and Dr. J.C.C. Pistorius "...would indicate that the Bafokeng originated from the Bahurutshe- Bakwena-Bakgatla lineage cluster. Tom Huffman holds a different view..." (Mbenga & Mason, 2010).
AD1700 – AD1840	The Buispoort facies of the Moloko branch of the Urewe Ceramic Tradition is the next phase to be identified within the study area's surroundings. It is most likely dated to between AD 1700 and AD 1840. The key features on the decorated ceramics include rim notching, broadly incised chevrons and white bands, all with red ochre (Huffman, 2007). It is believed that the Madikwe facies developed into the Buispoort facies. The Buispoort facies is associated with sites such as Boschhoek, Buffelshoek, Kaditshwene, Molokwane and Olifantspoort (Huffman, 2007).
Late 1700s – c.1828	The Bakgatla-ba-ga-Kgafela represents one of the Late Iron Age (LIA) groups that can be associated with the close to immediate surroundings of the present study area. According to available oral history, the Bakgatla-ba-ga-Kgafela frequently moved around within the general area located between the Waterberg to the north-east and Pilanesberg to the south-west. During the period between the late 1600s and 1869, the Bakgatla-ba-ga-Kgafela had relocated 20 times. This said, the north-eastern Pilanesberg near present-day Moruleng was frequently settled during this period. Two of the Bakgatla-ba-ga-Kgafela settlements were located in closer proximity to the present study area. The first of these was Sefikile hill, on the farm Spitskop 410 KQ. The oral history tells us that during the end of the eighteenth century Kgosi Pheto, the chief of the Bakgatla-ba-ga-Kgafela, settled at Sefikile hill. They remained here until the death of Pheto in c. 1805 (Hall et.al., 2008). During a heritage survey, Dr. J.C.C. Pistorius identified the occurrence of damaged stone walled sites and a graveyard along the base of Sefikile hill at Sefikile village (Pistorius 2012). It can be assumed that the damaged stone walled sites can be associated with the settlement of the Bakgatla-ba-ga-Kgafela at this hill. The second settlement of the Bakgatla-ba-ga-Kgafela in proximity to the study area occurred during the early 1820s, when Kgosi Pilane moved his people to the farm Schilpadnest 385 KQ. They named their settlement here Mmamodimokwana (Hall et.al., 2008). The farm Schilpadnest is located Approximatly 8 km north-east of the study area. It was here, at Schilpadnest, that the Bakgatla-ba-ga-Kgafela were attacked by Mzilikazi's Khumalo Ndebele (Matabele) in c. 1828.

DATE	DESCRIPTION
c.1820	According to Breutz (1953), the Kwena baPhalane moved to the western bank of the Crocodile (Odi) River where it is joined by the Sand (Thokwe) River. This author suggested that the settlement of the Kwena baPhalane on the western bank of the Crocodile River, may either have been on the farms Buffelshoek 351 KQ or Haakdoorndrift 373 KQ. This latter farm is located 10 km north of the present study area.
The Study Area and Surroundings during the Mfecane	
The Mfecane (Difaqane) is a period of upheaval during the end of the Iron Age and the start of the Historical Period. These years of unrest originated primarily in the migration of three Nguni groups from present-day Kwazulu-Natal into the present-day Free State as a result of the conquests of the Zulu under King Shaka. The three Nguni groups were the Hlubi of Mpangazitha, the Ngwane of Matiwane and the Khumalo Ndebele (Matabele) of Mzilikazi. There is quite some evidence, in the form of defensive hilltop settlement and aggregation, that the LIA in the region was a time of upheaval and conflict, initially as a result of the influx of the Ndebele and later by European settlers (Hall 1985). The Difaqane period in the study area and surroundings saw Mzilikazi first establishing himself along the Magaliesberg Mountains between 1827 and 1832, before relocating to the Marico River valley in 1832. Their settlement and movement during this period unsettled many Sotho and Tswana groups who fled east to seek refuge (Huffman 1990). In fact, the Kransberg, located north-east of the present-day town of Thabazimbi, was vernacularly known as 'Marakeli' or 'place of refuge' (Coetzee, n.d. undated). Other groups fled south, such as the Bakgatla-ba-ga-Kgafela under kgosi Kgamanyane who settled at Saulspoort south-west of the study area.	
1820s	In c. 1821 the Hlubi migrated across the Drakensberg Mountains in a westerly direction (Maggs, 1976) and attacked the Tlokwa of MaNthatisi along the banks of the Wilge River. This river has its source near Harrismith and flows into the Vaal River where the Vaal Dam is located today. While it is not exactly certain where MaNthatisi's settlements would have been located (in all likelihood further south), the Tlokwa fled westward as a result of the Hlubi attack and in turn attacked other groups located in its path. This started a period of unrest and warfare, which rippled across the Highveld on both sides of the Vaal River (Legassick, 2010) (Lye and Murray, 1980). The Ngwane followed closely on the Hlubi and further augmented the unrest and warfare along the southern Highveld (Legassick, 2010). Although the effects of the migrations of the Hlubi and Ngwane would certainly have had a profound impact on the northern Free State as well, this was also the case in terms of the Khumalo Ndebele who would have played a significant role in the surroundings of the study area during this time.
1823 – 1832	The Khumalo Ndebele (also known as the Matabele) were forced to leave Kwazulu-Natal and between 1823 and 1827 settled along the central Vaal River (Bergh, 1999). In c. 1827 the Khumalo Ndebele of Mzilikazi moved away from the central Vaal River and established themselves along the Magaliesberg Mountains (Bergh, 1999). With this mountain range located roughly 110 km south-east of the present study area, it is evident that this movement brought the study area much closer to the sphere of influence of Mzilikazi and his Khumalo Ndebele. It is therefore no surprise that in c. 1828, one year after their migration to the Magaliesberg Mountains, that the Khumalo Ndebele attacked the Bakgatla-ba-ga-Kgafela of Kgosi Pilane at their settlement on the farm Schilpadnest 385 KQ. This attack caused the Bakgatla-ba-ga-Kgafela to abandon their settlement, only to return years later. After returning to their settlement at Schilpadnest, the Bakgatla-ba-ga-Kgafela abandoned it again in 1837 due to pressure from the Khumalo Ndebele (Breutz 1953; Van

DATE	DESCRIPTION
	Schalkwyk 2007). In c. 1832 the Khumalo Ndebele moved to the Marico River where Mzilikazi established his capital at Motsenyateng (Bergh, 1999) (**Figure 13**). Two different settlement types have been associated with the Khumalo Ndebele. The first of these is known as Type B walling and was found at Nqabeni in the Babanango area of Kwazulu-Natal. These walls stood in the open without any military or defensive considerations and comprised an inner circle of linked cattle enclosures (Huffman, 2007). The second settlement type is known as Doornspruit, and comprises a layout which from the air has the appearance of a 'beaded necklace'. This layout comprises long scalloped walls (which mark the back of the residential area) which closely surround a complex core which in turn comprises a number of stone circles. The structures from the centre of the settlement can be interpreted as kitchen areas and enclosures for keeping small stock. It is important to note that the Doornspruit settlement type is associated with the later settlements of the Khumalo Ndebele in areas such as the Magaliesberg Mountains and Marico and represent a settlement under the influence of the Sotho with whom the Khumalo Ndebele intermarried. The Type B settlement is associated with the early Khumalo Ndebele settlements and conforms more to the typical Zulu form of settlement. In the surroundings of the present study area, it can be expected that the settlements of the Khumalo Ndebele would have conformed more to the Doornspruit than the Type B type of settlement. It must be stressed, however, that no published information could be found that indicates the presence of Doornspruit sites in the general vicinity of the study area

DATE	DESCRIPTION

Figure 11 - King Mzilikazi of the Matabele. This depiction was made by Captain Cornwallis Harris in c. 1838

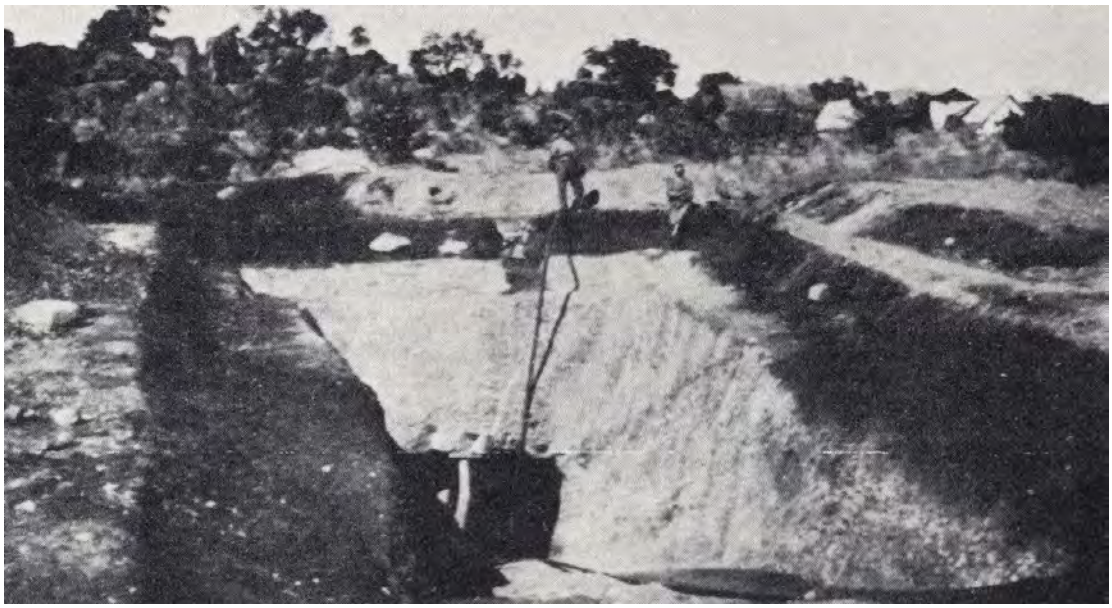
The Study Area and Surroundings during the Early Historical Period	
The early Historical Period within the study area and surroundings was characterised by the arrival of newcomers to this area. The first arrivals would almost certainly have been travellers, traders, missionaries, hunters and fortune seekers. However, with time, this initial trickle was replaced by a mass flood of white immigrants during the 1830s, when a mass migration of roughly 2 540 Afrikaner families (comprising approximately 12 000 individuals) from the frontier zone of the Cape Colony to the interior of Southern Africa took place. The people who took part in this Great Trek were later to be known as Voortrekkers (Visagie, 2011).	
1836	The first Voortrekker parties crossed over the Vaal River (Bergh, 1999).
Late 1830s – early 1840s	These years saw the early establishment of farms by the Voortrekkers in the general vicinity of the study area (Bergh, 1999). During this period the first contacts between white people and the black people residing in the Rustenburg district, which included the general surroundings of the present study area took place. According to Bergh (2005), these early contacts resulted in the setting aside of land by the Voortrekker leadership for some of the black groups such as the Bafokeng. Mbenga (1997) also indicates that the relationship between the Voortrekkers and the Bakgatla were initially similarly amicable. However, within a short period the relationship between the Voortrekkers and the black groups living in the area around Rustenburg became increasingly strained. For example, Bergh (2005) states that the Bafokeng were eventually dispossessed of their farms. The system of unpaid labour enforced by the Voortrekkers on the local black groups would certainly have deteriorated the relationship further. See for example Morton (1992).
c. 1840	The Kwena baPhalane abandoned their settlement near the confluence of the Crocodile and Sand Rivers (Breutz, 1953).
1851	Both the district and town of Rustenburg was established in this year. At the time, the study area fell within the Rustenburg district. It would remain within

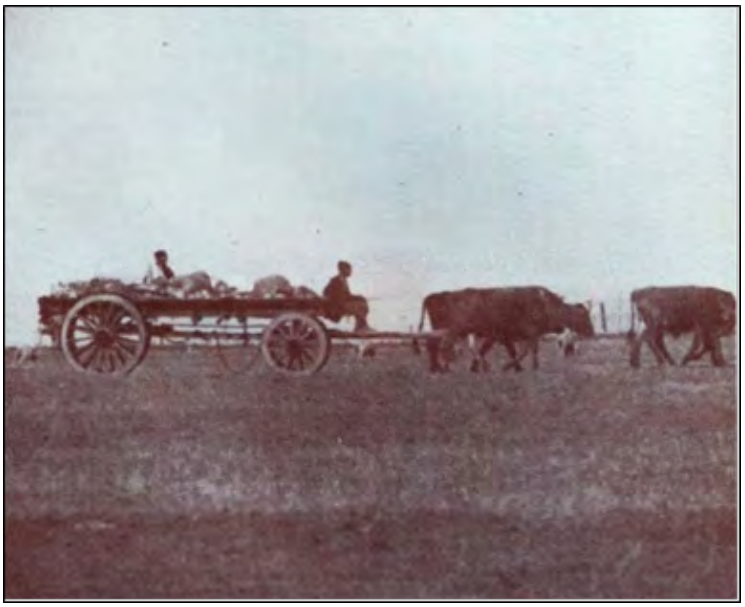
DATE	DESCRIPTION
	this district until 1977, when it was allocated within the newly established district of Thabazimbi (Bergh, 1999).
1840s – 1860s	Although the first white farmers from Potchefstroom arrived and settled in the general surroundings of the study area as early as 1839 and 1840 (Changuion & Bergh, 1999), for the most part the permanent settlement of the first white farmers within the study area and its immediate surroundings occurred during the 1860s. During this period the first more permanent contacts between the black people residing in the surrounding area at the time and white people took place. Closer to Rustenburg, these early contacts resulted in the setting aside of land by the Voortrekker leadership for the Bafokeng people (Bergh, 2005). Mbenga (1997) indicates that the relationship between the Voortrekkers and the Bakgatla were initially also amicable. However, within a short period the relationship between the Voortrekkers and the black groups living in the areas around Rustenburg became increasingly strained and numerous black groups living on farms near Rustenburg were eventually dispossessed of their land. The system of unpaid labour enforced by the Voortrekkers on these groups would certainly have deteriorated the relationship further. See for example Morton (1992).
1860	The permanent settlement of white farmers in the area, resulted in the proclamation of individual farms and the establishment of permanent farmsteads. Not all these early pioneers commenced with farming activities, with a number of them providing for themselves primarily through hunting. The hunting of elephants and hippo was especially favoured (Pont, 1965). Although farming activities eventually developed in the area, diseases such as tsetse and malaria also hindered these developments, and it took some time before farming was undertaken in earnest (Pont, 1965). The first farming activities undertaken in the area centred around cattle farming, and it was only later that agriculture was also practised (Naudé, 1998) (**Figure 14**). According to Coetzee (n.d.), the farmers of Koedoeskop were the first white farmers from this entire region to start with agriculture by establishing small irrigated agricultural lands along the Crocodile River. The power needed to undertake irrigation work was initially supplied by steam engines, with diesel and paraffin engines utilised much later. It is not known when these first agricultural activities by white farmers at Koedoeskop commenced.

DATE	DESCRIPTION
	 Figure 12 - A typical farmstead in the Waterberg during the late nineteenth century.
1870	The Kwena baPhalane moved to the farm Schilpadnest 385 KQ in 1870 and the farm was still in their possession when P.L. Breutz published his The Tribes of Rustenburg and Pilanesberg Districts in 1953 (Breutz, 1953).
The Study Area and Surroundings during the Twentieth Century	
The general surroundings of the study area underwent significant changes and development during the twentieth century, including extensive development in the form of iron and platinum mining, railway and transportation development as well as the establishment of nearby towns such as Thabazimbi and Northam. This said, the twentieth century also started with the South African War, which would have had an impact on this landscape as well as its people.	
1899 – 1902	On 11 October 1899 war broke out between Britain and the two Boer republics of the Orange Free State and Transvaal (Zuid-Afrikaansche Republiek). The present study area and surroundings were never part of the main theatre of war, and no skirmishes or battles associated with the war are known from within the study area or its immediate surroundings. During the war years the Bakgatla from Saulspoort and Bechuanaland under Kgosi Linchwe I (the son of Kgamanyane Pilane) actively resisted and fought the Boer Commandos and also raided Boer farms across the present-day North West and Gauteng Provinces as far as south of Rustenburg, with some sources even indicating that the Kgatla regiments raided farms in the Pretoria District as well. While no clear victors in the fight for the land north of the Elands River emerged, the Bakgatla succeeded in harassing and attacking the Boer forces to the extent that the far north-western areas of the Transvaal Republic were largely left unmanned and unoccupied by Boer forces during much of the war, and especially so as the war progressed. While numerous skirmishes would have taken place around the general surroundings of the present study area as a result of the tug of war between the Boers and Bakgatla, two pitched battles did occur in this general area namely at Janskop and Draaiberg (Morton, 1992). These battlefields are located on the northern and north-western ends of the Pilanesberg, and are located some 40 km south-west of the present study area. This said, these two battles between the Boers and Bakgatla may have been the nearest battles of the war to the present study area.

DATE	DESCRIPTION
	As part of the so-called 'scorched earth' policy initiated by Lord Kitchener, many Boer farmhouses were destroyed. This would certainly also have been true for the surroundings of the study area as well. Another aspect characteristic of the 'scorched earth' policy was the system of concentration camps (also referred to as refugee camps) in which Boer as well as Black women and children were held. The closest of any of these camps to the present study area, was the one at Modimolle and which was in existence from May 1901 to March 1902. This camp was established by the British authorities and used for the keeping of Boer women and children, resulted in the death of 525 persons, 429 of whom were under the age of 15 years (www.angloboerwar.com). The Anglo-Boer War came to an end with the signing of the Peace Treaty of Vereeniging in May 1902.
1914	At the end of the South African War (1899 – 1902), the Transvaal and Orange Free State republics lost their independence to the British Empire. In 1910, the Union of South Africa was established consisting of the Cape Colony, Natal, the Transvaal Colony and the Orange River Colony. General Louis Botha was appointed the Union's first prime minister and believed that South Africa's future would be best served as part of the British Commonwealth. In 1914, the South African government under General Louis Botha decided to assist Great Britain in its war with Germany. A number of Boer leaders were not happy about this turn of events, and when General Koos de la Rey was killed at a roadblock in Johannesburg, emotions reached a boiling point and rebellion broke out across the former Boer republics. While the Boer Rebellion would also have played its part in the general surroundings of the study area, no battles or skirmishes are known in proximity to the present study area. One of the nearest events of the rebellion to the present study area would have taken place on 6 and 7 November 1914, when a force of 18 rebels attacked the Pilanesberg Police Station, which at the time was held by a single policeman, Constable Petrus Paulus Jacobus (Piet) Botha. The attack did not succeed (Wulfsohn, 1989). While the exact location of this police station is not known, it is believed to have been near Sun City, some 60 km south-west of the present study area
1919	Although iron had been mined and processed from the surroundings of the study area during the Iron Age, the first white person to pay any attention to the iron ore in proximity to present-day Thabazimbi, was a prospector by the name of J.H. Williams. While on a hunting trip in 1919, he pitched his tent at the spot where the Crocodile River runs out of the gorge known as Vlieëpoort. While hunting around this area, Williams soon realised that the mountains here were rich in iron ore. As a result he obtained discoverer's rights to extensive sections of these iron ore deposits (Coetzee, n.d.). Vlieëpoort is located 21 km north-west of the present study area.
1924	In this year the famous geologist Hans Merensky (**Figure 15**) was shown a sample of platinum ore that a Mr. Andries Lombard had found near Lydenburg. Merensky managed to trace a platinum reef all along the outer edge of the Bushveld Complex from Lydenburg to Rustenburg. This reef was to be known as Merensky Reef (Carruthers, 2007). The discovery of the Bushveld Complex was of extensive economic significance for South Africa. The Bushveld Igneous Complex contains the world's largest reserves of platinum group metals (PGMs) platinum, palladium, osmium, iridium, rhodium, and ruthenium, along with vast quantities of iron, chromium, titanium and vanadium (www.mineralscouncil.org.za) (Schwellnus and

DATE	DESCRIPTION
	Willemse, 1943). The complex was traced along two zones or belts, known as the Western and Eastern Belt. The Western Belt is of significance for the present study. The relevant government survey reports of the time indicated that the Western Belt "…*extends for about 100 miles as follows: from Brits towards Rustenburg and then northwards, skirting the Pilanesberg on its western side and continuing almost as far as the Crocodile River*." See for example The Official Year Book of the Union (1938:862).
	 Figure 13 - *Dr. Hans Merensky, the geologist who discovered the platinum reef at Lydenburg and Rustenburg (Machens, 2009).*
1925 - 1929	The platinum discovery made by Hans Merensky led to a platinum boom in the South Africa. This saw the floating of more than 50 mining companies in the Rustenburg and Lydenburg districts. Some of the smaller concerns closed down reasonably quickly (Wagner, 1973). Similarly, the identification of the Bushveld Complex meant that the surroundings of the study area were increasingly prospected and mined. One of the most significant mining companies from this area was Potgietersrust Platinums Limited. Registered on 27 August 1925, the company was established with capital to the value of £1, 962,500 in 7.85 million shares valued at 5 shillings each. The company was originally established to work the platinum deposits near Mokopane, but between 1926 and 1929 also acquired the Rustenburg properties of the Premier Rustenburg Platinum Limited, Steelpoort Platinum Syndicate Limited and Eerstegeluk Platinum Mines Limited. The closest property of Potgietersrust Platinums Limited to the present study area, was the farm Schilpadnest 385 KQ (South African Mining Yearbook, 1942) (Wagner, 1973), located approximately 9 km north-east of the study area (**Figure 17**). Another early mining company from the surroundings of the study area was Elandsfontein Platinum Limited, which appears to have been established during the late 1920s. Established with issued capital of £100,501 15s, and a subsidiary of the African and European Investment Company,

DATE	DESCRIPTION
	Elandsfontein Platinum was established to mine the platinum located on the farm Elandsfontein 386 KQ (old farm number 850) (South African Mining Yearbook, 1942) (Wagner, 1973).
	 *Figure 14 - Historic photograph taken during the late 1920s, depicting the opening of No. 2 Incline Shaft on the Merensky Horizon on the farm Schilpadnest 385 KQ (Wagner, 1973:128).*
1929	The railway line from Pretoria North to Rustenburg which was completed in 1906 was extended to Northam and Middelwit in 1929 (www.ldtcs.gov.za). This would have stimulated mining exploration and development in areas surrounding the study area.
Early 1930s	In 1930 Iscor decided to mine the iron ore discovered by Williams just over a decade before. Iscor obtained the discoverer rights from Dunswart Iron and Steelworks Limited, which acquired the discoverer rights from a Mr. Delfos, who in turn bought them from the discoverer, J.H. Williams (Coetzee, n.d.). C.J.N. Jourdan of the Department of Mines was delegated to join Iscor and manage the commencement of the first iron ore mining activities in this area. Accompanied by a Messrs. Sheller and Sacht, who were respectively appointed as mine manager and mine secretary, Jourdan arrived at the proposed mine on 30 November 1930 (Coetzee, n.d.). Prospecting activities commenced in March 1931. Initially, the mine workers established themselves in tents on the northern slope of the mountain. However, the tents were eventually replaced by shacks and with time houses were also built on this same end of the mountain. It was here, on the same northern slope of the mountain, that the present-day town of Thabazimbi was eventually formally established (Coetzee, n.d.). As the nearest railway station was at Northam, the mine had to bring everything needed for the new mining development by ox wagon all the way from Northam. In turn, the mined iron ore from the mine had to be transported back to Northam with ox wagons. Such a return journey between Northam and the mine took three days to accomplish. To assist with these very difficult transport arrangements, Jourdan invited local farmers to become part-time transport riders. Two of the local farmers who became transport riders, were

DATE	DESCRIPTION
	Tommie van Deventer and Jan Steenkamp (**Figure 17)**. Incidentally, their ox wagons were also modified and extended to allow for the transportation of cocopan rails (Coetzee, n.d.). The biggest difficulty faced by the transport riders was the lack of a drift over the Crocodile River. As a result, a number of the wagons got stuck in the river. To assist the transport riders and avoid unnecessary delays, Jourdan requested the assistance of local farmers to build a concrete slab in the river. Work on this slab was completed in two days, and the crossing was renamed the Helpmekaar Drift (Coetzee, n.d.). While the exact position of the road used by the transport riders between Northam and the mine is presently not known, one can assume that this road would have passed the general surroundings of the present study area. The position of Helpmekaar Drift is known to be located roughly 14 km north of the study area where the concrete slab built during the 1930s can still be seen.
	 *Figure 15 - Mr. Van Deventer's ox wagon (Coetzee, n.d:17).*
1934	The railway line from Northam to Thabazimbi was completed on 26 February 1934 (Bergh, 1999). This would have accelerated mining exploration and development in the study area and surroundings.
1946	Northam was laid out by E.H.J. Fulls on the farm Leeukoppie and the town was formally proclaimed in 1946. This farm and a number of surrounding ones were at the time owned by one man, H. Herd. He had purchased these farms from British soldiers, who had originally received the farms at the end of the South African War. As owner of the farm where the new town was to be established, Herd was allowed to name the newly established town and decided on the name Northam in Devonshire, England (Erasmus, 2004). Northam is located 18 km south of the present study area.
4 May 1953	Although mining houses had been built from the early 1930s onwards at the northern foot of the mountain, the town of Thabazimbi was only officially proclaimed on 4 May 1953 (**Figure 18**). The town's name is derived from the isiZulu word for 'iron mountain' (Erasmus, 2004). Thabazimbi is located 21 km north of the present study area.

DATE	DESCRIPTION

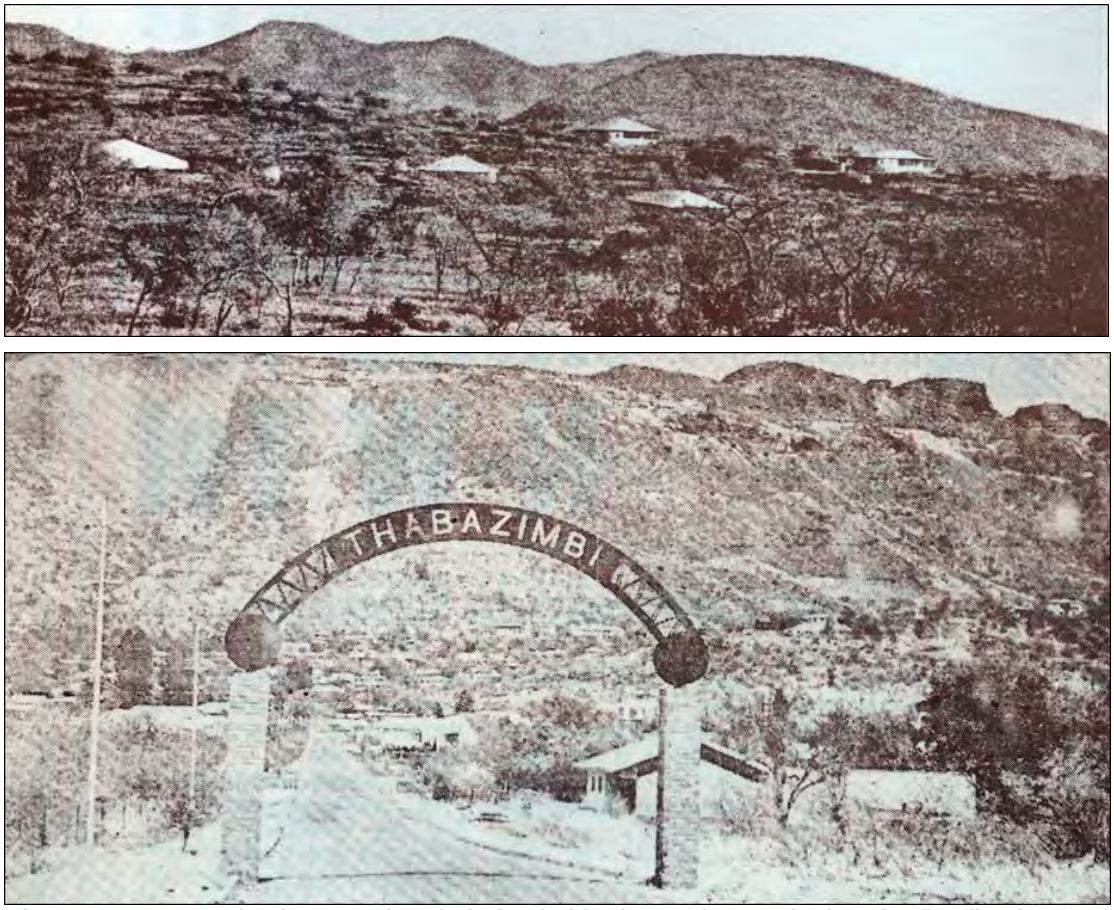


Figure 16 - Two early photographs of Thabazimbi. The top image depicts the five first houses built here, whereas the bottom image depicts the town's old northern entrance (Coetzee, n.d.:44).

4.2.1 Archival and historical maps

The examination of historical data and cartographic resources represents a critical tool for locating and identifying heritage resources and in determining the historical and cultural context of the study area. Relevant topographic maps and satellite imagery were studied to identify structures, possible burial grounds or archaeological sites present in the footprint area.

Historical topographic maps (1:50 000) for various years (1963 and 1980) were available for utilisation in the background study. These maps were assessed to observe the development of the area, as well as the location of possible historical structures and burial grounds. The study area was overlain on the map sheets to identify structures or graves situated within or immediately adjacent to the study area that could possibly be older than 60 years and thus protected under s34 and 36 of the NHRA.

Figure 19 indicates that no possible heritage features are visible on the first edition (1963) 1:50000 topographic map.

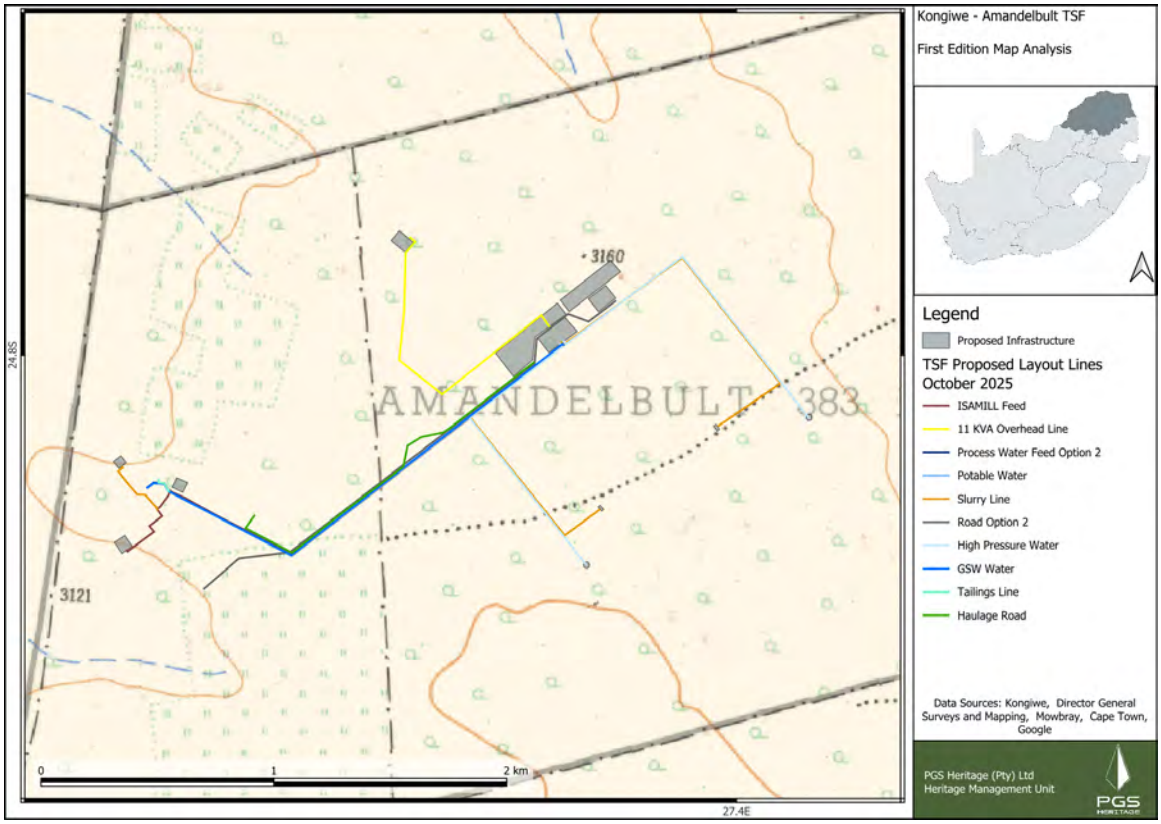


Figure 17 - First Edition topographical map.

4.2.2 Previous heritage impact assessment reports from the study area and surroundings

A search of the South African Heritage Resources Information System (SAHRIS) database revealed that several previous archaeological and heritage impact assessments had been undertaken within the surroundings of the study area. In each case, the results of each study are shown in bold. These previous studies are listed below in ascending chronological order:

Huffman, T.N. 2004. Archaeological Assessment for the Rhino Andalusite Mine. Unpublished report by ARM. **The archaeological assessment resulted in the identification of four archaeological sites, comprising. One pre-colonial mining site, one cave with remnants of rock art, and two Late Iron Age sites, consisting inter alia of pottery, upper and lower grinding stones and mud and burnt daga hut remnants. One small piece of slag, signifying metal working, was also observed.**

Van Schalkwyk, J.A. 2006. Heritage Impact Assessment: Portion 6 of the Farm Aapieskraal. Unpublished letter by the National Cultural History Museum. **No heritage resources were identified.**

Van Schalkwyk, J.A. 2007. Survey of Heritage Resources in the location of the proposed Merensky Mining Project, Amandelbult Section, Rustenburg Platinum Mine, Limpopo Province. **The report mentions the presence of Stone Age and Late Iron Age sites in proximity to the proposed Shaft 3 development (these sites had been fenced off during a previous assessment), with a possible Iron Age settlement at the proposed Shaft 4 development area. No heritage resources were identified at the proposed Concentrator Plant area.**

Van der Walt. 2014. Archaeological Impact Assessment for the proposed Zwartkop Industrial Development, Amandelbult, Limpopo Province. **No heritage resources were identified.**

Van der Walt, J. 2016. Archaeological Impact Assessment for the Proposed Additional Underground and Opencast Mining as well as Associated Infrastructure and Processing Facilities at Thaba Chronimet Chrome Mine, Limpopo Province. **The archaeological impact assessment resulted in the identification of six heritage sites, comprising one Late Iron Age stonewalled site, one multicomponent site consisting of a Late Iron Age stonewalled settlement in proximity to a cluster of Middle Stone Age lithics, historic adits at a hill known as Mooskop, the remains of Chromedale Railway Station, the remains of a historic farmhouse and outbuilding and a stone cairn.**

Gaigher, S. 2016a. Heritage Impact Assessment Report for the Proposed Haakdoorndrift Opencast Activities at the Anglo American Platinum's Amandelbult Mine at Thabazimbi, Limpopo Province. **No heritage resources were identified.**

Gaigher, S. 2016b. Heritage Impact Assessment report for the proposed realignment of the railway line at the proposed 37 Open Pit, Amandelbult Mine, Limpopo Province. **No heritage resources were identified.**

Birkholtz, P.D., James-Birkholtz, H. 2017. Heritage Impact Assessment for the Proposed Development of two Open Mining Pits 62E/60E (Dishaba) and 36W (Tumela) at the Amandelbult Mining Complex, located north of Northam, Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province. **No heritage resources were identified.**

Van Vollenhoven, A.C. 2018, Amandelbult Complex Tumela 15 East Dropdown and Dishaba 62 East Raise Bore Heritage Report. **No heritage resources were identified.**

Pistorius, J.C.C. 2020. A Phase I Heritage Impact Assessment (HIA) Study for Northam Platinum: Zondereinde Division (Northam's) Proposed New 11 kV Power Line Between the Smelter Complex and the Shaft 3 Complex North of Northam, Limpopo Province. **Two large stonewalled Late Iron Age complexes were recorded.**

Van der Walt, J. 2023. Heritage Impact Assessment for the Proposed Future of Amandelbult (FOA) Capital and Supporting Infrastructure at the Amandelbult Platinum Mine, Limpopo Province, South Africa. **During the study, 16 Iron Age stonewalled sites, a stone built loading ramp, two stone packed graves, and Stone Age scatters were recorded**.

4.2.3 Heritage screening

A heritage screening report was compiled by the Department of Forestry, Fisheries and the Environment (DFFE) National Web-based Environmental Screening Tool as required by Regulation 16(1)(v) of the EIA Regulations 2014, as amended. According to the heritage screening report, the project area has a Low Heritage Sensitivity (**Figure 20**). The fieldwork has shown that there are no archaeological or heritage resources present within the study area and therefore, the DFFE screening rating remains low. There are however archaeological stone walled settlements located within the general surroundings.

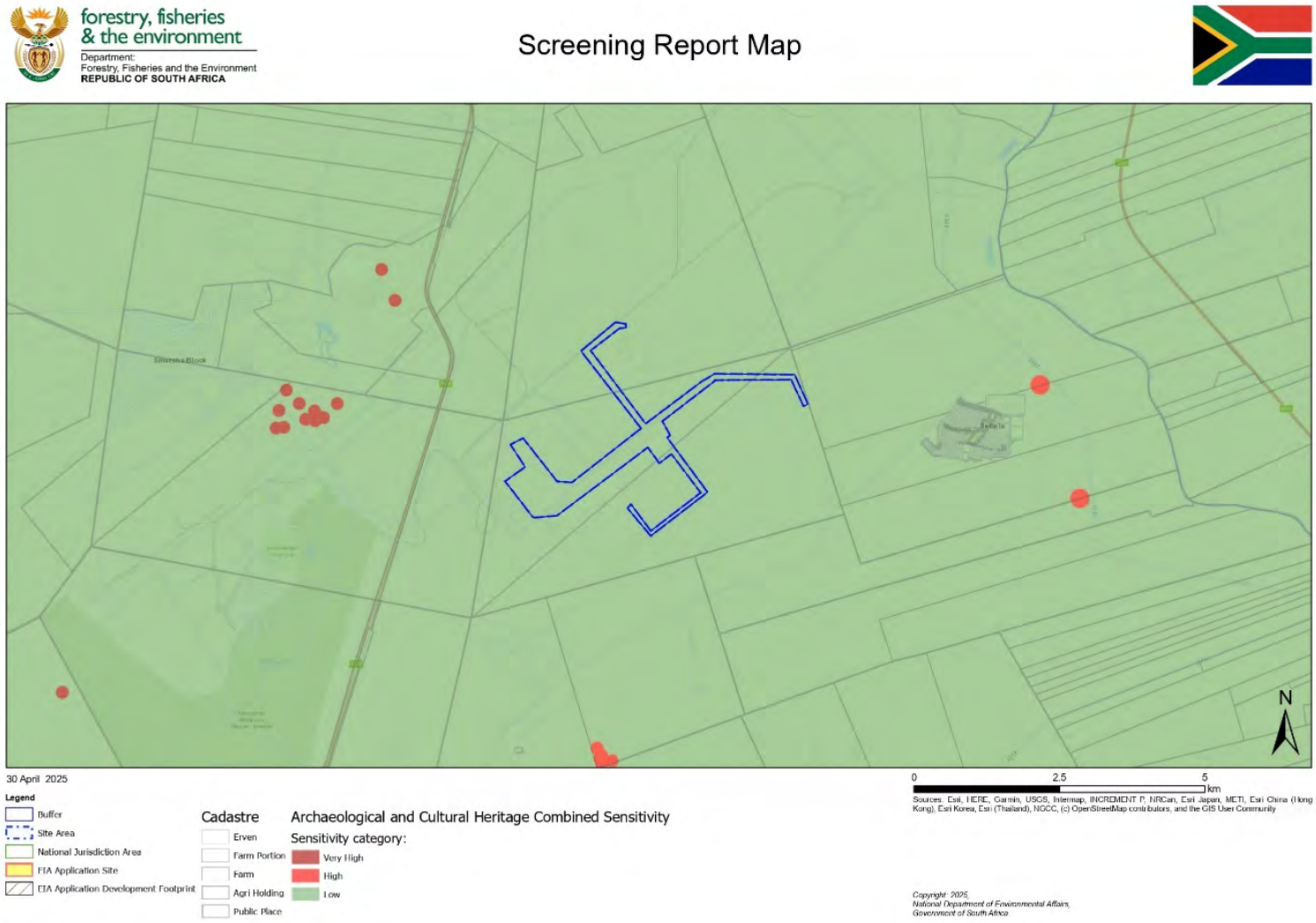


Figure 18 - Screening tool map indicating a high sensitivity rating for archaeology and heritage

4.2.4 Heritage sensitivity

Analysis of maps and satellite imagery enabled the identification of possible heritage sensitive areas. By superimposition and analysis, it was possible to rate these structures according to age and thus their level of protection under NHRA. **Table 6** lists the possible tangible heritage sites identified in the vicinity of the study area and the relevant legislative protection.

Table 6: Tangible heritage site in the study area.

Name	Description	Legislative protection
Archaeology	Older than 100 years	NHRA s3 and 35
Structures	Possibly older than 60 years	NHRA s3 and 34
Burial grounds	Graves	NHRA s3 and 36

Additionally, evaluation of satellite imagery has indicated the following areas that may be sensitive from a heritage perspective. The analysis of the studies conducted in the area assisted in the development of the following landform type to heritage find matrix (**Table 7**).

Table 7: Landform type to heritage find matrix

LANDFORM TYPE	HERITAGE TYPE
Crest and foot hill	LSA and MSA scatters, LIA settlements
Crest of small hills	Small LSA sites – scatters of stone artefacts, ostrich eggshell, pottery and beads
Water holes/pans/rivers	MSA and LSA sites, LIA settlements
Farmsteads	Historical archaeological material
Ridges and drainage lines	LSA sites, LIA settlements

4.3 Fieldwork findings

The fieldwork was conducted on 10 and 11 April 2025 by a field team of PGS Heritage. Their movement on site was tracked by GPS and a tracklog map can be seen in **Figure 21**.

During the fieldwork no heritage features or resources were identified.

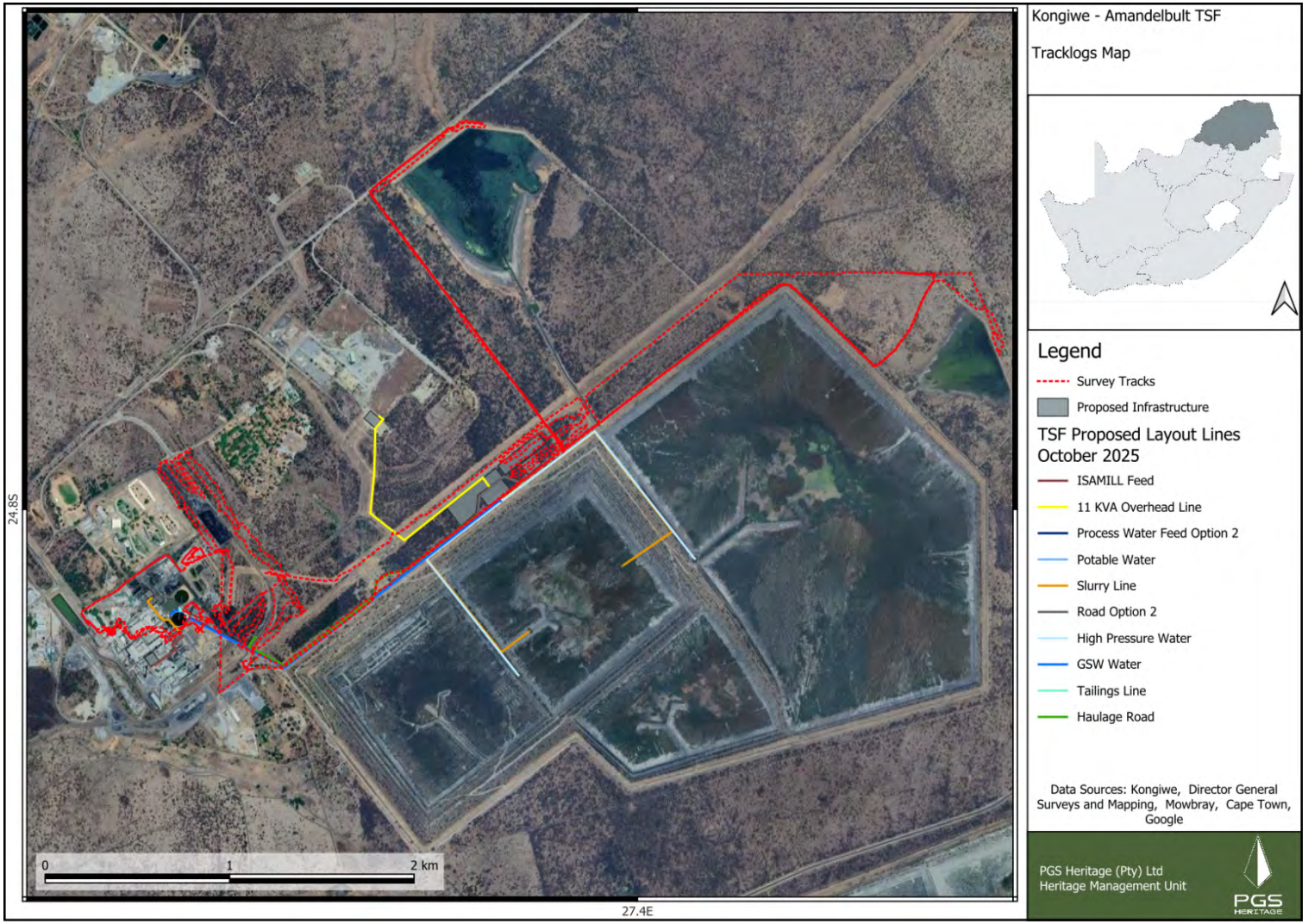


Figure 19 - Fieldwork tracklogs

4.4 Palaeontology

According to the SAHRIS Palaeontological Map (**Figure 22)** the Palaeontological Sensitivity of study area is low (Almond et al, 2013; SAHRIS website). No further studies will be needed

Figure 20 - SAHRIS Palaeontological sensitivity map of study area within the Grey Insignificant/Zero palaeontological sensitivity.

Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 21 - SAHRIS Palaeontological sensitivity legend.

5 IMPACT ASSESSMENT

The impact assessment rating is based on the rating scale as contained in **Appendix B**.

The following section provides an analysis of the impact of the proposed project area on heritage resources within the reclamation and processing of the tailings material at the Amandelbult TSF: Dam No.2 project.

This section describes alternative means of carrying out the operation and the consequences of not proceeding with the proposed project.

The “no-go” alternative refers to the option of not going ahead with the proposed project. This will entail maintaining the current status quo with no impact from the project.

5.1.1 Heritage features

As no heritage features of cultural significance were identified within the development plan the impact significance during the construction phase is rated as MEDIUM NEGATIVE before and LOW NEGATIVE after mitigation if a chance finds procedure is followed.

5.1.2 TSF as part of the AMB Cultural Landscape

The AMD TSF was developed as an integral component of the broader mining landscape, which encompasses shafts, workshops, offices, and various other infrastructure. In conjunction with this development, the community infrastructure includes the AMD residential area, schools, and recreational facilities. Over the past 60 years, this infrastructure development has transformed the Bushveld landscape into a mining landscape, reflecting a contemporary shift from a natural to a cultural landscape. Within the framework of the NHRA, such transformations are recognised as part of South Africa’s layered cultural heritage, where landscapes embody both tangible elements (such as mining infrastructure) and intangible values (such as community identity, memory, and lived experience).

However, this transformation cannot be equated with the scale of change experienced during the Witwatersrand gold rush of the late 19th century, which resulted in a complete transformation of the landscape. That period marked an unprecedented change in technology and industrialisation. The remnants of the Witwatersrand Gold Rush are few and continue to be affected by landscape changes and the need to rework old dumps, as well as address their environmental impacts, such as acid mine drainage and air pollution. According to the **Burra Charter (2013)**, the significance of such landscapes is not only rooted in their material remains, but also in their associative values

and the stories they carry. The Witwatersrand mining landscape illustrates this principle, as its cultural significance derives as much from its contribution to South Africa's industrial and political development as from its surviving physical fabric.

The AMD complex and its development are associated with the later development of the Western Platinum Belt, including Thabazimbi, as detailed in **Section 4.2** of this report. Although the broader development of the platinum sector has significantly impacted the landscape, it does not exhibit the same influence on unique scientific and technological advancements or social changes as those experienced during the late 19th century. Those changes influenced the development of the Witwatersrand, its impact on South Africa's development, and large-scale events such as the subsequent South African War and the formation of the Union of South Africa, ultimately leading to the establishment of the Republic of South Africa. In line with the NHRA, the recognition of these later mining landscapes as heritage resources requires careful assessment of their relative significance, considering not only their material presence but also their role in shaping community life, regional identity, and economic history.

The ongoing reclamation of the TSF is assessed as having a negligible impact on the cultural landscape, given that it is integrated into the current mining operations and does not entail the complete eradication of tangible remnants of the mine and its associated history.

While it is not possible to predict the future impact of the AMD on the history of the area, province, and ultimately South Africa, it is important to consider that the extensive data collected and documentation of such mining developments, including the mining of this TSF and the subsequent reutilisation of the space for mining purposes, provide an opportunity to preserve and curate this data for future generations through these processes.

The Burra Charter and UNESCO's recognition of cultural landscapes (1992) emphasise the importance of documentation, conservation, and community participation in safeguarding heritage. By treating the AMD TSF and associated mining infrastructure as a cultural landscape, opportunities arise not only for heritage conservation but also for integrating historical knowledge into sustainable land-use planning and community development. The integration of the CHMP with community development initiatives offers an opportunity for the social and cultural documentation of both the cultural landscape and the historical context of AMD communities.

5.2 Cumulative impact

As no heritage features of cultural significance are located within the development plan, the foreseen cumulative impact can be seen as negligible.

5.3 Impact assessment summary table

Implementing the environmental impact assessment methodology as supplied by Kongiwe Environmental**, Table 8** provides a quantitative assessment of the impacts of the proposed Amandelbult TSF.

Table 8: Impact Table – Cultural Heritage Resources

No.	Affected Environment	Activity	Impact Description	BEFORE MITIGATION						Cumulative Impact	Mitigation measures / Recommendations	AFTER MITIGATION					
				Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE			Magnitude	Duration	Spatial Scale	Consequence	Probability	SIGNIFICANCE
	Construction																
1	Undiscovered cultural heritage resources	Vegetation clearance for infrastructure	Destruction of cultural heritage resources	*Minor -*	*Long Term > 5 years*	*Site or Local*	Medium	*Possible*	Medium	No	Implement a chance to find procedures in case where possible heritage finds are uncovered.	*Minor -*	*Long Term > 5 years*	*Site or Local*	Medium	*Unlikely*	Low
2	Impact on Cultural Landscape	Removal of the TSF	Impact on cultural landscape	*Minor*	*Medium term*	*Local*	Low	*Definite*	Medium	No	Ensure integration of AMD CHMP and community initiatives to capture social history around the AMD complex	*Minor +*	*Long*	*Regional*	Medium	*Possible*	Medium

6 MANAGEMENT RECOMMENDATIONS AND GUIDELINES

The following section must be read in conjunction with **Table 10** of this report.

6.1 Construction and operational phases

The project will encompass a range of activities during the construction phase, including ground clearance, establishment of construction camp areas and small-scale infrastructure development associated with the project.

It is possible that cultural material will be exposed during construction and may be recoverable, keeping in mind delays can be costly during construction, and as such must be minimised. Development surrounding infrastructure and construction of facilities results in significant disturbance, however foundation holes do offer a window into the past and it thus may be possible to rescue some of the data and materials. It is also possible that substantial alterations will be implemented during this phase of the project, and these must be catered for. Temporary infrastructure developments, such as construction camps and laydown areas, are often changed or added to the project as required. In general, these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.

During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken. In all such cases the approved AMB CFP must be followed.

6.2 Possible finds during construction

The study area occurs within a greater historical and archaeological site as identified during the desktop and fieldwork phase. Soil clearance for infrastructure as well as the proposed reclamation activities, could uncover the following:

- Historical structures and foundations
- Unmarked burial grounds and graves

6.3 Timeframes

It must be kept in mind that mitigation and monitoring of heritage resources discovered during construction activity will require permitting for collection or excavation of heritage resources and lead times must be worked into the construction time frames. **Table 9** gives guidelines for lead times on permitting.

Table 9: Lead times for permitting and mobilisation

Action	Responsibility	Timeframe
Preparation for field monitoring and finalisation of contracts	The contractor and service provider	1 month
Application for permits to do necessary mitigation work	Service provider – Archaeologist and SAHRA	3 months
Documentation, excavation and archaeological report on the relevant site	Service provider – Archaeologist	3 months
Handling of chance finds – Graves/Human Remains	Service provider – Archaeologist and SAHRA	2 weeks
Relocation of burial grounds or graves in the way of the development	Service provider – Archaeologist, SAHRA, local government and provincial government	6 months best case scenario where no next of kin (NoK) is identified. Time frames will be significantly impacted and extended where negotiations with NoK is involved.

6.4 Heritage Management Plan for EMPr implementation

Table 10: Heritage Management Plan for EMPr implementation

Area and site no.	Mitigation measures	Phase	Timeframe	The responsible party for implementation	Monitoring Party (frequency)	Target	Performance indicators (monitoring tool)
General project area	Implement the AMB CFP in case where possible heritage finds are uncovered.	Pre-Construction/Construction /Operational	Pre/During construction and during Operational Phases	Applicant ECO Heritage Specialist	ECO (monthly / as or when required)	Ensure compliance with relevant legislation and recommendations from SAHRA under Section 34-36 and 38 of NHRA	ECO Monthly Checklist/Report
General AMD	Suggested integration of CHMP implementation with social initiatives to document contemporary histories	Operational	Operational	Applicant	Yearly	Yearly CHMP audit	To be determined as part of the CHMP updates
Palaeontological resources	If fossil remains or trace fossils are discovered during any phase of construction, either on the surface or exposed by excavations the ECO in charge of these developments must report to SAHRA (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Tel: 021 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za) so that mitigation can be carry out by a palaeontologist	Construction	During Construction	Applicant ECO	Monthly	Ensure compliance with relevant legislation and recommendations from SAHRA under Section 36 and 38 of NHRA	ECO Monthly Checklist/Report

7 CONCLUSIONS AND RECOMMENDATIONS

PGS was appointed by Kongiwe Environmental (Pty) Ltd to undertake a HIA that forms part of the EIA for the proposed reclamation and processing of the tailings material from the Amandelbult TSF: Dam No.2. Located on the remaining Extent and Portion 1 of the farm Amandelbult 183KQ and the Remaining Extent of the farm Middellaagte 382KQ, Thabazimbi Local Municipality, Waterberg District Municipality, Limpopo Province.

During the fieldwork, no heritage features or resources were identified.

7.1 Mitigation measures

Mitigation considerations and buffers to consider from the EIA phase are:

- No heritage resources are currently threatened in the direct development footprint, however, not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites and existing vegetation cover. It should be noted that most of the study area was accessible for the fieldwork survey, but the vegetation is thick and visibility of sites such as the Stone Age or the Iron Age is difficult to locate.
- During the construction phase, it is important to recognise any significant material being unearthed, making the correct judgment on which actions should be taken, as indicated in the AMB CFP.

Mitigation measures are described in Table 10 of this report

7.2 General

It is the combined considered opinion of the heritage specialists that the proposed project will have no direct impact on any heritage resources, or palaeontological resources, according to the SAHRIS paleontological screening map which indicates insignificant/zero sensitivity for the project location.

With the implementation of recommended mitigation measures (CFP) the overall impact on heritage resources will be reduced to acceptable levels during the activities of the project.

PGS has determined that there are no heritage or palaeontological resource concerns that would preclude the proposed project from proceeding.

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APPENDIX A

ENVIRONMENTAL IMPACT METHODOLOGY

KONGIWE: IMPACT ASSESSMENT METHODOLOGY

1 Impact Assessment Methodology

The impact significance rating system is presented below and it involves three parts:

1. **Part A**: Define impact consequence using the three primary impact characteristics of magnitude, spatial scale/ population and duration;
2. **Part B**: Use the matrix to determine a rating for impact consequence based on the definitions identified in Part A; and
3. **Part C**: Use the matrix to determine the impact significance rating, which is a function of the impact consequence rating (from **Part B**) and the probability of occurrence.

Part A: Defining Consequence in Terms of Magnitude, Duration and Spatial Scale:

Use these definitions to define the consequence in Part B.

Table Appen 1: Consequence Rating Methodology

Impact characteristics	Definition	Criteria
Magnitude	Major -	Substantial deterioration or harm to receptors; receiving environment has an inherent value to stakeholders; receptors of impact are of conservation importance; or identified threshold often exceeded
	Moderate -	Moderate/measurable deterioration or harm to receptors; receiving environment moderately sensitive; or identified threshold occasionally exceeded
	Minor -	Minor deterioration (nuisance or minor deterioration) or harm to receptors; change to receiving environment not measurable; or identified threshold never exceeded
	Minor +	Minor improvement; change not measurable; or threshold never exceeded
	Moderate +	Moderate improvement; within or better than the threshold; or no observed reaction

Impact characteristics	Definition	Criteria
	Major +	Substantial improvement; within or better than the threshold; or favourable publicity
Spatial scale or population	Site or local	Site specific or confined to the immediate project area
	Regional	May be defined in various ways, e.g. cadastral, catchment, topographic
	National/ International	Nationally or beyond
Duration	Short term	Up to 18 months.
	Medium term	18 months to 5 years
	Long term	Longer than 5 years

Part B: Determining Consequence Rating:

Rate consequence based on definition of magnitude, spatial extent and duration.

Table Appen 2: Consequence Rating Methodology

			Spatial scale/ Population		
			Site or Local	Regional	National/ International
MAGNITUDE					
Minor	**DURATION**	**Long term**	Medium	Medium	High
		Medium term	Low	Low	Medium
		Short term	Low	Low	Medium
Moderate	**DURATION**	**Long term**	Medium	High	High
		Medium term	Medium	Medium	High
		Short term	Low	Medium	Medium
Major	**DURATION**	**Long term**	High	High	High
		Medium term	Medium	Medium	High
		Short term	Medium	Medium	High

Part C: Determining Significance Rating:

Rate significance based on consequence and probability.

Table Appen 3: Significance Rating Methodology

Probability (of Exposure to Impacts)	Consequence Negative			Consequence Positive		
	Low	Medium	High	Low	Medium	High
Definite	Medium	Medium	High	Medium	Medium	High
Possible	Low	Medium	High	Low	Medium	High
Unlikely	Low	Low	Medium	Low	Low	Medium

NATURE OF THE IMPACT: *DESCRIBE THE IMPACT IN RESPECT TO THE ACTIVITY TO BE UNDERTAKEN*		
	Impact Rating Without Mitigation	**Impact Rating With Mitigation**
Extent *(Local, Regional, International)*		
Duration *(Short term, Medium term, Long term)*		
Magnitude *(Major, Moderate, Minor)*		
Probability *(Definite, Possible, Unlikely)*		
Calculated Significance Rating (Low, Medium, High)		
Impact Status: (positive or negative)		
Reversibility: (Reversible or Irreversible)		
Irreplaceable loss of resources: (Yes or No)		
Can impacts be enhanced: (Yes or No)		
Residual impacts ❖ (List these below)		
Mitigation measures ❖ (List these below)		

APPENDIX B

PGS TEAM CVS

NICHOLAS FLETCHER

Archaeologist

PROFILE

I am a well-rounded archaeologist currently working in heritage resources management. I have been involved in numerous Heritage Impact Assessments and Phase two mitigation projects. I specialize in Iron Age communities of Southern Africa and how these communities' settlement patterns are affected by environmental variables.

PHONE NUMBER:
+27 83 254 7552

WEBSITE:
www.pgsheritage.com

EMAIL ADDRESS:
nic@pgsheritage.com

EDUCATION

University of Pretoria, South Africa
2016/2021
MA in Archaeology

University of Pretoria, South Africa
2015
BA Honours in Archaeology

University of Pretoria, South Africa
2010-2014
BA Degree – Majored in Archaeology, Geography

WORK EXPERIENCE

PGS Heritage - Archaeologist
2021- Present
Responsible for conducting archaeological and heritage impact studies and phase two mitigation projects, as well as assisting in Grave Relocation projects (excavations and report writing).

Beyond Heritage - Archaeologist
2021
Responsible for conducting heritage impact studies,

University of Pretoria – Archaeology lab manager
2014-2018
Responsible for the processing of archaeological material as well as certain types of analysis. This includes cleaning of artefacts, flotation of botanical samples, labelling and reconstructing ceramics, and ceramic analysis.

Ditsong Museums - Intern
2014
Developed and managed the digital archive of past projects. Assisted in the rescue excavations of accidentally disturbed skeletal human remains; lab analyses of skeletal human remains and artefacts, as well as report writing of the results.

COEN NIENABER

Bio-Archaeologist and Heritage Resources Unit Manager

PROFILE

My professional career includes research, lecturing, consulting, heritage resources management and leading large-scale, international projects focused on graves and human remains in Southern and Eastern Africa and Europe as a humanitarian, conflict, and forensic archaeologist, specializing in bio-archaeology and archaeological geophysics.

I have taught aspects of archeology, bio-archaeology and forensic science and have co-supervised MSc student research at various South African and International universities and have published 29 peer reviewed papers and 6 book chapters.

I have worked in The Netherlands, The United Kingdom, Germany, Israel, Angola, Botswana, Namibia, Zimbabwe, Swaziland, Malawi and the Republic of South Africa

CONTACT

PHONE NUMBER:
+27 06 467 0077
+27 12 332 5305
www.pgsheritage.com

EMAIL ADDRESS:
coen@pgsheritage.co.za

PGS HERITAGE

EDUCATION

University of Pretoria
BA Hon Archaeology - 1995

University of Pretoria
BA Hon Physical Anthropology - 1999

University of Pretoria
MSc Environmental Management – 2018

WORK EXPERIENCE

PGS Heritage – Bio-archaeologist and Heritage Resources Unit Manager
2025- present
Heritage Resources Management Unit Manager responsible for heritage resources impact assessment and mitigation and bio-archaeology.

Netherlands Forensic Institute, Medical Investigation Team, Division Specialist Services and Expertise, Netherlands Ministry of Justice and Security - Forensic Archaeologist
2017 – 2025
Forensic archaeologist tasked with forensic case work as an accredited expert witness for Dutch Courts, continued education and research and development.

Bio-Archaeological Analysis and Archaeological Geophysics Unit, Business Enterprises at University of Pretoria - Lead consultant (Principal Investigator) and Unit Manager
2015 – 2017

Forensic Anthropology Research Centre University of Pretoria – Coordinator for Archaeology
2008 – 2015
Forensic archaeology and humanitarian projects involving human remains, repatriation, project management and implementation of grave relocation and heritage resource management projects, graves and archaeology research, community service and continued education.

Department of Anatomy University of Pretoria – First Technical Assistant, 1997 – 2008
Assistant for physical anthropology, paleoanthropology, archaeology, forensic archaeology, collections management, cultural resources management, grave relocation, repatriation, contract and project management, public participation and social consultation.

PROFESSIONAL AFFILIATION

ASAPA Accredited Professional Archaeologist - Association of Southern African Professional Archaeologists

ASSA – Anatomical Society of Southern Africa

EMFA – European Meeting on Forensic Archaeology

EAA – European Association of Archaeologists

NVFA - Dutch Association of Physical Anthropologists

WOUTER FOURIE

Professional Heritage Practitioner

PROFILE

Project Manager and Principal Heritage Specialist holds a post-graduate degree in Archaeology and is registered with the Association of Southern African Professional Archaeologists as a Professional Archaeologist and is accredited as a Principal Investigator; he is further an Accredited Professional Heritage Practitioner with the Association of Professional Heritage Practitioners in South Africa.

My work focuses on heritage management through Heritage Impact Assessments, implementation of recommendations and large-scale heritage mitigation projects. I have worked, completed and implemented heritage projects in South Africa, Botswana, Mozambique, Mauritius, Zambia, Lesotho, and the Democratic Republic of the Congo.

CONTACT

PHONE NUMBER:
+27 82 851 3575
+258 84 774 6768

WEBSITE:
www.pgsheritage.com

EMAIL ADDRESS:
wouter@pgsheritage.com

PGS HERITAGE

EDUCATION

University of Pretoria
1993-1996
BA Degree - Majors in Archaeology, Anthropology and Geography

University of Pretoria
1997
BA Hon Archaeology, with further specialisation in environmental management.

University of Cape Town
2024
MPhil Conservation of the Built Environment

WORK EXPERIENCE

PGS Heritage Group of Companies
(*South Africa, Lesotho, Mozambique, and Portugal*)
Chief Operating Officer – PGS Heritage South Africa
2025

Director – Heritage Specialist
2003- present
I am actively involved in the management of the business and focus on marketing and new business for PGS, specifically the broader SADC region. Acting as heritage specialist in multidisciplinary teams

The University of the Witwatersrand - Project Manager – Archaeological Contracts Unit
2007-2008
Responsible for conducting heritage and archaeological impact studies, archaeological excavations and general management of the unit

Matakoma Consultants – Director – Heritage Specialist
2000 – 2008
Heritage specialist and Director responsible for heritage and archaeological impact studies

Randfontein Estate Gold Mine – Environmental Coordinator
Oct 1998- Feb 2000
Coordinating all environmental Rehabilitation work

Department of Minerals and Energy Environmental Officer
Oct 1997– Sept 1998

PROFESSIONAL AFFILIATION

Accredited Professional Heritage Practitioner
Association of Professional Heritage Practitioners
Since 2014

Accredited Professional Archaeologist
Association of Southern African Professional Archaeologists – Since 2001

Appendix D8
AMB Chance Find Procedure

AngloAmerican

PLATINUM

OPERATIONAL PROCEDURE

AMANDELBULT MINE

CULTURAL HERITAGE CHANCE FIND PROCEDURE

VERSION: 1.0

LAST REVISION DATE: 29 October 2021

FIRST IMPLEMENTATION DATE: 10 JUNE 2021

REFERENCE NUMBER: AMB-ALL-SER-PRO-0010

OLD REFERENCE NUMBER: New

REF NO:	AMB-ALL-SER-PRO-0010	DATE OF IMPLEMENTATION:	10 June 2021
VERSION NO:	1.0	LAST REVISION DATE:	29 October 2021

	NAME	POSITION	SIGNATURE	DATE
AUTHOR:	Justin du Piesanie	Cultural Heritage Specialist-Corporate office		06/12/21
REVIEWED BY:	R Malele	SHE Standard Practitioner Engineering		06/12/21
REVIEWED BY:	Ethne Makgasane	Senior SP Manager-Amandabult		08/12/21
REVIEWED BY:	Kaitumela Letebele	Stakeholder Engagement Manager Amandabult		06/12/21
REVIEWED BY:	Matome Shishoka	Social Performance Specialist Amandabult		7/12/2021
REVIEWED BY:	Alwyn Smith	Senior Specialist Assurance	Signed by:Alwyn Johannes Smit Signed at:2021-12-08 11:00:24 +02:00 Reason:I approve this document	08/12/21
REVIEWED BY:	A Mabotja	Senior SHE Manager	Signed at:2021-12-09 11:16:13 +02:00 Reason:Witnessing Abram Mabotja	09/12/21
REVIEWED BY:	W Van Loggernberg	Senior Engineering Manager	Signed by:Willem Frans Van Loggerenber Signed at:2021-12-09 12:28:49 +02:00 Reason:I approve this document	09/12/21
APPROVED BY:	S Gabela	HRD Manager	Signed at:2021-12-13 09:38:08 +02:00 Reason:I approve this document	13/12/21
APPROVED BY:	N Sefatsa	General Manager Tumela	Signed by:Neo Kabelo Sefatsa Signed at:2021-12-13 09:56:15 +02:00 Reason:I approve this document	13/12/21
APPROVED BY:	C Nkale	Act General Manager Dishaba	Signed at:2022-01-20 14:25:30 +02:00 Reason:I approve this document	20/01/22
APPROVED BY:	C Moller	General Manager Open Cast	Signed at:2022-02-02 12:25:18 +02:00 Reason:I approve this document	02/02/22
APPROVED BY:	Yvonne Mfolo	Executive Head Corporate Affairs	Signed at:2022-02-08 10:35:17 +02:00 Reason:I approve this document	08/02/22
APPROVED BY:	Patrick Morutlwa	Senior General Manager Amandabult	Signed by:Leslie Charles Engelbrecht Signed at:2022-02-17 10:57:09 +02:00 Reason:I approve this document	17/02/22

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REF NO:	AMB-ALL-SER-PRO-0010	DATE OF IMPLEMENTATION:	10 June 2021
VERSION NO:	1.0	LAST REVISION DATE:	29 October 2021

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1 Aim

The aim of the procedure is to define the approariate cultural heritage chance find (CF) response guidelines consistent with Group Standards and in accordance with international standards of good practice[1] for implementation at the Amandelbult Mine (Amandelbult). As a minimum, the procedure is to promote compliance with:

i. The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA);
ii. The NHRA Regulations, 2000 (Government Notice Regulation [GN R] 548);
iii. The International Finance Corporation (IFC) Performance Standard (PS) 8: Cultural Heritage; and
iv. Anglo American Social Way (AASW) 3.0 4H Cultural Heritage.

By adopting this procedure, the objective is to avoid and/or reduce operational risks that may result due to CFs, whilst demonstrating respect to the host communities culture and traditions.

2 Scope

The Chance Find Procedure (CFP) details the actions to be taken when CFs are found during exploration, construction and operational activities. The CFP describes training requirements, immediate actions to be taken when CFs are uncovered, communication and processing protocols, and reporting requirements consistent with Group Standards.

The scope applies to all employees of the Company performing duties at Amandelbult, as well as any contractors, sub-contractors, consultants or any other applicable service provider performing duties within the Amandelbult Surface Lease Area or Mining Right boundary.

3 Definitions

Term	Definition
Alter	Any action affecting the structure, appearance or physical properties of a place whether by way of structural or other works, or any other means.
Archaeological	Any material remains that were produced or created by humans or that resulted from any human activity and that are unused and older than 100 years. This includes artefacts, human and hominid remains and artificial features and structures. Archaeology also refers to Rock Art that is defined as any form of painting, engraving or other graphic representation on fixed rock surfaces or loose rocks or stones that was made by humans and that are older than 100 years, including a 10 m area surrounding such site. Archaeology also includes: - Any wrecks or parts thereof that was wrecked in South Africa more than 60 years ago, including any cargo, debris or artefacts found or associated with it; and

[1] The development of this procedure considered various legislations, guidelines and doctrinal texts including *inter alia* The World Heritage Convention Act, 1999 (Act No. 49 of 1999) (WHCA), The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEM:PAA) and the related Cultural Heritage Survey Guidelines and Assessment Tools for Protected Areas in South Africa (GN R 1356, promulgated 8 December 2017), various International Council on Monuments and Sites (ICOMOS) Declarations and Charters, World Bank Operational Policies, Equator Principles and IFC PS Guidelines.

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Term	Definition
	- Any features, structures and artefacts older than 75 years that are associated with military history, including the sites on which they are found.
Archaeologist	A trained professional who uses scientific methods to excavate record and study archaeological sites and deposits.
Burial	Land utilised for the interment of a body or ashes or when a structure is employed for the interment of human remains or ashes;
Burial Ground or Grave	Any place, whether wholly or partly above or below ground level in which human remains are permanently interred or intended to be permanently interred, whether in a coffin or other receptacle or not, and also includes any monument, tombstone, cross, inscription, rail, fence, chain, erection or other structure of whatsoever nature forming part of or appurtenance to such grave
Chance Find Incident	Unintended and accidental discovery or damaging of previously unknown cultural heritage resources during construction, developmental or operational activities.
Chance Find Procedure	A project-specific procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered.
Company	Anglo American Platinum
Consent	The constitutional right of individuals to provide or deny free prior, and informed permission.
Conservation	The protection, maintenance, preservation and sustainable use of “places” to safeguard their “cultural significance”.
Critical Cultural Heritage	One or both of the following types of cultural heritage: (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.
Cultural Heritage Resource	Any place or object of cultural significance comprising: - Tangible heritage: both moveable and immovable objects; - Natural features or objects; - Intangible forms of culture.
Cultural Significance (CS)	The aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. A heritage may have cultural significance or other special value because of its: - Importance in the community, or pattern of South Africa’s history; - Possession of uncommon, rare or endangered aspects of South Africa’s natural or cultural heritage; - Potential to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage; - Importance in demonstrating the principal characteristics of a particular class of South Africa’s natural or cultural places or objects; - Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

Term	Definition
	- Importance in demonstrating a high degree of creative or technical achievement at a particular period; - Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons; - Strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and - Significance relating to the history of slavery in South Africa.
Development	Any physical intervention, excavation, or action that could cause changes to the nature, appearance, fabric of a place. In addition, development might also influence the stability or future well-being of a place. Development could include: - Construction, alteration, demolition, removal or change of use of a place or a structure at a place; - Carrying out any works on or over or under a place; - Any change to the natural or existing condition or topography of land; and - Any removal or destruction of trees, or removal of vegetation or topsoil.
Excavation	The scientific excavation, recording and retrieval of archaeological deposit and objects through the use of accepted archaeological procedures and methods, and excavate has a corresponding meaning.
Exhumation	Authorised exposure and removal of human remains from its grave
Exposure	Unauthorized and accidental unearthing of cultural heritage resources
Field Rating	The South African Heritage Resources Agency (SAHRA) requires heritage resources to be provisionally rated in accordance with Section 7 of the NHRA that provides a three tier grading system of resources that form part of the national estate. The rating system distinguishes between four categories: - Grade I: Heritage resources with qualities so exceptional that they are of special national significance; - Grade II: Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; - Grade III: Other heritage resources worthy of conservation; and - General Protected: i.e. generally protected in terms of Sections 33 to 37 of the NHRA.
General Protection	General protections are afforded to: - Objects protected in terms of laws of foreign states; - Structures older than 60 years; - Archaeological and palaeontological sites and material and meteorites; - Burial grounds and graves; and - Public monuments and memorials.

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Term	Definition
Grave Relocation	The process of exhuming mortal remains from their original place of interment to a new burial ground with the prior, informed consent of the NoK and under the authorisation of the requisite permits regulated by the national legislative framework
Heirtage Resources Authority	SAHRA, established in terms of Section 11, or, insofar as the NHRA is applicable in or in respect of a province, a provincial heritage resources authority, in this instance the Limpopo Provincial Heritage Resources Authority (LIHRA).
Heritage Site	Any place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority.
Immovable Heritage	Sites, structures, land and other historically-valuable items that are fixed in space and not portable
Interment	To commit human remains or ashes to its final resting place
Living / Intangible Heritage	The intangible aspects of inherited culture that could include cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems, the holistic approach to nature, society and social relationships.
Major Find	If the cultural heritage resource cannot feasibly be rescued in a specified timeframe without compromising the detailed material recovery and contextual observations, the resource is considered a Major Find.
Moveable Heritage	Any natural or manufactured object of heritage significance. Movable heritage may be an integral part of the significance of heritage places.
Next-of-Kin (NoK)	NoK of graves means the living relative/s of the deceased buried in a grave. The order of precedence of NoK is determined in accordance with the Exhumation Ordinance (*now repealed*) as: 1. The surviving spouse or partner of the deceased; 2. In the absence of a surviving spouse or partner, the eldest adult child of the deceased; 3. In the absence of an adult child, a parent of the deceased; 4. In the absence of a parent, and adult sibling of the deceased; and 5. In the absence of a sibling, the closest adult relative of the deceased.
Non-Compliance	For the purpose of this procedure, this means any breach of the CFP or acts of negligence that results in the damage or destruction of cultural heritage.
Non-Replicable Heritage	May relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site.
Object	Any movable property of cultural significance that are protected in terms of the NHRA, including: - All archaeological artefacts;

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Term	Definition
	- All palaeontological and rare geological specimens; - All meteorites; and - Any other object referred to in section 3 of the NHRA.
Owner	Includes the owner's authorised agent and any person with a real interest in the property and in the case of a place owned by the State or State-aided institutions, the Minister or any other person or body of persons responsible for the care, management or control of that place; or in the case of tribal trust land, the recognised traditional authority.
Palaeontological	Any fossil remains or traces of animals or plants that were alive in the geological past, and any site that contains such fossils. Fossil fuels such as coal, and fossiliferous rock intended for industrial use are, however, excluded.
Palaeontologist	A trained professional who uses scientific methods to excavate, record and study fossils and palaeontological sites.
Permit	Licence, certificate, or authorisation under which the Competent Authority accepts and declares that AAP are allowed/enabled to conduct or perform certain activities. A permit is granted after a formal application is made by the Company, sometimes supported by technical documents, by a Government Ministry/Agency/Department, at either a national/ federal/ state/ provincial/ municipal level and is tangible. A permit is often dependent upon conditions either stated in the associated legislation or in the permit itself; it is sometimes of a determined duration, and possibly subject to renewal.
Place	A place may include: - The site; - A structure such as a stonewall or historic building; - A group of structures such as a werf; and - In relation to the management of a place, includes the immediate surroundings of a place.
Provisional Protection	A protected area or heritage resource provisionally protected by SAHRA or a provincial heritage resources authority by a notice in the Gazette or Provincial Gazette.
Re-establishment	In relation to grave relocation, means actions and items required to re-establish graves at new locations in a manner similar to that of the original grave, grave relocation including the removal and re-erection of grave dressings, purchase of new coffins and grave plots, and possible performances. The rate of re-establishing graves must be calculated on the market value of the actions and items, plus transaction costs.
Reinter	To deposit human remains in a grave or tomb after exhumation.
Relocation	In relation to graves means the exhumation, relocation and reinterment of the contents of a grave from its original location to an alternative location.
Remedial action	Actions agreed on, following consultation between the Company and NoK or other I&APs, to remediate impacts on cultural heritage resources. Remedial actions may include conservation, improvement,

Term	Definition
	presentation, and relocation where possible. Costs of remedial actions are the responsibility of the Company, unless otherwise agreed to.
Replicable Heritage	Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures.
Site	Any area of land, including land covered by water, and including any structures thereon
Stop Work Order	An order served on a person by the Minister on advice of SAHRA or MEC to immediately cease all work in and around a heritage site for a period not exceeding 10 years. The order attaches to land is binding on the current owner and any future owner.
Structure	Any works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.
Tangible Heritage	Considered a unique and often non-renewable resource that possesses cultural, scientific, spiritual, or religious value and includes moveable or immovable objects, sites, structures, groups of structures, natural features, or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural value. Tangible heritage may be associated with intangible elements, e.g. the living cultural traditions, rituals and performances associated with burial grounds and graves and deceased persons.
Traditional Council	Council established and recognised for a traditional community in accordance with the provisions of section 3 of the Traditional Leadership and Governance Framework Act, 2003 (Act No. 41 of 2003) or any corresponding provision in provincial legislation.

4 Abbreviations

Abbreviation	Explanation
AASW	Anglo American Socia Way
BGG	Burial Ground and Graves
BU	Business Unit
CF	Chance Find
CFP	Chance Finds Procedure
CHMP	Cultural Heritage Management Plan
CHRM	Cultural Heritage Resources Management
CHS	Cultural Heritage Specialist
CS	Cultural Significance
EM	Environmental Manager
GM	General Manager
GRP	Grave Relocation Plan
H&SR	Health and Safety Representative
HoD	Head of Department

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Abbreviation	Explanation
HR	Human Resources
HRAs	Heritage Resources Authorities
I&APs	Interested and Affected Parties
ICOMOS	International Council on Monuments and Sites
IFC	International Finance Corporation
LIHRA	Limpopo Provincial Heritage Resources Auhtority
NEM: PAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NoK	Next-of-Kin
PM	Project Manager
PSR	Protection Services Representative
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SAPS	South African Police Services
SE	Stakeholder Engagement
SED	Socio-Economic Development
SEP	Stakeholder Engagement Plan
SHE	Safety Health and Environment
SP	Social Performance
SPMC	Social Performance Management Committee
TC	Traditional Council
WHCA	World Heritage Convention Act, 1999 (Act No. 49 of 1999)

5 Responsible for Review

- BU Cultural Heritage Specialist (CHS)
- Social Performance (SP) Manager
- Mining Manager
- Safety, Health and Environment (SHE) Manager
- Human Resources (HR) Manager
- Permitting Manager
- Resettlement Mananger

6 Responsible for Implementation

The functions/ individuals responsible for implementation of the CFP are presented in the table below consistent with AASW 4H tools

Position	Contact Number	Email
EM		
CHS	072 359 6775	justin.dupiesanie@angloamerican.com
PSR		
SPR		
H&SR		
SAPS		

7 General

7.1 Contravention

Breach of this Procedure may lead to disciplinary/ legal action.

Cultural heritage is protected by the provisions encapsulated in the NHRA. Any individual found guilty of non-compliance to this this procedure or negligence resulting in the damage or destruction of cultural heritage resources may result in:

1. The HRAs insitituting penalities by way of a fine as set out in Section 51 of the NHRA and the Schedule to the Act;
2. Legal action resulting in imprisonment in accordance with Section 51 of the NHRA and the Schedule to the Act;
3. Implementation of disciplinary procedures as set out in the Company policies.

7.2 Distribution

#	Distributed to	Physical Copy	Electronic Copy
1	Operations Managers	Mine offices	Anglo Platinum Intranet Policies and Procedures
2	Finance Managers		
3	Finance and Performance Management		Electronic Documents Library (AAP Intranet)

7.3 Additional Information

7.3.1 Reporting and Documentation Requirements

7.3.1.1 External

The CHS will be required to compile and maintain separate records of CFs, results of assessments, CF recommendations, internal and external communications and instructions and supporting photographic documentation (or other reference materials as appropriate), which will be submitted and reviewed by EM and/or SP staff.

7.3.1.2 Interna l

The EM will ensure the Chance Find Report is completed, approved and readily available. This report will contain the following information: date and time of the discovery, location (GPS coordinates), description of the discovery, significance of discovery, estimated weight and dimensions i.e. feasibility to move the discovery; estimated time needed to conduct excavation of discovery; recommendation of how to proceed; temporary protection measures implemented, etc. The EM will review, approve and store the rapid assessment report.

7.3.1.3 Training and Induction

CFs can be uncovered by any employee of the Company performing duties at Amandelbult, as well as any contractors, sub-contractors, consultants or any other applicable service provider. For the CFP to be effective, site must ensure that all relevant parties understand the CFP and the importance of adhering to it if CFs are encountered. Training (through induction or other means) on cultural heritage resources that might potentially be found on site must be provided. All personnel, especially those working on earth movements and excavations, are to be trained on the identification of potential cultural heritage items/sites and the actions prescribed in this procedure during the induction and regular toolbox talks.

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REF NO:	AMB-ALL-SER-PRO-0010	DATE OF IMPLEMENTATION:	10 June 2021
VERSION NO:	1.0	LAST REVISION DATE:	29 October 2021

Scanned Standard Committee Meeting Attendance Register

AngloAmerican

Amandelbult Complex
Standards Committee Meeting
Attendance Register

Date: 29-Oct-21 | Venue: Teams | Time: 12h00

Name and Surname	Join Time	Leave Time	Duration
Maleka, Robert	10/29/2021, 11:45:23 AM	10/29/2021, 2:17:09 PM	2h 31m
Van Rooyen, Eddie	10/29/2021, 11:46:15 AM	10/29/2021, 11:46:54 AM	39s
Pienaar, Jan	10/29/2021, 11:48:58 AM	10/29/2021, 12:28:18 PM	39m 20s
Theuns Bester	10/29/2021, 11:48:26 AM	10/29/2021, 2:17:09 PM	2h 28m
Lebenya, Rufus	10/29/2021, 11:48:57 AM	10/29/2021, 2:17:31 PM	2h 28m
Uys-Venter, Edgar	10/29/2021, 11:56:17 AM	10/29/2021, 2:16:48 PM	2h 20m
Smit, Alwyn	10/29/2021, 11:56:42 AM	10/29/2021, 12:56:15 PM	59m 33s
Phatsa Ndlazilo	10/29/2021, 11:57:09 AM	10/29/2021, 2:17:29 PM	2h 20m
Coetzee, Gerjan	10/29/2021, 11:57:40 AM	10/29/2021, 2:16:51 PM	2h 19m
Mashimbye, Thabiso	10/29/2021, 11:58:47 AM	10/29/2021, 2:16:43 PM	2h 17m
Landsberg - Jacobs (Tumelo)	10/29/2021, 11:58:58 AM	10/29/2021, 2:17:07 PM	2h 18m
Molefe, Lebo	10/29/2021, 11:59:02 AM	10/29/2021, 2:17:14 PM	2h 18m
Dreyer, Nico	10/29/2021, 11:59:15 AM	10/29/2021, 2:16:53 PM	2h 17m
Monakgotla, Kitsakile	10/29/2021, 11:59:45 AM	10/29/2021, 12:02:50 PM	3m 4s
Mol, Marelize	10/29/2021, 12:00:08 PM	10/29/2021, 1:47:37 PM	1h 47m
Printloo, Leslie	10/29/2021, 12:00:50 PM	10/29/2021, 2:16:55 PM	2h 15m
Visser, Gladys	10/29/2021, 12:00:54 PM	10/29/2021, 12:13:38 PM	12m 43s
Visser, Gladys	10/29/2021, 12:01:06 PM	10/29/2021, 12:09:16 PM	8m 11s
Visser, Gladys	10/29/2021, 12:55:55 PM	10/29/2021, 12:58:39 PM	2m 44s
Visser, Gladys	10/29/2021, 12:54:17 PM	10/29/2021, 12:57:51 PM	3m 33s
Visser, Gladys	10/29/2021, 1:02:07 PM	10/29/2021, 1:04:20 PM	2m 12s
Visser, Gladys	10/29/2021, 1:06:34 PM	10/29/2021, 1:07:03 PM	29s
Visser, Gladys	10/29/2021, 1:09:21 PM	10/29/2021, 1:14:57 PM	5m 35s
Visser, Gladys	10/29/2021, 1:16:54 PM	10/29/2021, 1:28:05 PM	11m 11s
Mokgoatsane, Elmie	10/29/2021, 12:02:36 PM	10/29/2021, 2:15:14 PM	3h 12m
Lehmann, Carolin	10/29/2021, 12:03:27 PM	10/29/2021, 2:59:28 PM	3h 56m
Marx, Dirk	10/29/2021, 12:07:17 PM	10/29/2021, 2:16:35 PM	3h 9m
Botha, Henk	10/29/2021, 12:11:27 PM	10/29/2021, 2:16:37 PM	2h 5m
Arntzen, Chiatt	10/29/2021, 12:13:23 PM	10/29/2021, 1:04:29 PM	51m 6s
[illegible] (Guest)	10/29/2021, 12:13:32 PM	10/29/2021, 2:16:34 PM	2h 2m
Mol, Maylor	10/29/2021, 12:13:14 PM	10/29/2021, 2:17:14 PM	3h 4m
Sefa, Mofokile	10/29/2021, 12:13:24 PM	10/29/2021, 2:17:23 PM	3h 3m
Du Preez, Kara	10/29/2021, 12:17:10 PM	10/29/2021, 2:16:51 PM	2h 59m
Dreyer, Tiaan	10/29/2021, 12:19:05 PM	10/29/2021, 12:51:58 PM	32m 53s
Dreyer, Tiaan	10/29/2021, 12:51:58 PM	10/29/2021, 2:16:43 PM	2h 24m
Bruger, Johan	10/29/2021, 12:52:37 PM	10/29/2021, 1:33:49 PM	40m 11s
Van Der Westhuizen, Imre	10/29/2021, 1:00:59 PM	10/29/2021, 2:16:38 PM	1h 15m
Pauline Rupere	10/29/2021, 2:00:24 PM	10/29/2021, 2:16:48 PM	16m 23s

Standards Discussed and Approved

1. Contractor Social Management Amandelbult CSF Approved
2. Noise Ventilation Control (Conventional Stoping) Approved
3. Sampling and Reporting of Drinking and Process Water Approved
4. Lifting Equipment and Lifting Operation Not Discussed
5. Installation of Temporary Support (Conventional Stoping) Approved
6. Machines and Air Legs (Conventional stoping) Approved
7. Winch Signalling (Conventional stoping) Approved
8. Mining Safe and Installing Support in High to Abnormally High Seismicity V2 Approved
9. Risk assessment of high or abnormal high seismicity – V2 Approved
10. Safe Operation of Autonomous Support Drill Rig – V2 Approved
11. Operating Self propelled Mobile machines on Waste dump final Approved
12. Rock Mass Monitoring (Conventional stoping) Approved
13. Application of Explosives Stoping (Charging Up Procedure)(Conventional Stoping) Not Approved
14. Project Commitments management procedure Approved
15. Cultural Heritage Chance Finds Procedure Approved
16. MRE Drill Guide (Mobile) Not Approved

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8 Safety Requirements for this Procedure

- Mine Health and Safety Act, 1996 (Act No.29 of 1996) (MHSA) as amended.
- Occupatonal Health and Safety Act.1993(Act No.181 of 1993) (OHSA).
- AASW3.0 Section 3B Incident and Grievance Management.
- Anglo SHE Way.
- Anglo Environmental Way.

9 Procedure

9.1 AASW CFP Framework

9.2 (1) Discovery, Stoppage of Works and Notification

Steps	Action	Timing	Role
Discovery and Stoppage	In the case of a CF, the heritage resource will not be disturbed or removed and all activities in its vicinity will be ceased as soon as it is deemed safe to do so. The area will be demarcated, preferably by a site employee or alternatively the contractor, who will also be required to note the type of resource, location, photograph and depth below surface of the find.	As soon as it is safe to do so	Observer, site employee and/or sub-contractor.
Management Notification	After stopping the work, contact the Environmental Manager (EM) immediately to (1) report and describe the CF and (2) confirm that all activities around the CF have been ceased. EM to notify the Project Manager (PM) as well as nominated representatives from Protection Services (PSR), Health and Safety (H&SR), and Social Performance (SP) departments regarding the CF and requisite actions.	Immediately after stoppage of work	Observer, EM, PM, PSR, H&SR and SP

9.3 (2) Delineate, Secure and Record

Steps	Action	Timing	Role
Site Protection & Inspection	EM, together with PSR issue urgent instruction to properly demarcate and watch over site. Demarcation will provide a minimum 25 metre buffer zone from all	Same day as discovery	EM, PSM, & PS staff

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Steps	Action	Timing	Role
	sides of the find, as well as appropriate signage. EM, SP and PSR to visit the site as soon as practically possible to ensure that the area is appropriately demarcated and secured to prevent unauthorised access and/or potential damage. EM or SP to undertake the inspection process, in accordance with health and safety protocols, and record outstanding descriptive information, especially spatial and imagery data by completing the Chance Find Reporting Form – see appendices.		

9.4 (3) Specialist Evaluation

Steps	Action	Timing	Role
Rapid assessment & recommendation	EM engage BU and ad hoc cultural heritage specialist (CHS) to assess the find remotely or via site visit, whichever is appropriate. CHS will verify the finding and assess its potential cultural significance (CS). The CHS to specify whether the CF has no, negligible, low, medium or high CS. CHS to report assessment finding and recommend appropriate action to EM. The CHS' recommendation will describe the following: 1. Potential for removal: Indicate whether the find can be removed and the process for removal. This will indicate whether company employee can remove the object without the presence of the CHS 2. Security and protection requirements: Whether on-going security is required and/or revised buffer area needs to be instated 3. Chain of custody and storage: Identity appropriate chain of custody and storage requirements that will apply after removal 4. Need for preservation: Where the location of the find and/or its significance allows for preservation, the CHS will together with the EM and other relevant parties will decide on whether the find can be preserved in situ by rerouting future activities and/ or using alternative construction	Within 2 days of discovery	EM, BU and ad hoc CHS

Steps	Action	Timing	Role
	techniques or if rescue excavations in advance of additional construction work will be required, if avoidance is not possible. In case of the latter the Company will ensure that the rescue is conducted according to international and national standards and with oversight and involvement of the appropriate experts and Government Authorities. 5. Continuation of stopped activities: Confirm whether construction activities should be suspended until further processing, or whether activities can resume on condition of additional safety buffers and/or removal of CF. 6. Identify applicable statutory requirements: Inform EM of national or international processing requirements. EM to communicate and initiate statutory process.		

9.5 (4) Significant Finds and Authority Notification

Steps	Action	Timing	Role
Processing insignificant finds	CHS confirms process with EM. The CHS and EM decide whether work can resume unconditionally or whether certain restrictions are required.	Within 2 days of discovery	EM, BU and ad hoc CHS
Processing significant finds	The processing time of significant CFs will vary depending on the nature of the CF. The processing requirements that will be followed will depend on the assessment and recommendation of the CHS.	Within 7 days of discovery	EM, CHS, Labour required to undertake removal, protection and/or preservation activities
Processing: Burial Grounds	In certain contexts, it may be anticipated that significant finds will likely be limited to human remains. After completing the previous steps, the following procedure should be followed: 1. EM and CHS to notify the local policing authority (South African Police Services [SAPS]) of burial site 2. Engage relevant traditional, local and national government authorities; 3. CHS and EM to inspect the exposed burial and determine in	Reporting to policing authority should be within 1 day of specialist assessment Timing of remainder of process should be determined in consultation with relevant authorities	CHS, EM & Heritage authority

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Steps	Action	Timing	Role
	consultation with policing authority the temporal context of the remains (i.e. noteworthy forensic features, authentic burial grave older than 60 years or archaeological burial older than 100 years) as well as whether there might be additional graves within the immediate vicinity of the find. 4. Should the CHS conclude that the find is a heritage resource protected in terms of national legislation, they will inform the relevant heritage authority on behalf of the Company and confirm mitigation requirements 5. Initiate grave relocation process according to national legislation and AASW requirements 6. Establish multidisciplinary team to manage grave relocation process, including representative from mine management, SP, HR, PSR, group legal and SHE 7. If necessary, the team will urgently appoint an experienced and qualified expert, which is appropriately registered in terms of national legislation		
Statutory notification & mitigation	Should the CHS conclude that the find is a heritage resource protected in terms of national legislation, they will inform the EM and ensure that the appropriate authority is formally notified.	Within 7 days (or as per national legislation)	CHS, EM & Heritage authority

9.6 (5) Await Investigation

Steps	Action	Timing	Role
Authority Investigation and Mitigation	The CHS will confirm with the relevant authority the processing and permitting requirements that apply to the find (e.g. requirements for additional heritage studies, grave relocations and/or rescue/preservation permits of highly significant sites).	Within 7 days of the CF. Timing of remainder of process should be determined in consultation with relevant authorities.	CHS, EM & Heritage authority

9.7 (6) Resume Work

Steps	Action	Timing	Role
Resume activities	Project activities at an important find will resume after the implementation of government-approved mitigation measures	Timing determined in consultation with	CHS, EM & Heritage authority

Steps	Action	Timing	Role
	and statutory permission, unless regulations allow for conditional continuation of activities.	relevant authorities.	

9.8 Dispute

In the event of a dispute arising, this shall be managed through the Amandelbult Social Issues and Incident Mechanism and will follow the relevant procedure(s). It may be necessary to solicit the services of a mediator to resolve the dispute. The mediator will be selected by way of mutual agreement between the Company and stakeholder. The costs of the mediation will be borne by the Company. The process will be clearly documented and records provided to the stakeholder in their native language or language of their choice.

Should the mediation process fail, the last resort will be to bring an application to a court with jurisdiction for a decision on the matter.

9.9 Record Keeping

A record of the process will be maintained on site. Adequate record methods as specified in the Regulations and Guidelines pertaining to the National Resources Heritage Act must be observed as appropriate. Records will also include all stakeholder engagement minutes and attendance registers, agreements and affidavits.

10 History of Changes

Reason for Change - Index	
A. As a result of incidents	B. As a result of audit findings
C. New / changes in governance documents	D. Changes in legislation
E Changes in technology	F. Changes in machinery/equipment
G Results of risk assessments	H. Change in training requirements
I. New document format	J. Change due to spelling or grammatical error
K. To integrate a special instruction into the document control system	
L. Periodic Review	

Date of change	Revised Item (Paragraph number)	Changes Made	Reason Code	Name of reviewer
14 May 2021	1	NEW	C	E Makgasane

11 Record Control

Records to be maintained in accordance with the Finance and Performance Management Governance Documentation Group Policy CTR-FPM-GRA-POL-0011

Identification	Reference number	Responsible for filing	Responsible for maintenance	Location of storage area	Retention period	Method of disposal
Cultural Heritage Chance Finds Procedure	AMB-ALL-SER-PRO-0010	Standards Officer	Social Performance Department	Mine Offices	Revision	Electronic Archiving and Shredding

12 References

- AASW 4H: Cultural Heritage
- AASW 4H.4: Tools
- IFC PS 8: Cultural Heritage
- Amandelbult Social Issues and Incedent Mechanisms Procedure
- Amandelbult Stakeholder Engagament Plan
- NHRA
- NHRA Regulations, 2000 (GN R 548)

13 Appendices

13.1 CF Recording Form

Recorder:				**Date:**			
Classification:	Immovable	Movable	Replicable	Non-replicable	Intangible	Critical	
Location:				**Photograph Numbers:**			
Ref No: Site name/number or other reference				**Co-ordinates** Decimal degrees using the WGS84 datum			

1. Immovable Heritage Resources			
SAHRIS ID Reference: where applicable			
Type of resource:		**Age / Industry / Period:**	Cultural period / style / associated persons / history
Resource Description Summary:	See footer		
Functional Type:		**Current Function:**	Original / changed from past / current function
Please proceed to Section 4			

2. Movable Heritage Resources			
SAHRIS ID Reference:			
Type of resource:	Artefacts, artworks, books, documents machines, clothing	**Age / Industry / Period:**	
Resource Description Summary:			

2. Movable Heritage Resources	
Quantity recorded:	
Please proceed to Section 4	

3. Intangible Heritage Resources			
SAHRIS ID Reference:			
Type of resource:		To whom is the resource significant?	
Describe the resource or summarise provided information:			
Informant / source of information:			Wishes to remain anonymous
Please proceed to Section 4			

4. Description and Notes				
Restrictions/sensitivities: *Please note any restrictions with regard to this heritage resource and/or information obtained by an informant*	None	No photographs	Do not publish	
	Other:			
	Reason for Restrictions:	*E.g. Conservation, economic, spiritual, immovable heritage, other (please describe)*		
Please provide a brief description of the resource:				
Condition of the resource:	Damaged	Poor	Fair	Good
Quality of the resource: (Scales of damage)	Poor	Fair	Good	Excellent
Please describe: *(including scale of damage or neglect and factors influencing the integrity of the resource)*				

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4. Description and Notes						
	Negligible	Low	Medium	Med-Hi	High	V. High
Statement of Significance: *(please provide a brief assessment of the significance of the resource, in your opinion)*	Consider aesthetic, historic, scientific and social criteria					
Are there any observable / apparent threats / impacts to the resource?						
Can this impact be avoided?	YES			NO		
Describe why.						
Please include any additional notes here: *(e.g. any notable features, additional information from an informant, damage)* *Should this be a Chance Find, please include details surrounding the find (e.g. personnel involved, activities being undertaken, decisions made and steps taken after find, date and time of find)*						

Type of Resource: Archaeological: Artefacts, Rock Art, Deposit, Shell Midden, Ruin > 100 years, Stone walling, Settlement; Living heritage / sacred site; Battlefield; Burial Grounds and Graves; Conservation Area; Cultural Landscape; Geological; Meteorites; Monuments & Memorials; Natural, Palaeontological; Place; Structure: bridge, building, transport infrastructure; Underwater: Shipwreck, Submerged (intertidal, partially submerged, fully submerged).

Summary Description: Artefact: Isolated surface, Artefact: Low density surface scatter, <10:1 sq m, Artefact: medium density surface scatter, <20:1 sq m, Artefact: high density surface scatter, >20:1 sq m, Artefact: embedded in rock matrix, Burial ground: Undetermined, Single grave , ≤10 graves, ≤20 graves, ≤50 graves, >100 graves; ≤100 graves; Deposit: ash, ≤1 cm , ~5 cm, ~10 cm, ~20 cm, >20 cm; Deposit: charcoal; Deposit: Faunal; Deposit: Kraal; Fossil, hominin: embedded in rock matrix; Fossil, hominin: isolated surface; Fossil, hominin: tracks; Fossil, invertebrate: embedded in rock matrix; Fossil, invertebrate: isolated surface; Fossil, invertebrate: tracks; Fossil, plant: embedded in rock matrix; Fossil, plant: isolated surface; Fossil, vertebrate: embedded in rock matrix; Fossil, vertebrate: isolated surface; Fossil, vertebrate: tracks; Fossil: breccia with visible remains; Fossil: breccia without visible remains; Rock art: combination; Rock art: engraving; Rock art: painting; Shelter: including artefact/s; Shelter: including artefact/s + deposit; Shelter: including artefact/s + deposit + structures; Shelter: rock art + artefacts / deposit / structures; Shelter: rock art combination; Shelter: rock art engraving; Shelter: rock art painting; Site: high complexity, multiple components >2500 sq m / 50 x 50 m; Site: low complexity, multiple components <25 sq m / 5 x 5 m; Site: medium complexity, multiple components >25 sq m / 5 x 5 m to <2500 sq m / 50 x 50 m; Structural: complex, e.g. werf; Structural: functional, e.g. fences, wind pumps, troughs; Structural: industrial, e.g. warehouse, headgear; Structural: remains, e.g. daga, hut floor, foundations, bricks; Structural: stonewall; Other

Appendix D9
Screening Tool Report

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED DEVELOPMENT FOOTPRINT ENVIRONMENTAL SENSITIVITY

EIA Reference number: LP 30/5/1/2/2/48 MR

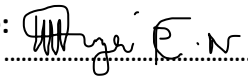
Project name: The Reclamation and Processing of the Amandelbult TSF

Project title: Environmental Authorisations, Waste Management Licence, Water Use Licence Application, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province.

Date screening report generated: 18/09/2025 16:21:58

Applicant: Rustenburg Platinum Mines Limited (Amandelbult Mine).

Compiler: Phathutshedzo Nelson Munyai (Kongiwe Environmental (Pty) Ltd

Compiler signature: 

Application Category: Mining|Beneficiation|Mineral

OFFICIAL

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Map of proposed site and relevant area(s) 4
Cadastral details of the proposed site 4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area 5
Environmental Management Frameworks relevant to the application 6
Environmental screening results and assessment outcomes 6
Relevant development incentives, restrictions, exclusions or prohibitions 6
Proposed Development Area Environmental Sensitivity 7
Specialist assessments identified 7
Results of the environmental sensitivity of the proposed area. 9
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY 9
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY 10
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY 11
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY 12
MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY 13
MAP OF RELATIVE DEFENCE THEME SENSITIVITY 14
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY 15
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY 16
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY 17

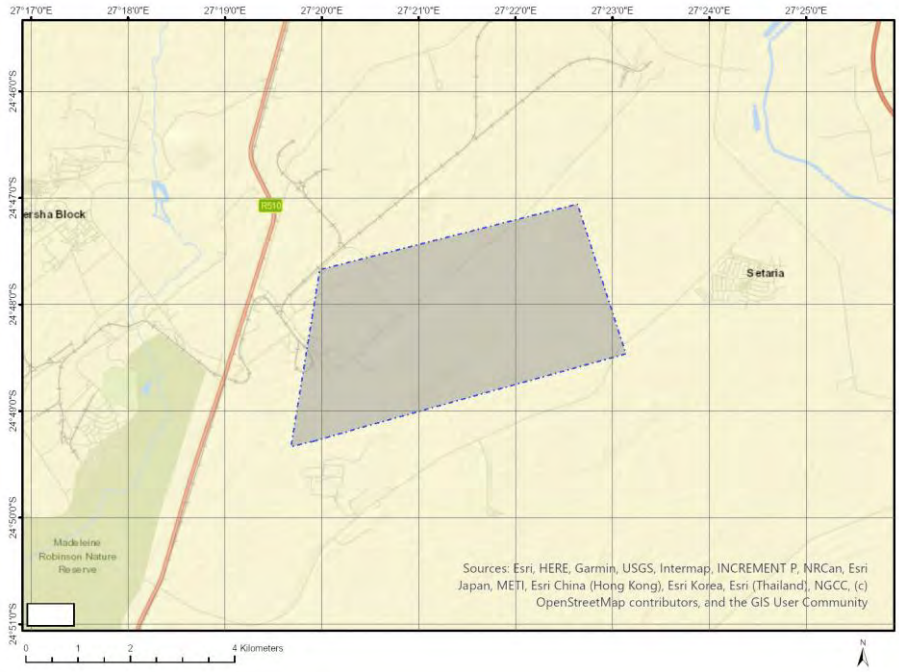
OFFICIAL

Proposed Project Location

Orientation map 1: General location

General Orientation: The Reclamation and Processing of the Amandelbult TSF

Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	AMANDELBULT	383	0	24°48'10.1S	27°21'21.03E	Farm
2	ZONDEREINDE	384	0	24°49'55.1S	27°20'41.42E	Farm
3	MIDDELDRIFT	379	0	24°47'38.2S	27°24'20.95E	Farm
4	MIDDELDRIFT	379	3	24°48'14.67S	27°24'40.19E	Farm Portion
5	AMANDELBULT	383	0	24°48'17.14S	27°21'49.06E	Farm Portion
6	AMANDELBULT	383	1	24°48'1.29S	27°20'45.97E	Farm Portion
7	ZONDEREINDE	384	0	24°50'10.51S	27°20'1.65E	Farm Portion
8	MIDDELDRIFT	379	4	24°48'0.22S	27°23'31.37E	Farm Portion

Development footprint[1] vertices:

Footprint	Latitude	Longitude
1	24°47'40.39S	27°19'58.73E
1	24°47'3.42S	27°22'38.32E
1	24°47'54.73S	27°22'56.53E
1	24°48'27.74S	27°23'8.32E
1	24°48'48.74S	27°21'45.13E
1	24°49'9.77S	27°20'22.46E
1	24°49'16.91S	27°19'55.31E
1	24°49'20.03S	27°19'40.93E

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

1	24°47'40.39S	27°19'58.73E

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	12/12/20/2526/AM2	Solar PV	Approved	14.3
2	14/12/16/3/1/969	Solar PV	Approved	14.8
3	14/12/16/3/3/2/2477	Solar PV	Approved	19.6
4	14/12/16/3/3/2/2417	Solar PV	Approved	13.1
5	14/12/16/3/3/2/2476	Solar PV	Approved	19.6
6	14/12/16/3/3/2/2432	Solar PV	Approved	3.8
7	14/12/16/3/3/2/2387	Solar PV	Approved	17.9
8	14/12/16/3/3/1/969	Solar PV	Approved	14.8
9	14/12/16/3/3/2/2418	Solar PV	Approved	13.1
10	14/12/16/3/3/2/2388	Solar PV	Approved	18.4
11	14/12/16/3/3/2/2416	Solar PV	Approved	13.1
12	14/12/16/3/3/2/2435	Solar PV	Approved	3.3
13	14/12/16/3/3/2/2159	Solar PV	Approved	18.4
14	14/12/16/3/3/2/2419	Solar PV	Approved	13.1
15	14/12/16/3/3/2/2433	Solar PV	Approved	3.8
16	12/12/20/2129	Solar PV	Approved	18.4
17	14/12/16/3/3/2/2446	Solar PV	Approved	17.5
18	14/12/16/3/3/2/2348	Solar PV	Approved	24
19	12/12/20/2526	Solar PV	Approved	14.3
20	14/12/16/3/3/2/2410	Solar PV	Approved	0
21	12/1/9/1-W218	Solar PV	Approved	0
22	14/12/16/3/3/2/2332	Solar PV	Approved	18
23	14/12/16/3/3/2/2437	Solar PV	Approved	3.8
24	14/12/16/3/3/2/2331	Solar PV	Approved	18
25	14/12/16/3/3/2/2443	Solar PV	Approved	5.7
26	12/12/20/2129/AM4	Solar PV	Approved	18.4
27	14/12/16/3/3/2/2434	Solar PV	Approved	13.1

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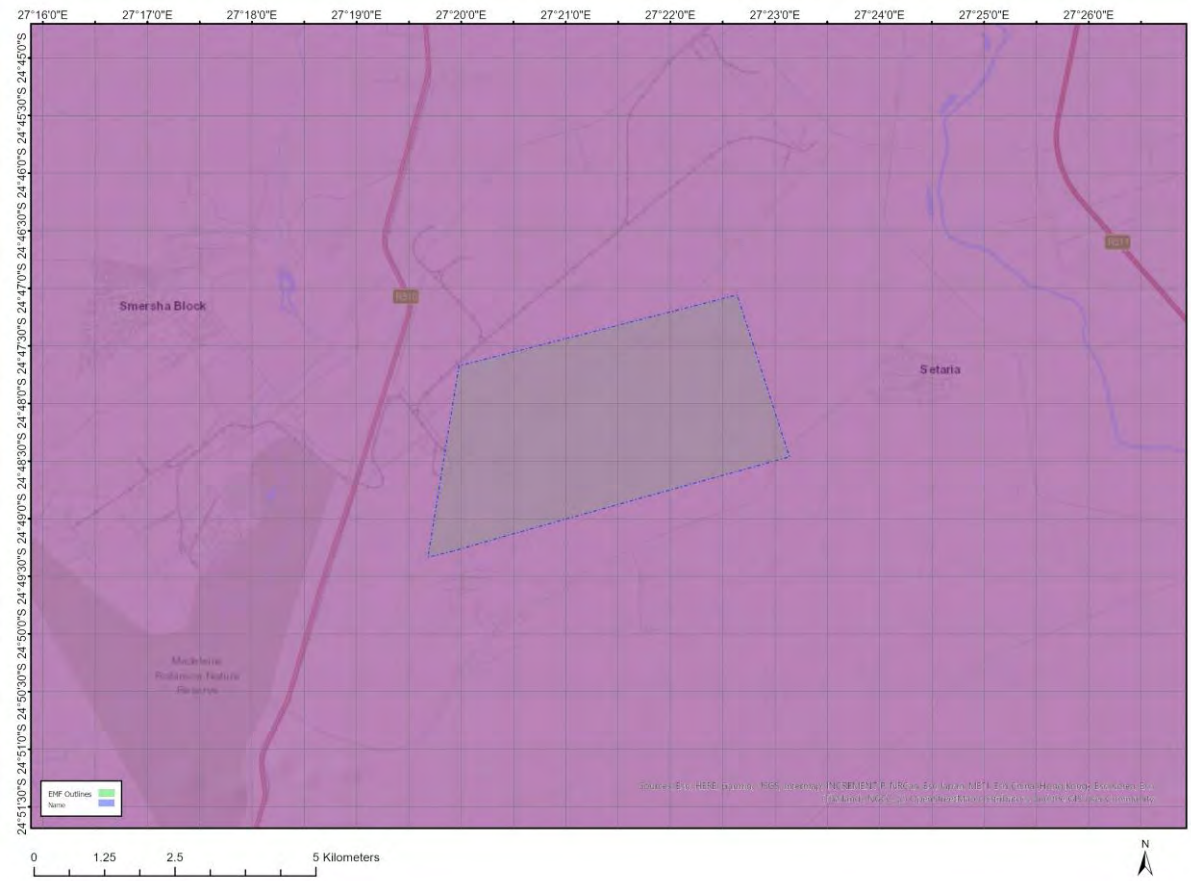
Environmental Management Frameworks relevant to the application



Environmental Management Framework	LINK
Waterberg District Municipality EMF	https://screening.environment.gov.za/ScreeningDownloads/EMF/WDEMF_Final_EMF_Report.pdf

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development footprint as well as the most environmental sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected. The application classification selected for this report is:
Mining|Beneficiation|Mineral.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this footprint are indicated below.

Incentive, restriction or prohibition	Implication

Air Quality-Waterberg-Bojanala Priority Area	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/gg39489_nn1207a.pdf
Main Electricity Distribution Substation	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Distribution_Transmission.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development footprint environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme		X		
Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme			X	
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation.

No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforHIA.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforPIA.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_P

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		rotocols.pdf
7	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf
8	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
9	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
13	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
14	Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
15	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
16	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

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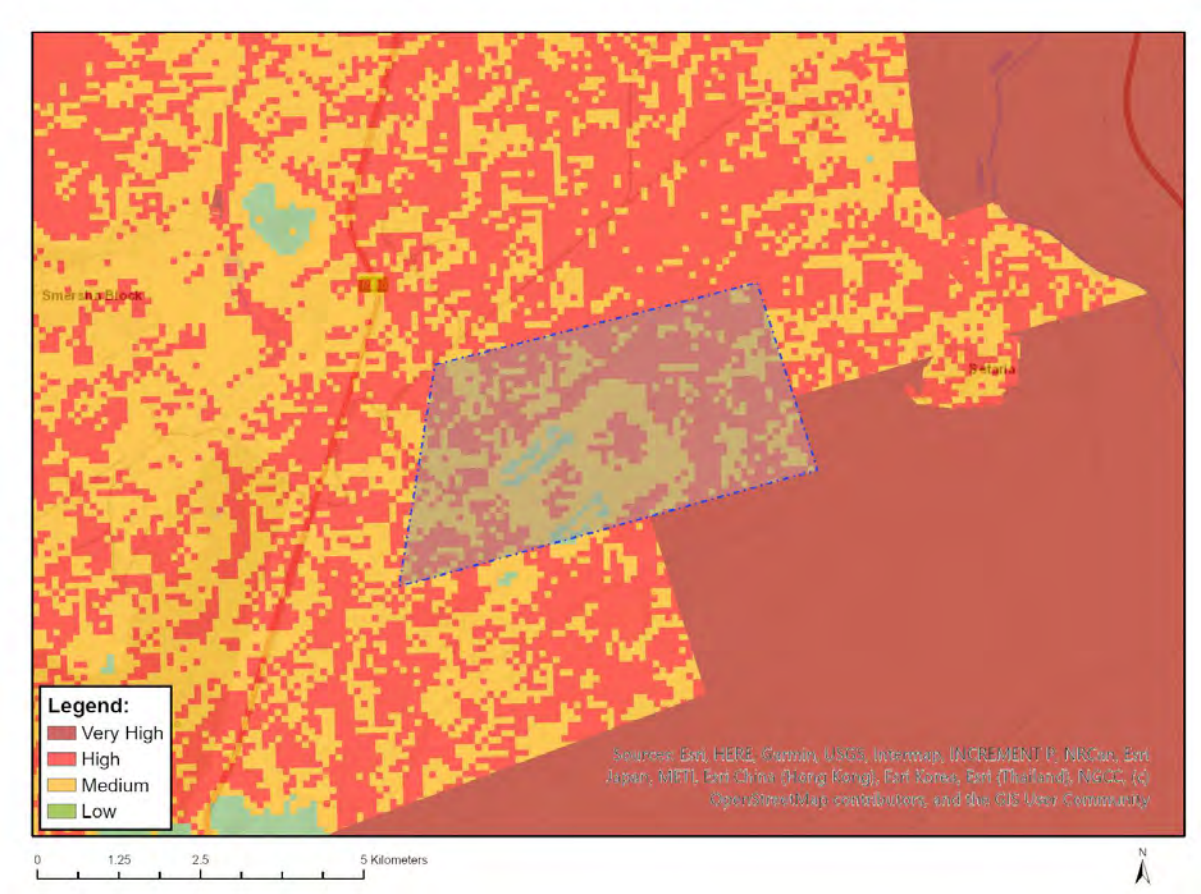
Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed footprint for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

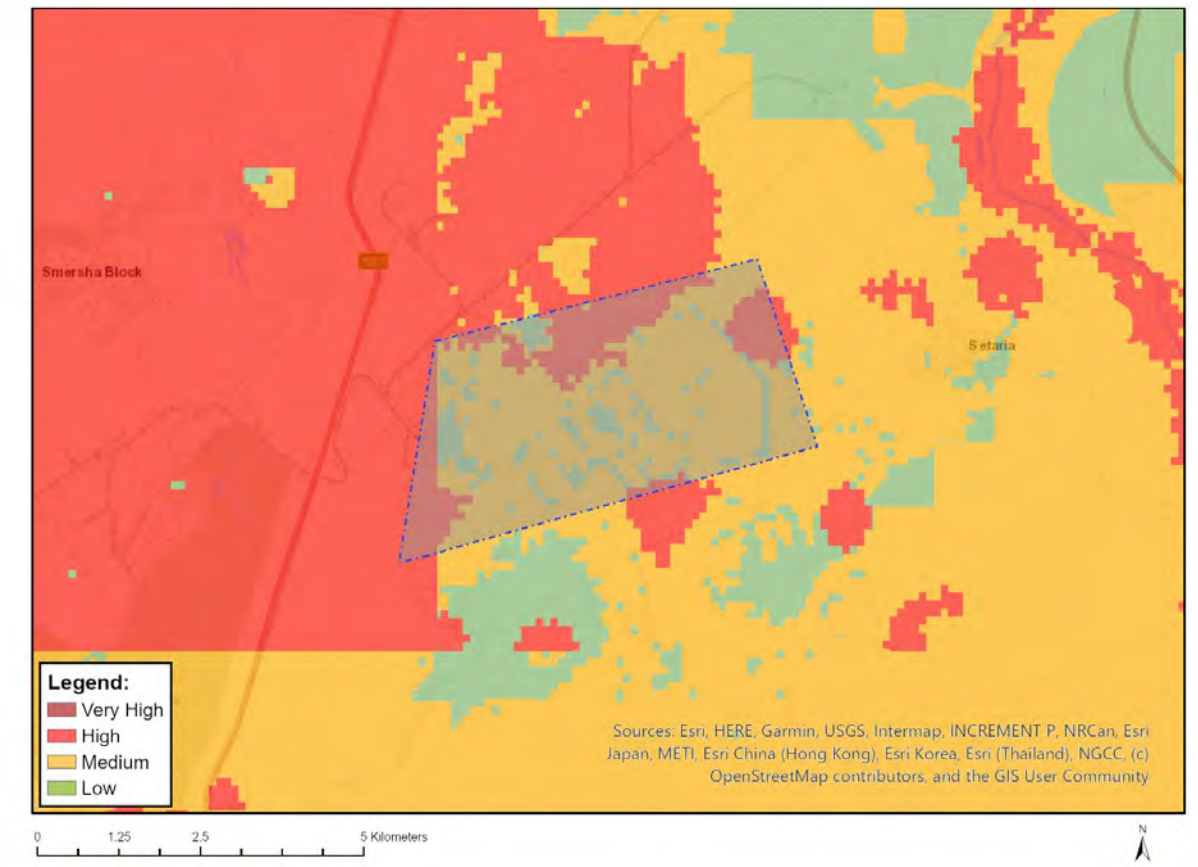


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	08. Moderate
Low	05. Low
Low	04. Low-Very low
Medium	07. Low-Moderate
Medium	06. Low-Moderate
Very High	Crocodile River West PAA

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Polemaetus bellicosus
High	Aves-Mycteria ibis
High	Aves-Torgos tracheliotos
Low	Subject to confirmation
Medium	Aves-Aquila rapax
Medium	Aves-Podica senegalensis
Medium	Aves-Hydroprogne caspia
Medium	Sensitive species 5

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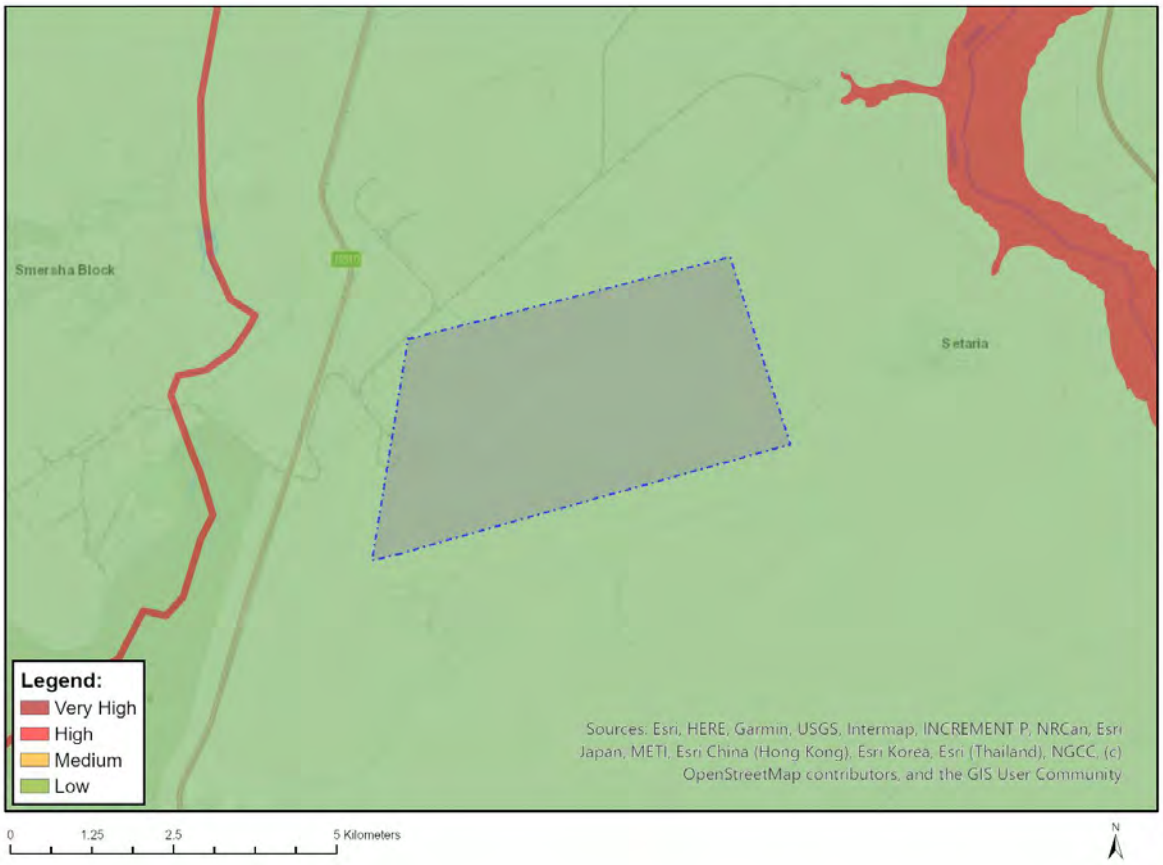
18/09/2025

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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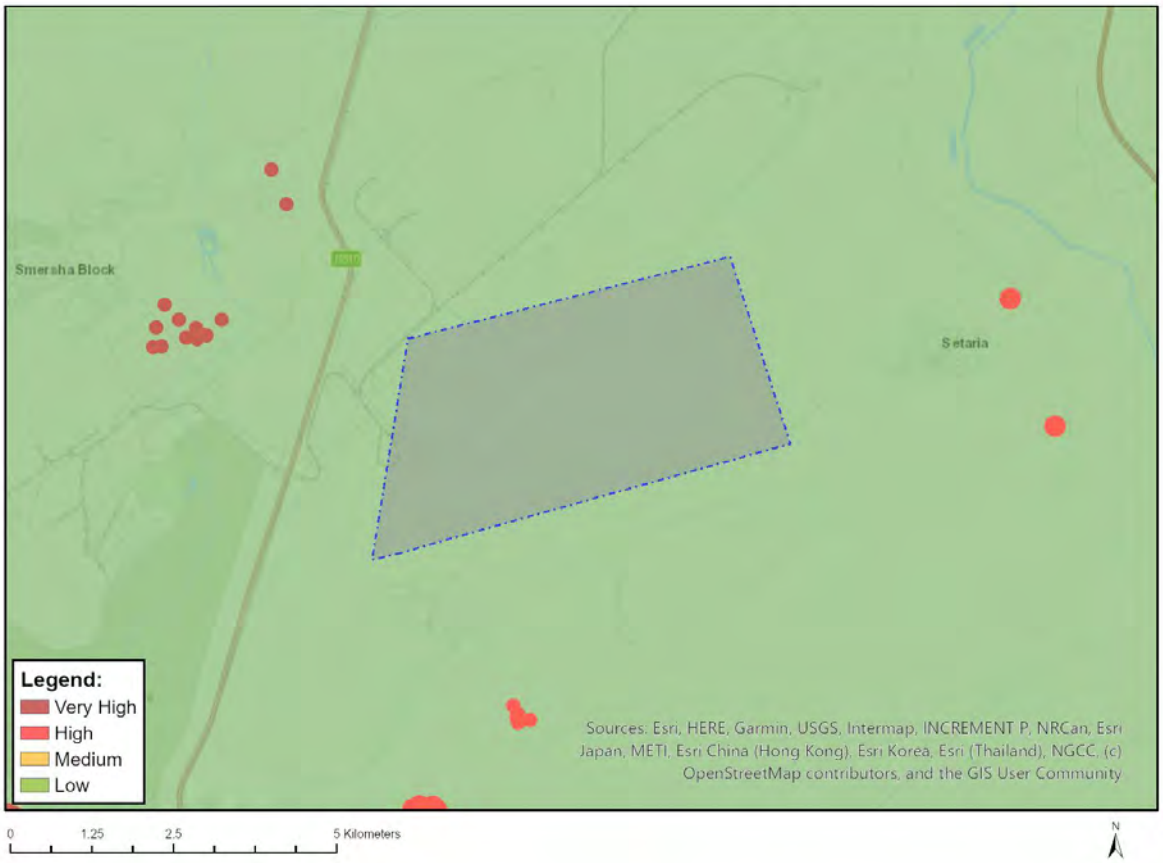
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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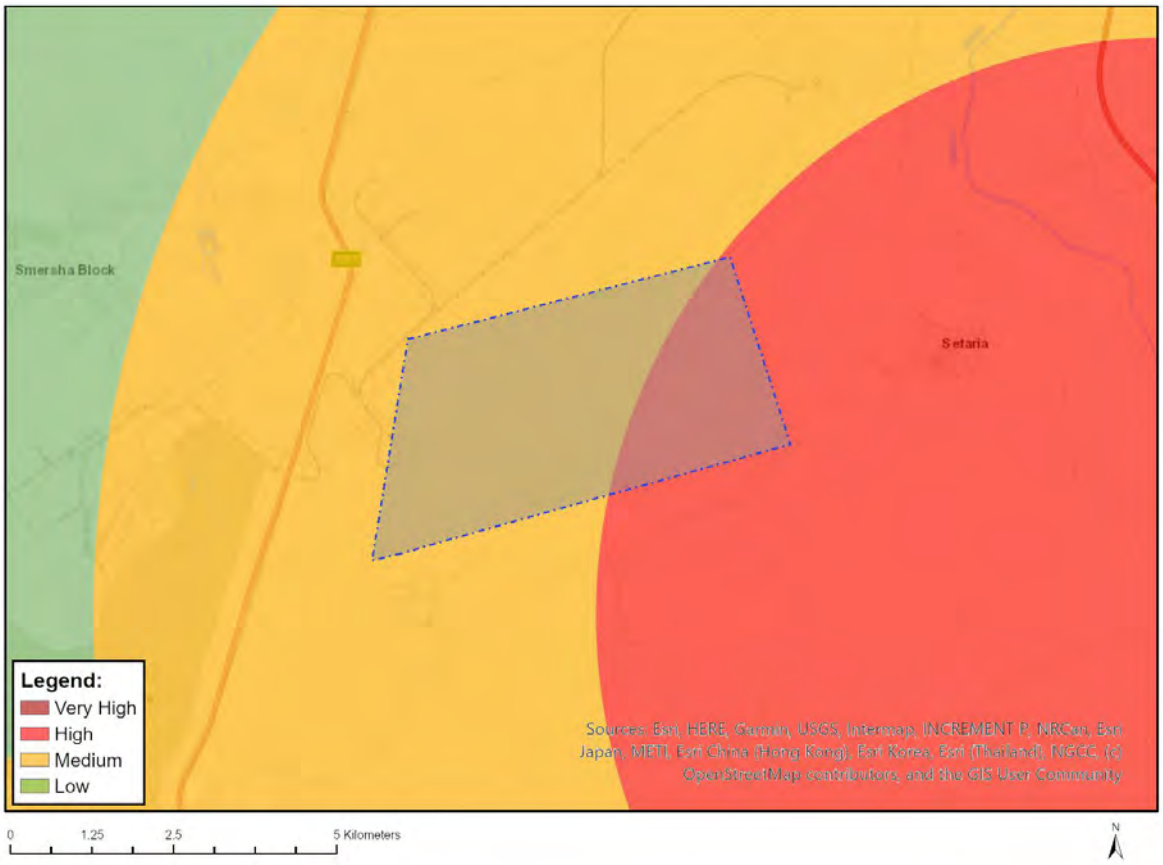
MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
Medium	Between 8 and 15 km of other civil aviation aerodrome

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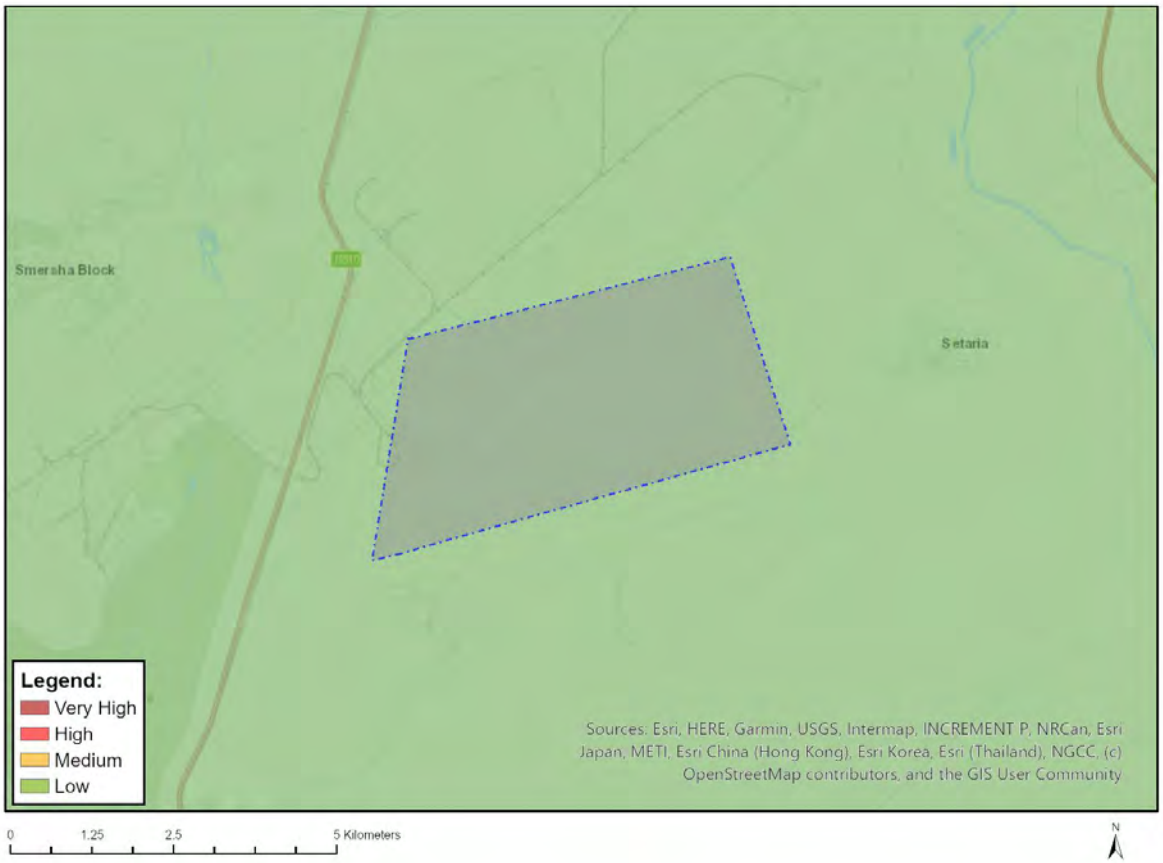
MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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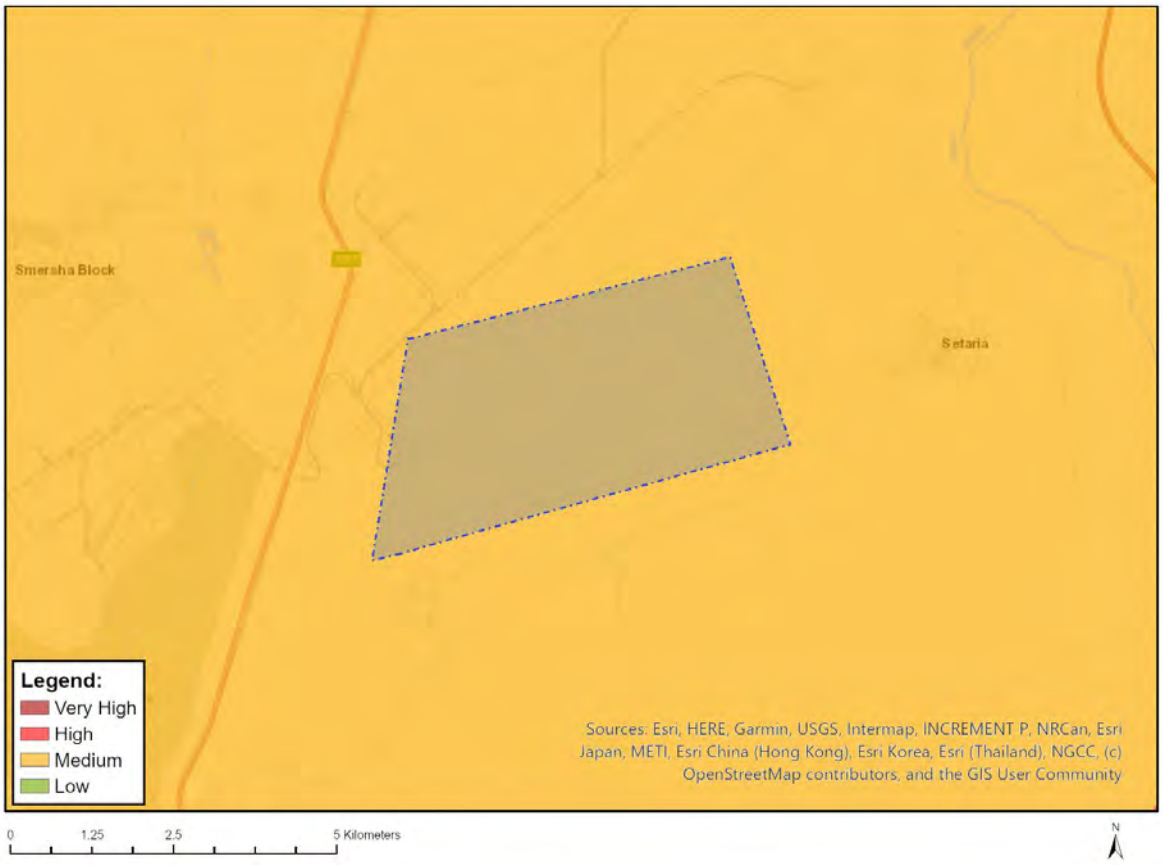
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity

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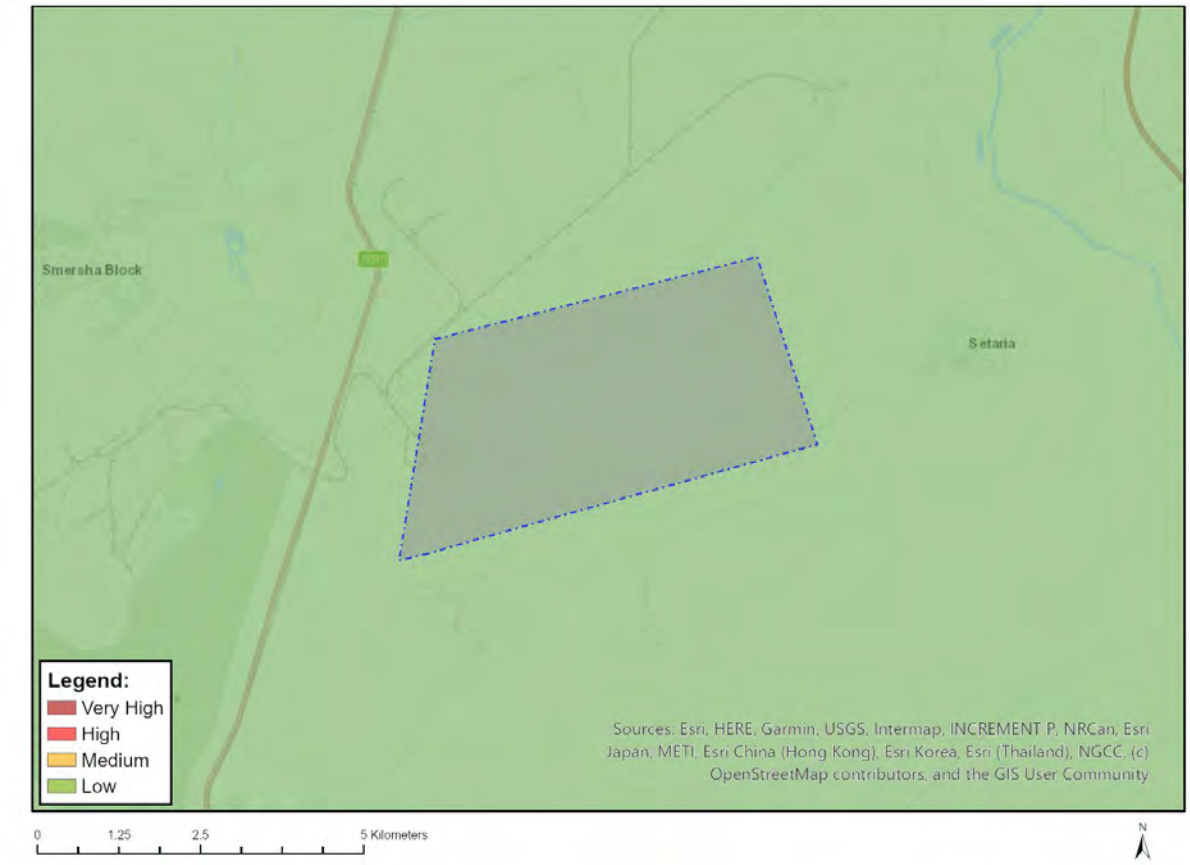
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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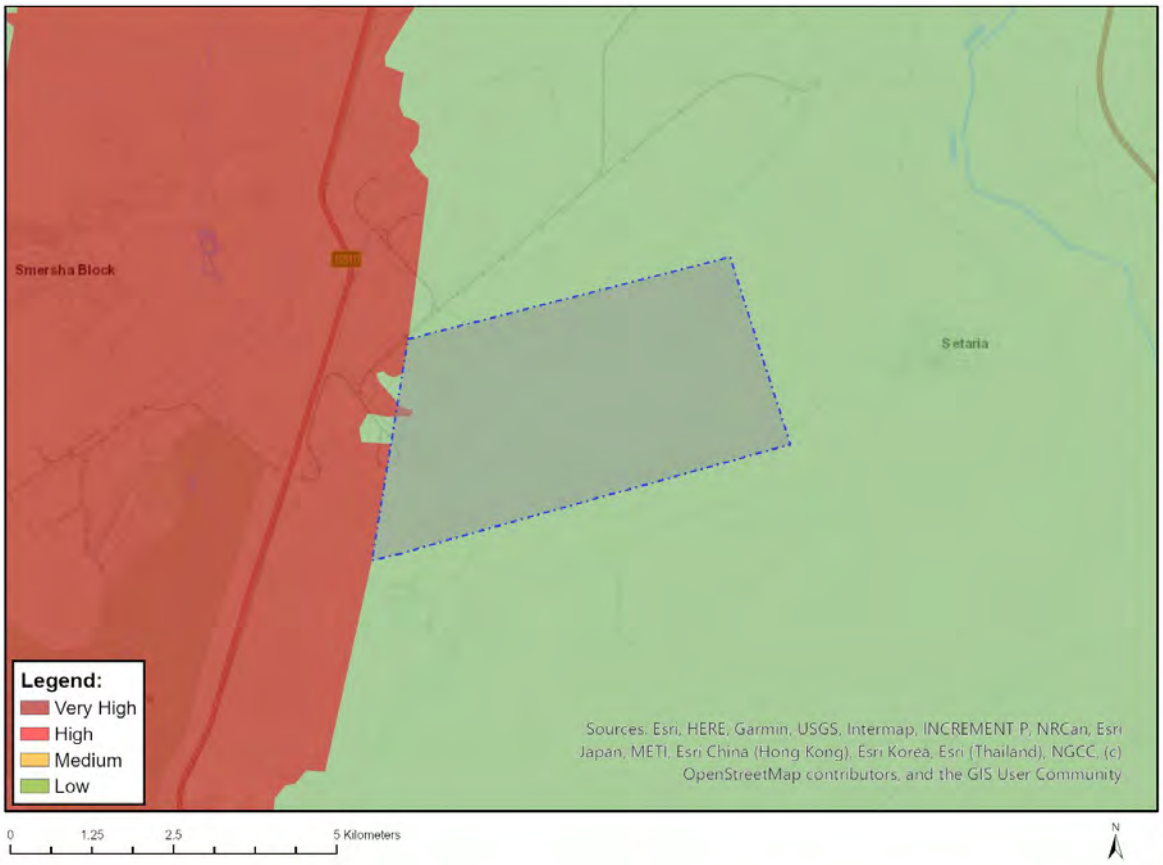
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	ESA 1

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APPENDIX E:

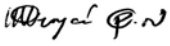
THE RUSTENBURG PLATINUM MINES LIMITED'S AMANDELBULT TSF DAM 2 TAILINGS RECLAMATION AND PROCESSING PROJECT NEAR NORTHAM IN THE THABAZIMBI MUNICIPALITY, LIMPOPO PROVINCE

Final Environmental Management Programme Report

December 2025

FINAL ENVIRONMENTAL MANAGEMENT PROGRAMME INFORMATION

Project:	**The Reclamation and Processing of the Amandelbult TSF**
Report Title:	Environmental Authorisations, Waste Management Licence, and Section 102 Amendment for the Amandelbult Tailings Storage Facility, Dam 2 Reclamation and Processing Project in the Thabazimbi Local Municipality, Limpopo Province.
Applicant:	Rustenburg Platinum Mines Limited (Amandelbult Mine).
Project No:	AAPL#001
Compilation Date:	December 2025
Status of Report:	Final EMPr report

Verification	Capacity	Name	Signature	Date
Author:	Environmental Consultant: Candidate EAP 2025/19519	Iviwe Walaza		04 December 2025
Author:	Environmental Consultant: Candidate SACNASP	Lubabalo Zongolo		04 December 2025
Co-Author:	Environmental Consultant: Reg EAP 2011/4297	Phathutshedzo Munyai		10 December 2025
Reviewed By	Principal - Environmental Consultant	Umeshree Naicker		10 December 2025
Authorised by	Project Manager	Grant Cornish-Bowden		11 December 2025

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Kongiwe Environmental (Pty) Ltd.
Reg No 2016 / 135562 / 07
Directors: GE Cornish-Bowden, MJ Hennessy, BJ Thornton (CEO), GI Wilreker,
Tel: +27 (10) 140 6508 | Email: info@kongiwe.com
150 Bryanston Drive, Bryanston, Sandton, 2191, South Africa.
PostNet Suite no 163, Private Bag X21, Bryanston, 2021, South Africa.
www.kongiwe.com

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SECTION 1:

EXTRACTED FROM THE ENVIRONMENTAL IMPACT ASSESSMENT

In terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), as amended (MPRDA), the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of Regulation 16 (3) (b) of the Environmental Impact Assessment Regulations 2017, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of Regulation 17 (1) (c) the Competent Authority must check whether the application has considered any minimum requirements applicable or instructions or guidance provided by the Competent Authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an Environmental Authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore, please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulations and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner (EAP) must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

Introduction and Project Background

The Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) is situated in the Thabazimbi Local Municipal area (TLM) of the Waterberg District Municipality (WDM) in the Limpopo Province and extends over some 20 km from east to west. It is located approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt.

The main activity at AMB is mining of both the Merensky and UG2 reefs using underground and open pit mining methods. The mine area is divided into western, central and eastern sections. The mine consists of three different operational units such as Tumela Mine, Dishaba Mine and the AMB Concentrator and associated tailings storage facility (TSF) complex.

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The AMB Concentrator itself consists of two (2) operational plants, namely UG2 1 and UG2 2, that treat mainly UG2 reef and one (1) non-operational plant, namely the Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon non-use of the Merensky Concentrator plant, UG2 Open cast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult TSF consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as “wet dams” with the current arisings being deposited mainly on 3B, but also on 3A from time to time. The Feasibility study objective is to explore the possibility of reprocessing historical tailing dam material from the Amandelbult TSF Dam 2. Test work completed has indicated that Dam 2 is currently the priority dam in terms of viable ounces to be reclaimed.

AMB now proposes to reclaim and process the tailings from Dam No. 2. This would also allow for the reuse of this TSF footprint for future tailings deposition, negating the need for a green fields site. Reclamation activities will reduce rehabilitation and closure liabilities of the TSF complex. This project may be referred to as the Amandelbult TSF Reclamation and Processing Project.

Project Rehabilitation and Future Land use

The main objective of rehabilitation, as outlined in this document, is to align with the closure plans and Environmental Management Programme Reports (EMPRs) of Amandelbult (AMB). The Amandelbult TSF is located on land currently owned by Rustenburg Platinum Mine (RPM).

After the removal of the material from Dam 2, the footprint will be reused for tailings deposition as part of the operational TSF currently active on site. The overall TSF footprint will form part of AMB overall Rehabilitation strategy and Closure Plan. By reprocessing the material from the tailings dams, AMB can address both risk management and production optimisation, thereby aligning safety with profitability.

Furthermore, this will reduce liability and potentially open up additional space for further tailings deposition in the future, without extensions onto greenfield areas.

Project Alternatives

The Proposed Project seeks to recover Chrome and Platinum Group Metals (PGMs) from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of PGMs and Chrome. The project investigated several possible plant locations located to the northeast of the current Concentrator plant as well as three possible process water sources. The construction of 2 alternative PCDs as well as the use of existing has also been investigated. AMB proposes to utilise a combination of both Hydraulic and Mechanical reclamation methods on site during the proposed reclamation activities, these alternatives have been considered during the development of the project and have informed the decision to select the currently proposed option as the most viable. The preferred option described below maximises the use of existing infrastructure and has

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significantly reduced the final footprint and resultant impacts by largely reusing existing infrastructure.

In the final preferred option, AMB aims to reclaim and reprocess the Amandelbult TSF Dam 2 of the Amandelbult TSF complex. Material from TSF No. 2 will be mechanically relocated from various areas within the facility and repositioned for blending purposes, in accordance with the re-mining plan. This plan includes multiple cuts designated for hydraulic mining operations.

Hydraulic mining will be conducted using hydro guns to extract material through targeted cuts. The washed-down material will then be directed into either Barge Station 1 or Barge Station 2. Hydraulically reclaimed material will be transported from the barge station positioned on top of TSF no.2 to the slurry transfer station, via a short new HDPE pipeline, located adjacent to the TSF. At the slurry transfer station, the hydraulically reclaimed material/slurry will be screened for vegetation, wood chips and oversize material, for a second time, that cannot make its way through the piping system.

All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF1 to be added to the composting process. The compost will be used in future on the side slopes of the remaining TSF dams, and other areas around the mine requiring composting during rehabilitation. The tailings from Dam two is classified a non-hazardous general waste according to the NEMWA Waste Classification and Management Regulations (R634).

The purpose of the slurry transfer station, located at the base of the TSF, is to pump slurry received from the TSF2, via new pipelines within existing pipeline routes, to the processing facilities. The pipelines will run approximately 3 km from the TSF Dam 2 to the processing facilities. An existing haul road will be upgraded to allow for movement between the TSF area and the plant area. The current existing haul road will be lengthened by approximately 1,2 km and widened by approximately 8-9 m.

Powerlines and other electricity reticulation will also be required to provide power to the reclamation station. Power will come from the existing #4 shaft to the slurry transfer station. The powerline will connect to a transformer at the slurry transfer station, with a separate 11kVA overhead line branching off toward the TSF 2 laydown area. These will be 11 kV lines and with an approximate distance of 1.43 km from #4 Shaft to the slurry transfer station and 0,34 Km to the TSF2 laydown area.

The proposed process water including gland service water (GSW), and potable water will be sourced from the existing AMB Concentrator Plant. This eliminates the need for additional booster stations and pipeline reticulation. Process water, GSW and potable water will be pumped from the existing concentrator plant to the TSF via new pipelines in existing pipeline routes to the reclamation site. The process water pipelines will be placed around the perimeter of the TSF to provide adequate water supply for the hydroguns. The pipelines are approximately 2.5 km in length each.

The proposed project will additionally include a new PGM IsaMill Flotation Plant retrofitted into the existing PGM plant as well as utilising current Chrome Recovery infrastructure fed from the M3 and M4 feed tanks. The PGM Flotation Plant will be built within the current Merensky Facility utilising existing buildings with

modifications. The PGM product generated will follow the same storage and dispatch system currently used at the AMB Concentrator. Similarly, the chrome produced at the M3 and M4 Chrome Plant will follow the established stacking and dispatch procedures used at the AMB Chrome Recovery Plant (CRP). The current PCDs on site will continue to support the process.

Residual tailings waste material from these plants will be sent to the existing tailings handling area at the AMB Concentrator before being transported to the existing licenced TSF Dam 3B via existing pipelines.

No alternatives have been investigated in terms of location of the Amandelbult TSF complex Dam 2, as it is an existing site designated for reclamation. Layout, technology, and activity alternatives for the Proposed Project are detailed in Section 4.

The proposed reclamation activity will require authorisation in terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA), the National Environmental Management: Waste Act, 2008 (Act No 59 of 2008), Category B Activities and Section 102 Amendment in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002).

Project Background and Motivation

The following points below summarise the project motivations:

- Rustenburg Platinum Mines Limited makes use of sophisticated metallurgical processes which would make it viable to retreat and process the historical Amandelbult TSF and extract the residual Chrome and Platinum Group Metals (PGMs). With the upturn of the Chrome and Platinum Group Metal's price, the grade in the Amandelbult TSF has become economically viable to process.
- Rustenburg Platinum Mines will align to the National Environmental Management Act (Act 107, 1998) EIA 2014 Regulations, as amended, in accordance with the One-Environmental system for the reclamation of historical mine residue tailings.
- The proposed project intends to remove a historical pollution point-source and rehabilitate and reuse the land to a state that is sustainable and functioning.
- The removal of the Amandelbult TSF avails land to be used by the mine.

Environmental Impacts of the Amandelbult TSF Reclamation and Processing Project

The table overleaf represents a summary of the significance of impacts identified during the project lifetime for each environmental aspect. Impacts are expected to occur predominantly during the construction and operation phases, and to a lesser extent during decommissioning, post decommissioning and closure. The nature and scale of impacts, both positive and negative and relevant to the phase have been considered.

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Risk Matrix of Assessed Project Impacts

The table illustrates impact ratings for each aspect prior to mitigation (columns on the left side) and following the application of mitigation measures (columns on the right side).

Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
Socio-Economic	**Construction Phase**		
	Employment and Income	Low +	Medium +
	Informal influx of job-seekers	Low -	Low -
	Nuisance factors	Low -	Low -
	Operational Phase		
	Employment and Income	Medium +	Medium +
	Informal influx of job-seekers	Medium -	Medium -
	Nuisance factors	Medium -	Medium -
	Community health and safety	Medium -	Medium -
	Impact on adjacent farmers	Medium -	Low -
	Post- Closure		
	Land Restoration	Medium +	Medium +
	Cessation of employment	Medium -	Medium -
Air Quality	**Construction Phase**		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medium -	Medium -
	Operational Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medum -	Medum -
	Post-Closure Phase		
	Haul trucks on unpaved roads, materials handling operations, stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	Medum -	Medium -
Terrestrial Biodiversity	**Construction Phase**		
	Environmental and Groundwater Pollution	Low -	Low +
	Introduction of alien and invasive species, especially plants	Low -	Low +
	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching)	Low -	Low -
Soil and Agriculture	**Construction Phase**		
	Loss of Land Capability, Soil Degradation, Soil Erosion, Loss of Soil Fertility	Medium -	Low -
	Operational Phase		
	Loss Land Capability	Medium -	Low -
	Decommissioning Phase		
	Loss Land Capability	Low -	Low -
Heritage	**Construction Phase**		

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Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
	Destruction of cultural heritage resources	Medium -	Low +
	Impact on cultural landscape	Medium -	Medium +
Noise	**Construction Phase**		
	Future Daytime construction activities – Scenario 2	Low -	Low -
	Future Night-time construction activities – Scenario 2	Low -	Low -
	Operational Phase		
	Future Daytime Operational Activities – Scenario 2	Low -	Low -
	Future Night-time Operational Activities – Scenario 2	Low -	Low -
	Worst-case daytime operational activities	Low -	Low -
	Worst-case night-time operational activities	Medium -	Low -
Groundwater	**Construction Phase**		
	Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react. Additional quality impacts are suspected to be low during Construction.	Low -	Low -
	Operational Phase		
	The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying formations, but the additional recharge should be neglectable.	Low -	Low+
	Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.	High -	Medium -
	Decommissioning Phase		
	Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected	Medium +	Medium +
	The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.	Medium +	Medium +
	Post- Closure Phase		
	The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed.	Medium +	Medium +
Surface water	**Construction Phase**		
	The removal of vegetation will expose soils to water erosion that may lead to a deterioration in water quality.	Medium -	Low -
	Operational Phase		
	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas running off into the downslope watercourses impacting on water quality	High -	Low -
	Poor maintenance of stormwater infrastructure resulting in silted paddocks, bunded areas, channels as well as eroded berms, leading to spills into downslope watercourses impacting on water quality and sedimentation.	High -	Low -
	Leaks from the pipelines running off into down gradient watercourses impacting on water quality.	Medium -	Low -
	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	High -	Low -

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Specialists Name	Impact Description	Before Mitigation	After Mitigation
		Significance	Significance
Wetlands	**No Impact**		
	No risk assessment was conducted for this project as the identified features are not located within the 100 m National Water Act (NWA) regulated zone of a watercourse or drainage feature. As such, the requirements for a formal risk assessment under the relevant regulations do not apply to this development and the expected risks are low and negligible. It is the opinion of the specialist that the land can be returned to the current state within two years of completion of the construction phase for the linear activities, provided that post-construction remedial action for the terrestrial areas that the pipelines traverse are adequately and successfully implemented.		

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Conclusions

Based on the information contained in this report, it is the opinion of the EAP that the negative environmental impacts resulting from the Project can be mitigated to within acceptable limits and that the project should be authorised. This opinion holds provided all the recommendations proposed in the specialist studies and the EIA and EMPr report as well as legislative requirements are implemented and adhered to.

An impact assessment has been undertaken using qualified specialists, which has incorporated extensive consultation with and participation of interested and affected parties. Applying the hierarchical approach to impact management, alternatives were firstly considered to avoid negative impacts, but where avoidance was not possible, to better mitigate and manage negative impacts. Where impacts were found to be potentially significant, various mitigation measures to manage and monitor the impacts of the project have been proposed.

The findings of the impact assessment have shown that the Amandelbult Proposed Project would conclusively result in certain negative impacts during the operational phase on the environment, however, none of the specialist studies objected to the project. Scientific specialist mitigation measures have been included into this EIA and EMPr report to reduce the significance of all the identified negative impacts. Most of the negative impacts from the Proposed Project can be reduced through the implementation of mitigation measures. Moreover, by eliminating alternative options and opting for the preferred scenario which primarily utilizes existing infrastructure the overall environmental impact has been significantly reduced, demonstrating a proactive approach to minimizing environmental disturbance.

In conclusion, the EAP is of the reasoned opinion that **the project should be authorised to proceed** provided that the conditions of this EIA and the mitigation measures and objectives proposed by the EMPr are implemented by Rustenburg Platinum Mines Limited (Amandelbult).

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1 INTRODUCTION

Kongiwe Environmental (Pty) Ltd ('Kongiwe') has been appointed as the independent Environmental Service Provider tasked with facilitating the Environmental Management Programme Report for the proposed **Reclamation and Processing of Dam 2 of the Amandelbult Tailings Storage Facility Complex** (hereafter the Proposed Project).

Rustenburg Platinum Mines Limited is a wholly owned subsidiary of Valterra Platinum Limited (previously known as Anglo American Platinum). The Application for Environmental Authorisation (EA) was submitted to the Department of Mineral and Petroleum Resources (DMPR), which is the Competent Authority (CA) for the Proposed Project, on **17 June 2025.**

1.1 Project Introduction

The Rustenburg Platinum Mines (Pty) Ltd Amandelbult Mine (AMB) is situated in the Limpopo Province between the towns of Northam and Thabazimbi within the Northwest limb of the geological Bushveld Complex. The mine area is divided into western, central and eastern sections. The mine consists of the three different operations units:

- Tumela Mine consisting of a vertical shaft (Tumela shaft, previously known as No. 1 shaft) and a number of other incline and decline shafts, located north of the main vertical shaft;
- Dishaba Mine consisting of a vertical shaft (Dishaba shaft, previously known as No. 2 Shaft) and a number of other incline and decline shafts, located north of the main vertical shaft; and
- The AMB Concentrator and associated tailings storage facility (TSF) complex.

The AMB Concentrator itself consists of two operational plants, namely UG2 1 and UG2 2 that treat mainly UG2 reef; and one non-operational plant, Merensky Concentrator plant. This plant previously treated a mixture of Merensky & UG2 underground reef, UG2 opencast reef and low-grade waste rock material. Upon closure of the Merensky Concentrator Plant, UG2 opencast and low-grade waste are now being treated through the UG2 1 and UG2 2 plants. In addition to the two operational plants, AMB Concentrator operates a Chrome Recovery Plant (CRP) which extracts Chromite from the UG2 slurry produced by the AMB Concentrator UG2 1 and 2 Plants.

The Amandelbult Tailings Storage Facility (TSF) consists of 4 compartments, Dam 1, Dam 2, Dam 3A and Dam 3B. Dams 3A and 3B are considered as "wet dams" with tailings being deposited mainly on 3B, but also on 3A from time to time.

Initial tailings deposition occurred within Dam No. 1, which was operated as one unit until 1991, at which time Dam No. 2 was commissioned to increase the available capacity. In 2004, Tailings Dam No. 3A was constructed to the south of Dam No.2.

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With the planned cessation of Dam No.1 operations in 2010, Dam 3B was required to accommodate tailings storage requirements. Although the main tailings deposition on Tailings Dam No. 1 ceased in 2009, the last deposition was placed in 2021.

The material in Tailings Dam No.1 and 2 was primarily derived from the processing of Merensky ore with UG2 Reef Tailings deposition starting from early 2000.The last deposition on Dam No. 2 and 3A was in 2022 and 2023 respectively, with the current distribution of tailings taking place predominantly on 3B, which is the current active tailings facility as reflected in Figure 1-1 below.

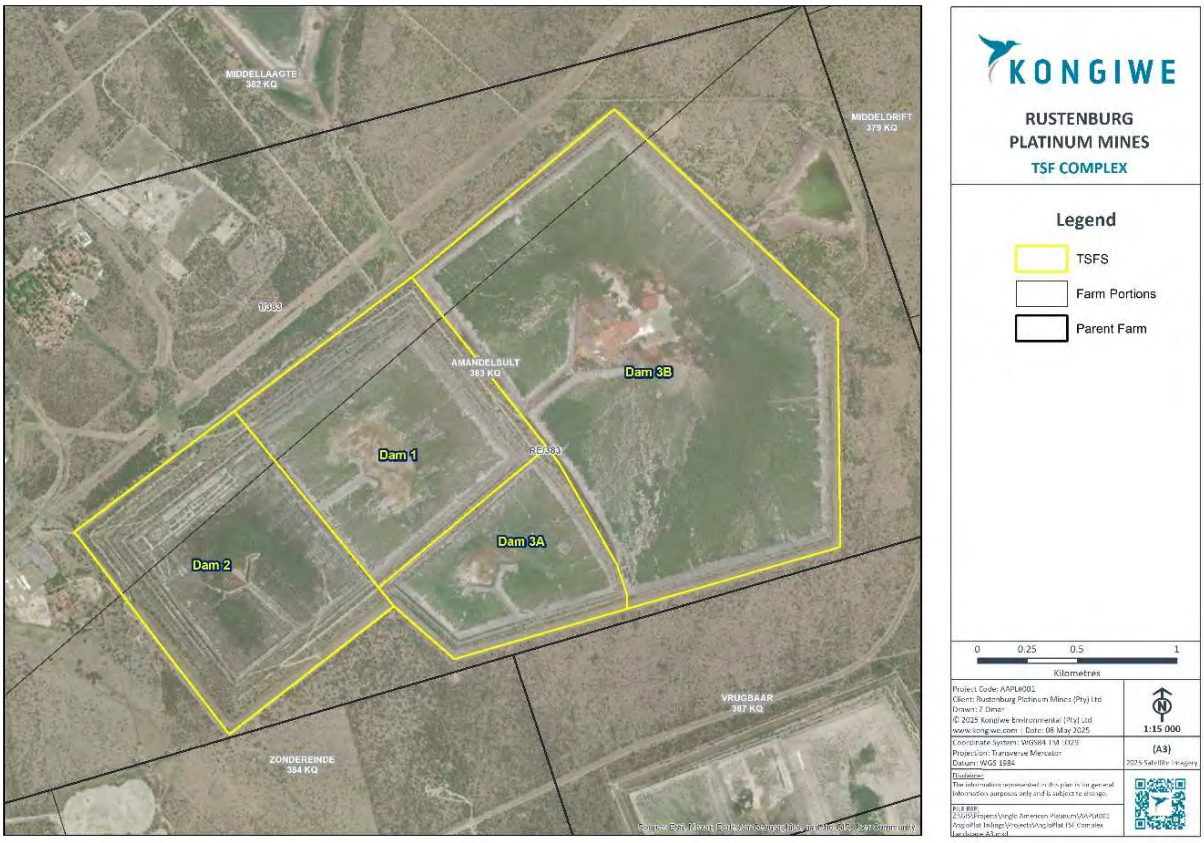

Figure 1-1 Amandelbult TSF Configuration

The proposed project seeks to recover Chrome and PGMs from TSF Dam 2 while ensuring efficiency and environmental responsibility. This will in turn unlock value from the tailings, by turning the material into an opportunity to increase the production of platinum group metals (PGMs) and Chrome. The reclamation will also potentially open up additional airspace for further tailings deposition in the future, without extensions onto greenfield areas.

The following infrastructure is encountered in the area:

- Roads;
- Railways;
- Power lines;

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- Mine worker accommodation;
- Amandelbult shafts;
- Rustenburg Platinum Mine Amandelbult operation;
- Amandelbult Central workshops and, salvage yards;
- Amandelbult concentrators;
- Amandelbult mine town;
- Loading points;
- Central Service;
- Chrome Recovery Plant;
- TSF comprising Dam 1, Dam 2, Dam 3A and Dam 3B; and
- Pump stations.

Once the TSF has been reclaimed, processed, rehabilitated, and land will be shaped and revegetated to match the surrounding environment. The land will then be made available to the landowner (Rustenburg Platinum Mines Ltd) to use at their discretion.

1.2 Description of the Project Location

The Amandelbult Mine and it associated TSF is situated approximately 250 km northwest of Johannesburg, 15 km north of Northam and 30 km southwest of Thabazimbi on the northern limb of the Platinum Belt (Figure 1-2). The site is located approximately 4 km Northeast of Amandelbult Town. The area is predominantly surrounded by mining infrastructure, disturbed land and open land.

The proposed project is located on the Remaining extent and Portion 1 of the farm Amandelbult 383 KQ, and the Remaining Extent of the farm Middellaagte 382 KQ (Figure 1-2). The project is situated in Wards 6 and 11 of the Thabazimbi Local Municipality in the Limpopo Province. As indicated, the preferred project alternative has significantly reduced the overall project footprint and associated impacts.

The entire Proposed Project will be undertaken on the existing footprint of the Amandelbult Mine, this is illustrated in Figure 1-2 below. This S&EIA process is being conducted for an EA to reclaim the TSF Dam 2 as well as for the associated processing of the reclaimed tailings material. This project will be confined to Portion 1 and the Remaining Extent of Amandelbult 383 KQ and the Remaining Extent of Middellaagte 382 KQ. The project boundary has been developed to include the entire area that will encapsulate the TSF Dam 2 and the associated infrastructure proposed for the reclamation and processing. Despite the proposed preferred or considered alternatives and the suggested way forward, the overall project area footprint is actually reduced. This area is illustrated in Figure 1-2.

This is a “Brownfield Project" as it is the reclamation of an existing mineral storage deposit within the TSF and partly using existing infrastructure. The potential negative and positive impacts of the Proposed Project on the environmental and social aspects will be objectively considered though studies undertaken by specialist professionals during the EIA phase.

Refer to Table 1-1 for additional information on the property details with regards to the Proposed Project and Table 1-2 for the directly and indirectly affected properties.

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Table 1-1: Property Details

Application Area (ha)	The Proposed Reclamation site, the new proposed plant area and additional infrastructure as indicated in this report covers an area of approximately 104 Ha and project activities 18 Ha (Overall **122 Ha**)
Magisterial District	Ward No: 6 and 11 of the Thabazimbi Local Municipality (TLM) within the Magisterial District of Waterberg.
Distance and Direction from Nearest Town	The site is located approximately 15 km North of Northam and 30 km Southwest of Thabazimbi.

Table 1-2:Description of the Directly and Indirectly Affected Properties

Farm Name	Farm SDG Code	Farm Portion	Farm owner
Directly Affected Properties			
Amandelbult 383 KQ	T0KQ00000000038300000	R/E	Rustenburg Platinum Mines Ltd
Amandelbult 383 KQ	T0KQ00000000038300001	1	Rustenburg Platinum Mines Ltd
Middellaagte 382 KQ	T0KQ00000000038200000	R/E	Rustenburg Platinum Mines Ltd
Indirectly surrounding Affected Properties			
Middeldrift 379 KQ	T0KQ00000000037900000	R/E	Northam Platinum Ltd
Middeldrift 379 KQ	T0KQ00000000037900003	3	Northam Platinum Ltd
Middeldrift 379 KQ	T0KQ00000000037900004	R/E 4	Northam Platinum Ltd
Schildpadnest 385 KQ	T0KQ00000000038500000	R/E	Baphalane Ba Mantserre Community Development Trust
Vrugbaar 387 KQ	T0KQ00000000038700000	R/E	Northam Platinum Ltd
Zondereinde 384 KQ	T0KQ00000000038400000	R/E	Northam Platinum Ltd
Zondereinde 384 KQ	T0KQ00000000038400002	2	Northam Platinum Ltd
Middellaagte 382 KQ	T0KQ00000000038200001	1	Middellaagte Holding Pty Ltd
Elandskuil 378 KQ	T0KQ00000000037800001	1	Rustenburg Platinum Mines Ltd
Zwartkop 369 KQ	T0KQ00000000036900024	24	Rustenburg Platinum Mines Ltd
Zwartkop 369 KQ	T0KQ00000000036900018	18	Trollope Prop Pty Ltd

The current land uses of the surrounding areas are typified by mining and agricultural activities; dispersed settlements; and mine dumps (Tailings Storage Facilities).

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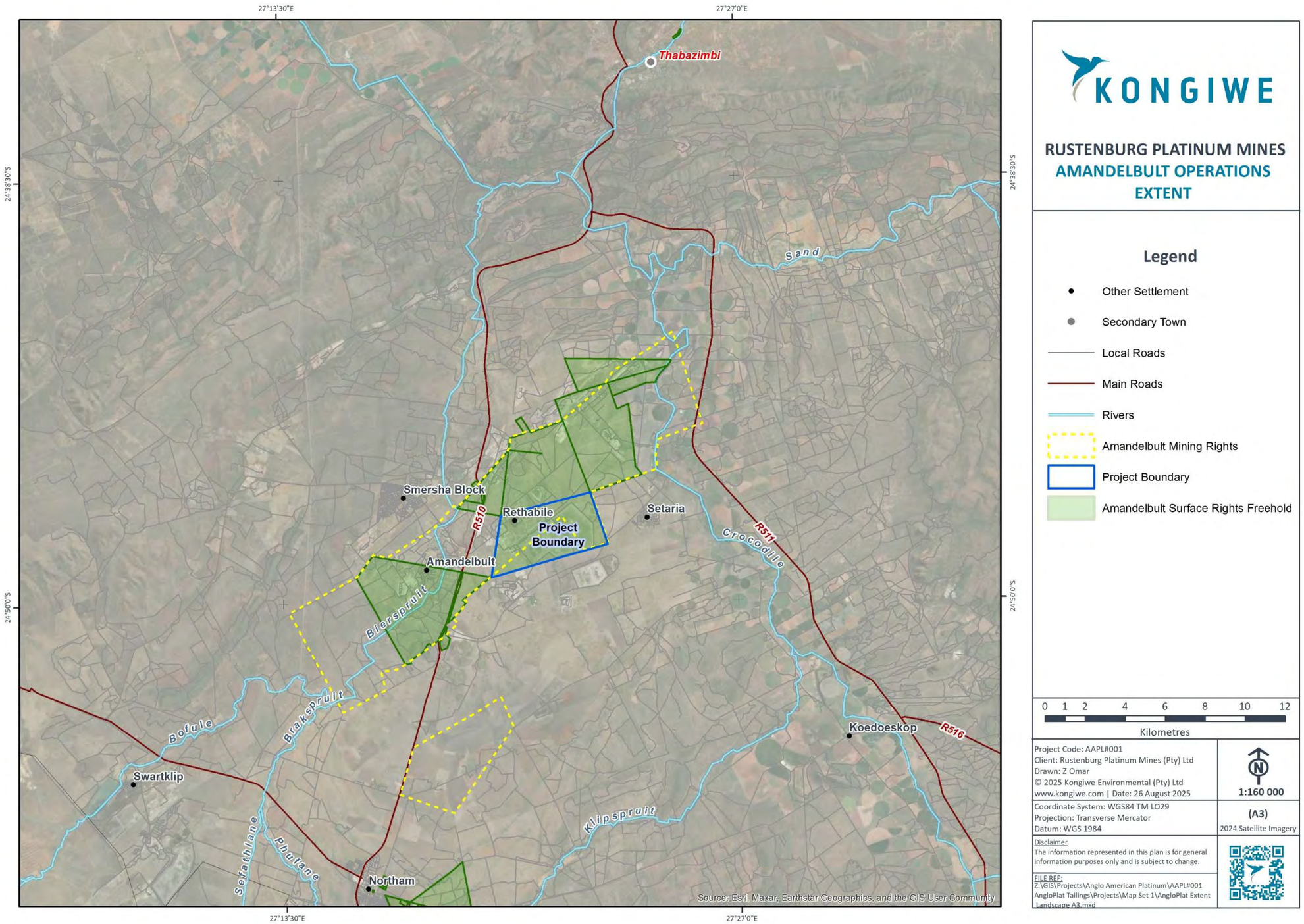

Figure 1-2: Locality map of the Proposed Project

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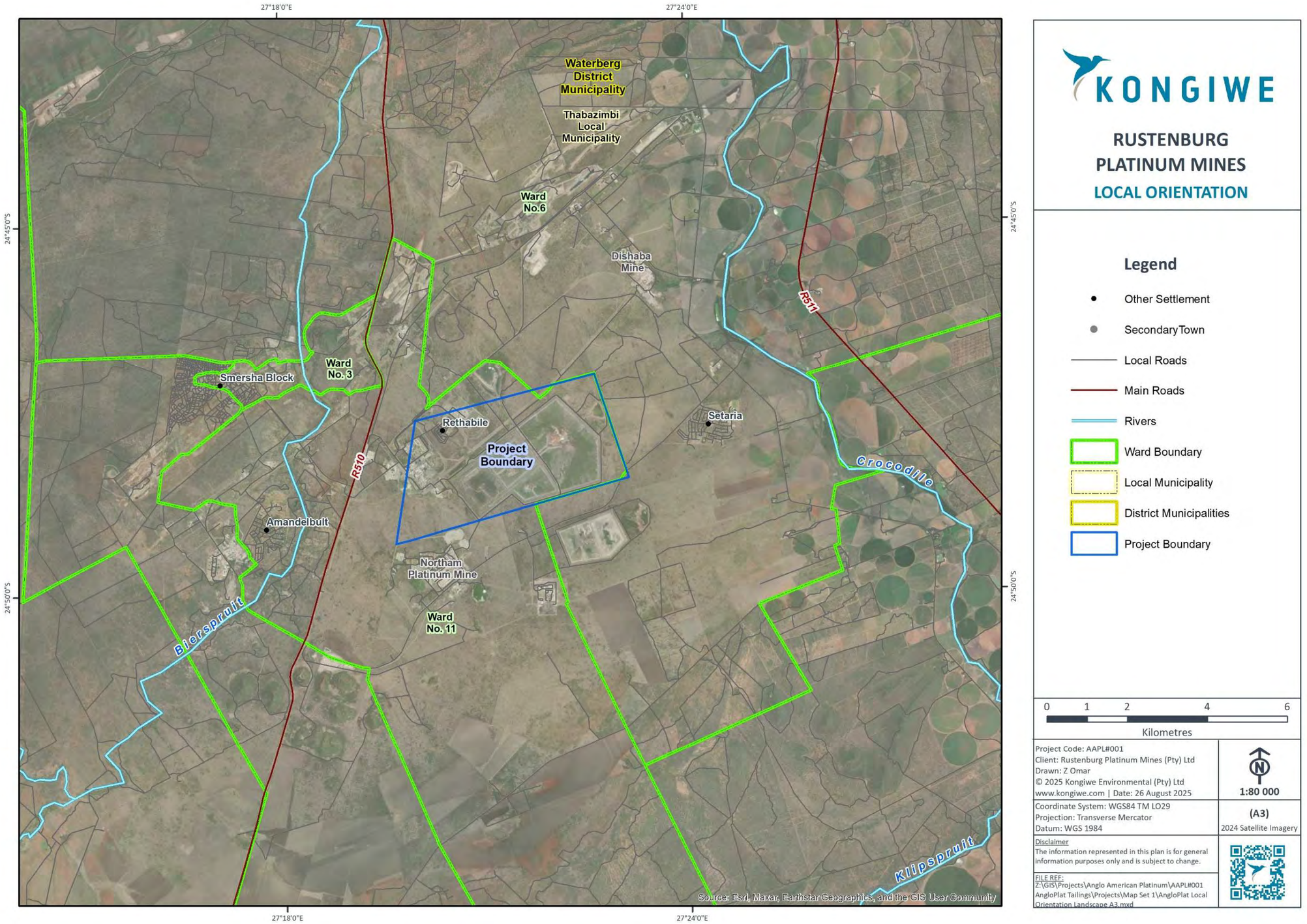

Figure 1-3: Local orientation map of the Proposed Project

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2 DETAILS OF THE EAP

Founded in 2016, Kongiwe is a contemporary problem-solving consultancy specialising in solving real world environmental challenges. We pride ourselves on using the latest technology available to realise pragmatic solutions for our clients. The company's purpose is: *'To solve environmental and social challenges by providing expert bespoke solutions that promote current and future sustainability globally*'.

Based in Johannesburg with offices in the mining and finance hubs of the United Kingdom and Canada, our team of professional Environmental and Social Scientists are highly trained in various environmental disciplines and have significant, hands-on experience in an array of projects across various industries. The company has extensive environmental and project management experience in multiple sectors, with significant experience in South Africa, as well as internationally.

Kongiwe focuses on the integration of environmental studies and processes into larger engineering and mining projects. Moreover, Kongiwe provides clients with strategic environmental assessments and compliance advice, the identification of environmental management solutions and mitigation / risk minimising measures throughout the project lifecycle.

2.1.1 Contact Person and Corresponding Address

Details of the Environmental Assessment Practitioner (EAP) who prepared the report are presented below

Table 2-1: Details of the Candidate EAP

Name of Practitioner	Iviwe Walaza, Kongiwe Environmental (Pty) Ltd
Tel No.	+27 (10) 140 6508
Cell No.	076 707 4462
E-mail Address	iwalaza@kongiwe.com

2.1.2 Expertise of the EAP

Iviwe Walaza Iviwe is a curious and courageous Environmental Intern, she holds BA (Hons) in Geography from the University of Johannesburg. With over 1 year of exposure to GIS and LiDAR processing, spatial data analysis, satellite imagery interpretation, and geodatabase management and a Candidate EAP Registered 2025/19519. Iviwe is passionate about using geospatial technologies to support informed decision-making and sustainable development. Her role includes in assisting in various tasks such as environmental impact reporting and authorisation, water use licencing, GIS mapping, stakeholder engagement, Auditing and site visit evaluations. Iviwe believes that with her hands on experience, coupled with her academic knowledge and practical field work positions her well to make significant contributions in environmental management, sustainability and conservation related fields.

Iviwe Walaza worked under direct supervision of Phathutshedzo Munyai. The Report was Peer Reviewed and approved by Phathutshedzo Munyai who registered EAP is as set out in Table 2-2.

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Table 2-2:Details of the EAP

Name of Practitioner	Phathutshedzo Nelson Munyai, Kongiwe Environmental (Pty) Ltd
EAP registration No.	2021/4297
Tel No.	+27 (10) 140 6508
Cell No.	072 1815 416
e-mail address	pmunyai@kongiwe.com

Phathutshedzo Munyai has a BA in Environmental Management degree from UNISA and is a Registered EAP (2021/4297). Qualification is Appendix A.

Phathutshedzo Nelson Munyai is an Environmental Consultant at Kongiwe Environmental. Phathutshedzo has over 3 years of experience as an environmental consultant, predominantly in the mining industry. He is EAPASA Registered Environmental Assessment Practitioner (2021/4297) as well as registered membership with International Association for Public Participation (IAP2). He is a seasoned Environmental Assessment Practitioner (EAP) and consultant with extensive experience in conducting Environmental Impact Assessment (EIA) studies. His expertise spans various projects, including mining prospecting rights, mining permits, Audits, mining rights, and infrastructure and non-infrastructure developments. Phathutshedzo Munyai worked under direct supervision of Grant Cornish-Bowden. The Report was Peer Reviewed and approved by Ripfumelo Macevele who is also registered with the EAPASA as a Professional EAP as set out in Table 2-3.

Table 2-3: Details of Reviewer

Name of Practitioner	Ripfumelo Macevele, Kongiwe Environmental (Pty) Ltd
EAP registration No.	2019/1051
Tel No	+27 (10) 140 6508
Cell No	079 178 9655
e-mail address	rmacevele@kongiwe.com

Ripfumelo Macevele is an Environmental Assessment Practitioner at Kongiwe Environmental. He is EAPASA Registered Environmental Assessment Practitioner (2019/1051) as well as registered with SACNASP as Environmental Science Candidate Natural Scientist (128491) and has extensive experience in executing the application process of Environmental Approvals through Environmental Impact Assessments; as well as and conducting Environmental Monitoring, Auditing & Reporting, Developing Environmental Management Plans as well as Water Use Licence applications and Public Participation. Qualifications in Appendix A.

2.1.3 Additional Project Members

Team members that have been integral in the successful production of this Environmental Impact Assessment and Environmental Management Programme (EIA/EMPr) are represented below.

Table 2-4: Details of Kongiwe Project Team.

Team Member	Position in the Company	Role and Responsibility
Bradly Thornton	Chief Executive Officer	Project Responsibility
Grant Cornish- Bowden	Chief Operation Officer	Client Liaison and Project Manager
Umeshree Naicker	Principal Environmental Consultant	Project EAP Leader

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Team Member	Position in the Company	Role and Responsibility
Hilton Sparks	Engineering Manager	Quality Management and Engineering
Phumla Mngwengwe	Senior Environmental Consultant	IWULA
Vanessa Viljoen Thuli Phakathi	Stakeholder Consultants	Stakeholder Engagement and all other Public Participation requirements.
Zubher Omar Chelsea Strooh	Geospatial Consultant	GIS Mapping

3 DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

This document must be read in conjunction with the Final EIA. To minimise repetition throughout the documentation, the EAP refers the reader to Chapter 2 and Chapter 3 of the Final EIA.

4 DESCRIPTION OF THE BASELINE ENVIRONMENT

This document is kept as concise as possible. For an overview of the baseline environment of this project please refer to Chapter 8 of the EIA.

5 COMPOSITE MAP

The following illustrations correspond to Figure 5-1 and Figure 5-2 of the preferred layout for the Reclamation and Processing of Dam 2 of the Amandelbult Tailings Storage Facility Complex Project. This has changed from the original map displayed in the Scoping Report, due to the exclusion of certain alternatives.

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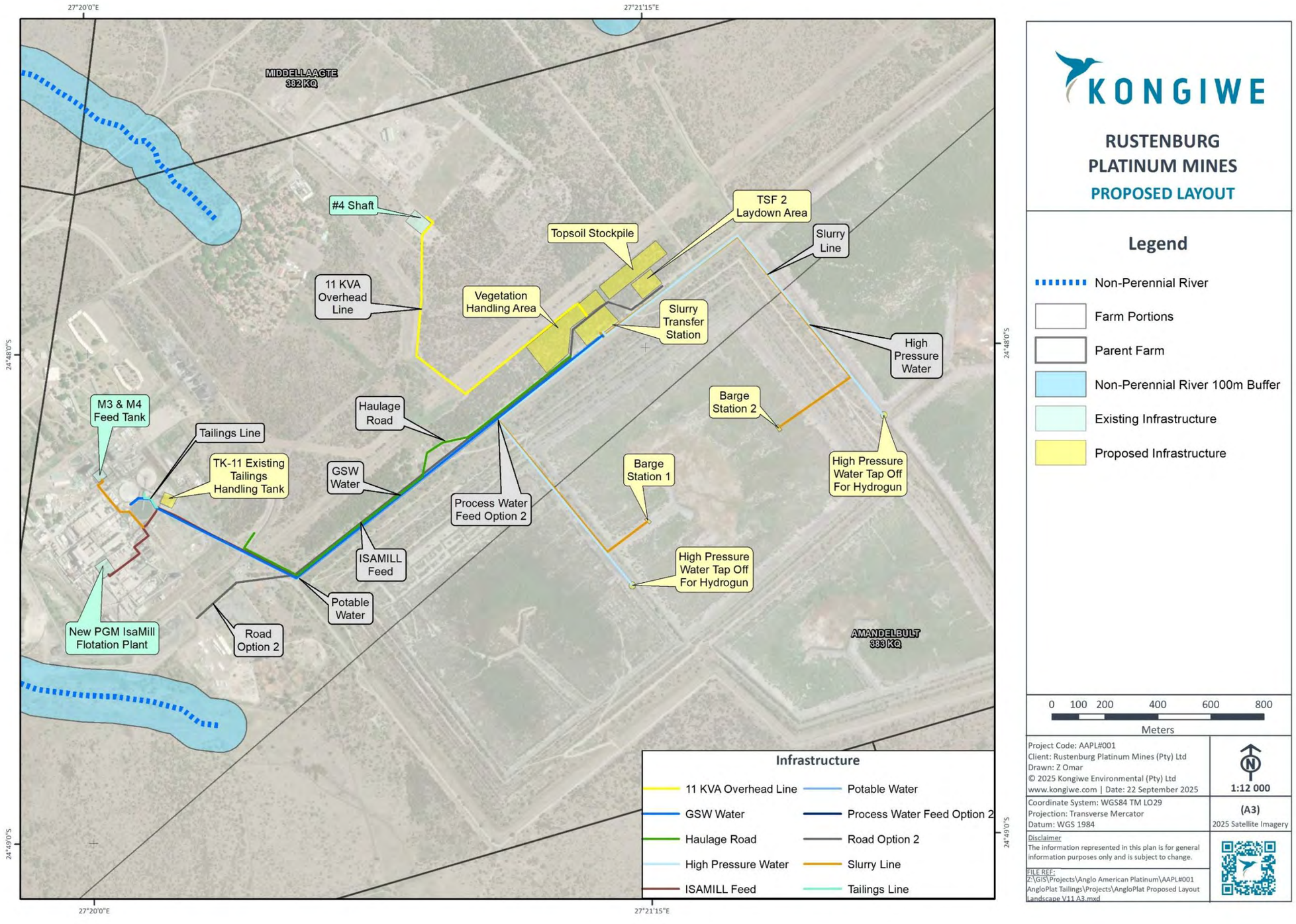

Figure 5-1: Considered Alternatives

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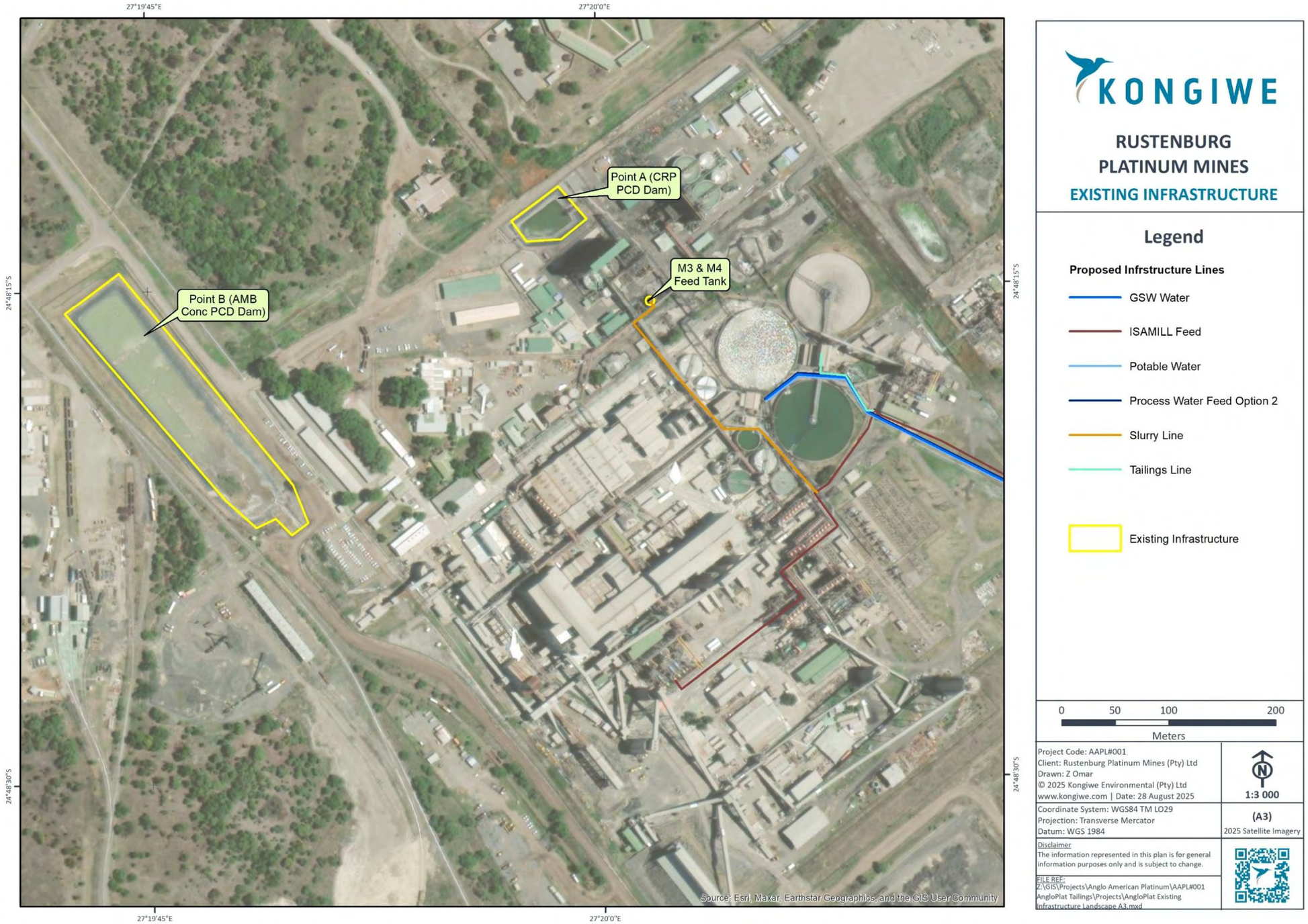

Figure 5-2: Preferred overall layout for infrastructure at the Concentrator Plant which is currently existing.

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6 IMPACT MANAGEMENT OBJECTIVES

The EMPr is compiled with the aim of achieving a required end state that, as far as possible, ensures that environmental quality is maintained. The impact management objectives and outcomes for the AMB TSF Reclamation and Processing Project are as follows:

- To minimise the negative environmental impacts as far as feasible;
- To maximise the positive and minimise the negative socio-economic impacts;
- To capture, contain and recycle all contaminated water arising from the mining operations on site and to prevent the discharge of contaminated water to the environment; and
- To maintain cordial relationships with local residents, authorities and other stakeholders via sustained open communication.

The EMPr describes how activities that have, or could have, an adverse impact on the environment will be mitigated, controlled and monitored. The EMPr will address the environmental impacts during the construction, operational, decommissioning (where applicable post-closure) phases of the Project. Due regard must be given to environmental protection during the entire the Reclamation and Processing of Dam 2 of the Amandelbult Tailings Storage Facility Complex Project, and several environmental recommendations are made in this regard. These recommendations are aimed at ensuring that the mine and contractor maintains adequate control over the Project to:

- Minimise the extent of an impact during the life of the AMB TSF Reclamation and Processing Project;
- Maintain a state of Environmental Quality following completion of the AMB TSF Reclamation and Processing Project;
- Ensure appropriate restoration of areas affected by the AMB TSF Reclamation and Processing Project; and
- Prevent long term environmental degradation.

The management and mitigation measures identified within the EIA process are systematically addressed in this EMPr and ensure the minimisation of adverse environmental impacts to an acceptable level.

Rustenburg Platinum Mines Limited (Amandelbult Mine) must ensure that the implementation of the project complies with the requirements of all environmental authorisations, permits and obligations emanating from relevant environmental legislation.

Should there be a conflict of interpretation between this EMPr and the Environmental Authorisation (EA) (once issued), the stipulations in the EA shall supersede those of this EMPr, unless otherwise agreed by the Competent Authority (CA) in writing. Similarly, any provisions in the legislation overrule any provisions or interpretations within this EMPr. This EMPr shall be binding on all parties involved during all phases of the project and shall be enforceable at all levels of operational management.

This document must be adhered to and updated as relevant throughout the project life cycle.

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6.1 Aspects for Inclusions as Considerations of the Environmental Authorisation

Should the DMPR grant EA for this project, it should be subject to the following conditions:

- The project may not commence prior to the EA being issued.
- The project should remain in full compliance with the requirements of the EMPr and with all regulatory requirements.
- The EMPr should be implemented by qualified environmental personnel who have the competence and credibility to interpret the requirements of the EMPr. Such persons must be issued with a written mandate by Rustenburg Platinum Mines Limited (Amandelbult Mine) management to provide guidance and instructions to employees and contractors.
- AMB must undertake external auditing of the environmental performance as per the conditions of the EA and provide the DMPR with a copy of the auditing report.
- The Applicant must report to the Department, with reason, if requirements of the EA have not been met.
- AMB must continue using its existing mechanisms and procedures for stakeholder engagement, including forums and a grievance process, which have been in place and effective for a long time. There is no need to introduce new engagement structures, as the current system sufficiently meets stakeholder needs.
- All laydown, storage areas etc should be restricted to transformed areas close to the preferred option and existing roads should be used as far as possible.
- Implement the stormwater management plan.
- Stormwater drainage shall be such that no surface water ponds other than in natural watercourses save for that associated with the attenuation of stormwater.
- Prevent rainwater and the process water that has fallen on site from leaving the site in an uncontrolled and unregulated fashion.
- Prevent dust pollution during dry, windy conditions.
- All necessary authorisations must be in place prior to commencement of the project activities.
- All employees and contractors should receive induction that includes an environmental awareness component (noise). This is to allow employees and contractors to become aware of the potential noise risks that activities (especially night-time activities) pose to the surrounding environment.
- Rustenburg Platinum Mines Limited (Amandelbult Mine) must adhere to the Rehabilitation Plan contained in the EMPr and attached as an appendix to this report.
- The Applicant must maintain all financial responsibility throughout all phases of the project lifespan, including monitoring.
- Should the economics of Chrome and Platinum Group Metals price diminish and not be seen as favourable to continue reclamation activities, Rustenburg Platinum Mines Limited Amandelbult Mine (AMB) must continue to implement monitoring and rehabilitation requirements as set out in this EMP.
- The Applicant must ensure that there are sufficient funds set aside to complete the project fully.
- Management and Monitoring plans contained in the EMPr must be strictly adhered to.
- The approved AMB CFP is in place and must be implemented immediately in the event of a chance find.

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6.2 Determination of Rehabilitation Objectives

Rehabilitation has been dealt with throughout this EIA. Mitigation / Management and Monitoring measures are proposed in the EMPr. Please refer to Section 3.5.7 of the EIA for more detail on the proposed rehabilitation plans. Please also refer to the Closure and rehabilitation plan provided on section 11 of EIA and in Appendix D.

The objective of the site rehabilitation (in accordance with the NEMA 2014 EIA Regulations, as amended) must be measurable, practical and is feasible to implement through:

Providing the vision, objectives, targets and criteria for final rehabilitation of the project;

- Outlining the principles for rehabilitation;
- Explaining the risk assessment approach and outcomes and link decommissioning activities to risk rehabilitation;
- Detailing the decommissioning and rehabilitation actions that clearly indicate the measures that will be taken to mitigate and/ or manage identified risks and describes the nature of residual risks that will need to be monitored and managed post closure;
- Identifying knowledge gaps and how these will be addressed and filled;
- Detailing the full closure costs for the life of project at increasing levels of accuracy as the project develops and approaches closure in line with the final land use proposed; and
- Outlining monitoring, auditing and reporting requirements.

This section **MUST** be read in conjunction with the EIA as well as follow the recommendations proposed by independent specialists.

6.2.1 Rehabilitation Principles

Final rehabilitation will be carried out once the TSF has been reclaimed, processed, and decommissioning of facilities where required, the area will be reused for redeposition of tailings. The principles for proper rehabilitation, which should be followed, are:

- Preparing a comprehensive rehabilitation plan prior to the commencement of any activities on site;
- Stormwater management must be in place at the site prior to commencing with any activities;
- Landform design (shaping);
- Grassing;
- Maintenance management and eradication of invader species;
- A plan which negates how waste will be managed on site; and
- An Emergency Preparedness/Response plan.

The objective of the site rehabilitation (in accordance with the NEMA EIA Regulations of 2014, as amended) must be measurable, practical and be feasible to implement through:

- Providing the vision, objectives, targets and criteria for final rehabilitation of the project;
- Outlining the principles for rehabilitation;

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- Explaining the risk assessment approach and outcomes and link decommissioning activities to risk rehabilitation;
- Detailing the decommissioning and rehabilitation actions that clearly indicate the measures that will be taken to mitigate and/ or manage identified risks and describes the nature of residual risks that will need to be monitored and managed post decommissioning;
- Identifying knowledge gaps and how these will be addressed and filled;
- Outlining monitoring, auditing and reporting requirements.

Mitigation / Management and Monitoring measures are proposed in the EMPr in Section 8.

6.2.2 Decommissioning and Post-Decommissioning Phase Activities

6.2.2.1 Decommissioning Phase Activities

During typical decommissioning activities all project infrastructure will be removed, after which rehabilitation can commence. The rehabilitation should invariably be evaluated in view of the future land use. If redevelopment is not proposed, it may still be necessary to carry out work on land to guard against future liability.

The property on which the Amandelbult TSF is situated currently belongs to Rustenburg Platinum Mine (RPM). As such, the rehabilitation will need to be in line with AMB closure plans. At present AMB closure plan indicates that the area must be rehabilitated to wilderness.

Once the TSF has been reclaimed and processed the area, if not to be used for tailings deposition into the future, will be rehabilitated, shaped and revegetated to match the surrounding environment. The land will then be made available to Rustenburg Platinum Mines Limited (Amandelbult Mine) (AMB) to use at their discretion.

The rehabilitation plan is comprised of the following basic stages:

1. Removal of existing infrastructure;
2. Re-shaping of the landforms;
3. Re-vegetation of the landscape; and
4. Monitoring and maintenance.

This is described in more detail in Section 3.5.9.2.3 of the EIA.

6.2.2.2 Maintenance and Aftercare

Maintenance will specifically need to focus on the rehabilitated areas. Furthermore, groundwater and surface water monitoring will have to take place in accordance with the requirement of the specialist studies and the EMPr. The monitoring process will be used to assess whether the rehabilitation process has been successful or not and to indicate that no further deterioration on groundwater quality is foreseen. Maintenance will specifically focus on the rehabilitated area in accordance with the approved EMPr. Continuous erosion monitoring of rehabilitated areas and slopes should be undertaken and zones with excessive erosion should

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be identified. The cause of the erosion should be identified, and rectified. Zones with erosion will need to be repaired with topsoil. In addition, infiltration of contaminated water will be contained within paddocks.

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7 ROLES AND RESPONSIBILITIES

To ensure the success of the EMPr, it is important to assign definite roles and responsibilities. Compulsory adherence to the EMPr is required. The obligations of the EMPr create a legally binding document in terms of environmental legislation and civil law. It is important that Rustenburg Platinum Mines Limited Amandelbult Mine (AMB), its contractors and sub-contractors ensure that all relevant aspects of the EMPr are communicated to all of their employees. It is the duty of Rustenburg Platinum Mines Limited (Amandelbult Mine) (AMB), its contractors, sub-contractors and their employees to fulfil the project objectives with specific reference to the prevention and mitigation of impacts caused by the project development activities. It is the responsibility of the DMPR to ensure that the development takes place in accordance with relevant legislation.

7.1 Government Departments

As the responsibility for the protection of our natural heritage lies with the government departments, they have the power to conduct site inspections to ensure that the development complies with all legislation, regulations and standards. They may enforce penalties where non-compliance occurs.

7.2 Construction Contractor

The Construction Contractor/AMB is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Where required, an environmental officer (EO) must be contracted by the Construction Contractor/AMB to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Construction Contractor/AMB is further responsible for providing and giving mandate to enable the EO to perform responsibilities, and he must ensure that the EO is integrated as part of the project team while remaining independent. The Construction Contractor/AMB must:

- Be fully conversant with the conditions of the EA;
- Ensure that all stipulations within the EMPr are communicated and adhered to by its Contractor(s) and employees;
- Issuing of site instructions to the Contractor; and
- Ensure that periodic environmental performance audits are undertaken on the project implementation.

7.3 Site Manager

The Site Manager will oversee all the activities. He will be responsible for the activities on site and see to the implementation of the EMPr and will establish a communication network between the different components conducting the work. All incidents and reports will be made to the Site Manager. Ultimate responsibility in terms of compliance to the EMPr lies with the Site Manager.

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7.4 Contractors

Where contractors are used during the life of the project, the on-site responsibility for environmental and social matters lies with the Contractor Engineer and Process Engineer. They will be responsible for the day-to-day direction and management of the contractor's activities on the site throughout the life of the project.

7.5 Environmental Officer

It will be the responsibility of the EO to:

- Oversee that the day-to-day activities that will take place on site comply with the EMPr and the relevant legislation;
- Monitor the activities through monthly site inspections to ensure compliance to the EMPr;
- Assess the EMPr as to its effectiveness in mitigating and preventing impacts;
- Assess compliance to the EA;
- Identify any non-compliances and to advise to the immediate action and remediation;
- Ensure that the best environmental options are followed throughout;
- Prepare a detailed communication strategy for liaison with I&APs, stakeholders and contractors;
- Manage and document forward and backward information flows between the Site Manager, the Contractors, the I&APs and AMB. This includes information pertaining to monitoring and evaluation;
- Assist AMB upon request, with project communication with I&APs;
- Ensure meaningful participation with the I&APs, including capacity building exercises where the need is identified;
- Give induction and environmental and cultural heritage awareness training;
- Manage and ensure the implementation of the CFP with assistance from on-site and external specialists as directed by the procedure;
- Ensure that a record keeping system is maintained; and
- Promote co-regulation, shared responsibility and a sense of ownership amongst all parties involved.

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8 IMPACT MITIGATION PER PHASE

The management measures have been organised in the following project phases:

- Construction Phase;
- Operational Phase;
- Decommissioning Phase; and
- Post-Decommissioning Rehabilitation Phase.

The tables in this section provide the management measures (actions) recommended to manage the potential impacts rated during the different phases. In addition to the management measures provided the tables indicate the person responsible to ensure that these commitments are adhered to and implemented as well as specifying the priority of these commitments (either prior to a phase, during a phase and/ or ongoing), and the outcomes.

The construction, operation, decommissioning and where applicable post-decommissioning impacts associated with the AMB TSF Reclamation Project are discussed for the following environmental aspects:

- Biodiversity;
- Wetlands;
- Surface water;
- Groundwater;
- Air quality;
- Soil and Agriculture;
- Heritage;
- Socio-Economic; and
- Noise.

The objectives and EMPr tables are required to be reviewed and possibly modified whenever changes, such as the following, occur:

- Planned activities change (i.e., in terms of the components and/or layout of the facility);
- Modification to or addition to environmental objectives and targets;
- Additional or unforeseen environmental impacts are identified, and additional measures are required to be included in the EMPr to prevent deterioration or further deterioration of the environment;
- Relevant legal or other requirements are changed or introduced; and
- Significant progress has been made on achieving an objective or target such that it should be modified.

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8.1 Pre Construction Phase Mitigation Measures

Prior to initiating the Construction Phase, AMB needs to ensure that the following is undertaken. AMB will commence with the pre-construction and construction phase for its project related infrastructure in line with its approved environmental authorisations. During the construction phase the following activities will take place on site:

Table 8-1: Summary table of the activities associated with the pre-application construction phase of the project

Activity	Description
Pre-Construction:	
1	Removal of vegetation and site clearance
2	Preparation of access roads should this be required
3	Start implementing monitoring plans, Authorisation, Licensing and EMPr conditions, and start training process with contractor on Permits.
4	Employment of workers should this be required (minimal)

Table 8-2: Pre-Construction Phase Mitigation Measures

Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
	Pre-Construction: Site Preparation and Design							
1	All	Permitting	Commencement of activities without relevant authorisations.	Site	❖ Ensure all necessary permits have been obtained prior to commencement of activities.	❖ National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) ❖ National Water Act, 1998 (Act No. 36 of 1998) (NWA) ❖ Heritage Resources Act, 1999 (Act No.25 of 1999) (HRA) ❖ Thabazimbi Local Municipality By-Laws	When: ❖ Prior to commencement of Activities Responsibility: ❖ Licence holder	Prevention of undertaking of unauthorised activities.
2	Flora	Project Design	Project Design and infrastructure / vehicle placement could result in destruction of sensitive habitats and vegetation	Site	❖ A site walkthrough must be conducted prior to the construction phase. Priority must be the identification of any listed flora and fauna species. ❖ Any individual protected plant that may be observed needs a relocation or destruction permit for any individual that may be removed or destroyed as a result of the activities. Preferably, the plants should be relocated to an area that will not be impacted on by future activities. ❖ Development activities must as far as possible take place only within	❖ NEMA; ❖ NWA; ❖ Regulations on Use of Water for Mining and Related Activities aimed at the Protection of Water Resources (GN R704 of 12 February 2010); ❖ Limpopo Conservation Plan Version 2 (LCPv2).	When: ❖ Prior to commencement of Activities Responsibility: ❖ Licence holder	Impact concentrated to proposed project area

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Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
					the areas authorised. This includes laydown, material storage, cement mixing, earth deposition and storage etc. that will result from the construction activities. The proposed pipeline must be constructed within the existing road/pipe servitude or in close relation to the existing roads/pipelines. ❖ Areas of dense and healthy indigenous vegetation, even secondary communities outside of the direct project footprint, should not be fragmented or disturbed further. ❖ Areas to be developed/disturbed must be specifically demarcated so that during the construction/activity phase, only the demarcated areas are to be impacted upon. ❖ Leaking equipment and vehicles must be repaired immediately or be removed from Project Area to facilitate repair. ❖ Update the existing hydrocarbon spill management procedure to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas.			
3	Fauna	Pre-construction and site clearance	Impact to local fauna due to pre-construction activities	Site	❖ No trapping, killing, or poisoning of any wildlife is to be allowed. Signs must be put up to enforce this. These actions are illegal in terms of provincial environmental legislation. ❖ A qualified environmental officer must be on site when clearing begins. The area must be walked though prior to construction to ensure that no faunal species remain in the habitat and get killed. Should animals not move out of the	❖ The National Environmental Management: Protected Areas Act (Act No. 57 of 2003 (NEM:PAA)); ❖ NEMA; ❖ NEM:WA ❖ National Biodiversity Assessment (NBA) ❖ Limpopo Conservation Plan Version 2 (LCPv2);	When: ❖ Prior to commencement of Activities Responsibility: ❖ Licence holder	Impact concentrated to proposed project area

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Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
					area on their own, relevant specialists must be contacted to advise on how the species can be relocated. ❖ Should any Species of conservation concern (SCC) fauna be observed nesting within the proposed footprint area before or during construction, all activities must cease immediately. A relevant faunal specialist must be consulted to facilitate the capture or removal of any SCC animals. ❖ AMB must include the importance and sensitivity of surrounding areas and their functions, especially those that pertains to the partially functional wetland areas, into their induction and safety toolbox talks.	❖ The Environment Conservation Act (Act No. 73 of 1989) (ECA); ❖ Alien and Invasive Species Regulations, 2014 ; ❖ Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) (CARA); ❖ Mining and Biodiversity Guidelines. ❖ ECA; ❖ Alien and Invasive Species Regulations, 2014;		
4	Alien Species	Pre-construction and site clearance	Pre-construction activities leading to the spread of Alien Species	Site	❖ The implementation of an AIP management plan is crucial, especially considering the widespread invasive species identified on site which, if left unchecked, will continue to grow and spread prolifically leading to further and more significant deterioration of the health of the natural environment nearby to the Project Area. The plan must especially pertain to any recently cleared and changed areas. ❖ It is recommended that all waste be removed from site on a weekly basis aligned with the procedure for waste management, to prevent rodents and pests from entering the site and proliferating. ❖ A pest control plan must be put in place and implemented; it is imperative that poisons not be used.	❖ NEM:PAA; ❖ NEMA; ❖ NEM:WA ❖ National Biodiversity Assessment (NBA) ❖ Limpopo C-Plan National Spatial Biodiversity Assessment (NSBA) National Freshwater Ecosystem Priority Areas (NFEPA's); ❖ ECA; ❖ Alien and Invasive Species Regulations, 2014 ; ❖ CARA; ❖ Mining and Biodiversity Guidelines. ❖ ECA; ❖ Alien and Invasive Species Regulations, 2014;	When: ❖ Prior to commencement of Activities Responsibility: ❖ EO ❖ Licence holder	Impact concentrated to proposed project area

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Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
5	Waste management	Pre-construction and site clearance	Mismanagement of waste generation on site leading to an impact to the environment.	Site	❖ Waste management must be a priority, and all waste must be collected and stored adequately. ❖ Do not litter or dump any material outside of specially demarcated and managed zones. Existing procedures to be implemented and protocols to be established to explain and enforce this. ❖ Portable toilets must be provided in the ratio as stipulated in the Health and Safety Act. Portable toilets must be regularly pumped dry by a licensed and reputable company to ensure that the system does not degrade over time and spill into the surrounding area, with sewage disposed to the AMB WWTWs. ❖ Waste managed according to onsite procedures. Zero waste to landfill procedure to be adhered to with final disposal being the last resort. ❖ Under no circumstances may domestic waste be burned on site. Waste must never be stored in an open pit where it is susceptible to the elements such as wind and rain.	❖ NEMA, ❖ NEM:WA	When: ❖ At the start of the project. ❖ Daily Responsibility: ❖ Contractor. ❖ EO. ❖ Health and Safety Officer	Prevention of uncontrolled and unmanaged waste generation and disposal
6	Contractors	Contractor management	Lack of knowledge of EMPr and procedure could result in environmental degradation.	Site	❖ Contractors must be trained and given a copy of the EMPr and EA and of the detailed site layout plans to ensure compliance with the requirements. ❖ Contractors must have a plan in place to implement the management measures set out in the EMPr. ❖ The EO is to supervise the contractors to ensure that management measures are being adhered to. ❖ All personnel are to undergo Environmental Awareness Training and induction. A signed register of attendance must be kept for proof. Discussions are required on all	None	When: ❖ At the start of the project. ❖ Annually for the LoO. ❖ During induction (at the start of the project and annually). Responsibility: ❖ Contractor. ❖ EO	Raising staff and contractor environmental awareness.

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Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
					sensitive environmental receptors near to the Project Area to inform contractors and site staff of the presence of sensitive habitat features, such as wetland areas, and management requirements in line with the Environmental Authorisation and within the EMPr.			
7	Surface Water	Removal of vegetation and alteration to the topography.	Erosion and wash off of exposed soils leading to siltation in down gradient watercourses.	Site	❖ Clearance of vegetation must be limited as far as possible; Temporary erosion measures such as sediment nets should be employed around exposed working areas; and ❖ Water quality monitoring must be implemented upstream and downstream of construction sites.	❖ DWAF Best Practice ❖ GN R704.	When: ❖ Prior to commencement of Activities. Responsibility: ❖ EO ❖ Licence holder.	Reducing negative impacts on surface water resources.
8	Surface Water Groundwater	Site planning	Improper planning may lead to surface water and groundwater pollution during construction and operational phases.	Site	❖ Design a Stormwater Management Plan taking surface water quality proposed designs into account. ❖ Compilation of a Stormwater Management Plan aimed at reducing and/or eliminating adverse impacts on the receptors identified. These include existing private groundwater users, wetlands, rivers and streams. The Storm Water Management Plan is to include the compilation of a Water Quality Monitoring Programme. ❖ An Emergency Response Plan to contain spills is required to be in place prior to construction and operation. ❖ Continue with the existing groundwater and surface water monitoring programme before reclamation and construction starts.	❖ DWAF Best Practice ❖ GN R704.	When: ❖ Prior to commencement of Activities. Responsibility: ❖ EO. ❖ Licence holder.	Reducing negative impacts on surface water resources in the event of spills.

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Reference No.	Aspect	Activities	Impact	Size and Scale of Disturbance Post-Mitigation	Mitigation Measures	Compliance with standards	Time period for Implementation & Responsible Person	Outcomes
9	Air Quality	Baseline dust fallout monitoring	Air pollution and dustfall	Site	❖ Continue with dust fallout monitoring and establish baseline prior to commencement of activities against which to monitor.	❖ National Standards for Ambient Air Quality for PM10 and for PM2.5; ❖ National Dust Control Regulations.	When ❖ Prior to commencement of Activities. Responsibility: ❖ EO ❖ Licence holder.	Establishing baseline air quality to measure baseline project life-span air quality.
10	Heritage	Site clearance	Accidental / unexpected discovery of cultural heritage resources during the activity, and potential damage and / or destruction thereof	Site	❖ Implement the approved AMB Chance Find Procedure in case where possible heritage finds are uncovered.	❖ Recommendations from South African Heritage Resources Agency (SAHRA) under the relevant sections of the of NHRA.	When: ❖ Duration of the construction phase of the project Responsibility: ❖ Applicant. ❖ Heritage specialist. ❖ EO	Minimise risk of damaging heritage resources.

8.2 Construction Phase Mitigation Measures

AMB will commence with the pre-construction and construction phase for its project related infrastructure in line with its approved environmental authorisations. During the construction phase the following activities will take place on site:

Table 8-3: Summary table of the activities associated with the construction phase of the project

Activity	Description
Construction Phase	
5	Operation of construction machinery and vehicles
6	Install reclamation station and its associated infrastructure
7	Construction of pipelines and electricity reticulation and power line
8	Instatement of waste management and dust control measures on site
9	Instatement of traffic signage, access, parking bays

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Table 8-4: Construction Phase Mitigation Measures

Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
Terrestrial and Soil								
1	Environment and groundwater pollution	Construction activities	Impact to the local environment and groundwater pollution	❖ Keep the surface & sub-surface water and storm water away that may run off from the dumps from the low laying areas, such as wetlands, as well as the surrounding areas, from leaving the project area in an uncontrolled manner. ❖ Construct cut-off berms downslope of working areas. ❖ Leaking equipment and vehicles must be repaired immediately or be removed from the project area to facilitate repair. ❖ Storm Water run off & Discharge Water Quality monitoring needs to be implemented. ❖ Incorporate green /soft engineering stormwater measures. Avoid unnecessary vegetation clearing and preferential surface flow paths. ❖ Monitoring of adjacent watercourses must be undertaken to assess the impact of runoff to these systems. ❖ Cut-off trenches or other suitable stormwater management measures must be incorporated into the design to decrease contamination of watercourses via runoff. ❖ No cleaning of vehicles, machines and equipment in water resources. ❖ No servicing of machines, vehicles and equipment outside of designated laydown areas. ❖ Storage of potential contaminants in bunded areas. ❖ All contractors must have spill kits available and be trained in the correct use thereof. ❖ All released water must be within DWAF (1996) water quality standards for aquatic ecosystems, and discharge must be managed to	Local.	❖ NEM:PAA; ❖ NEMA; ❖ NEM:WA ❖ NBA ❖ Limpopo C-Plan, National Spatial Biodiversity Assessment (NSBA), National Freshwater Ecosystem Priority Areas (NFEPA's); ❖ ECA; ❖ Alien and Invasive Species Regulations, 2014 ; ❖ CARA; ❖ Mining and Biodiversity Guidelines. ❖ ECA; ❖ Alien and Invasive Species Regulations, 2014;	When: ❖ Construction and duration of the project. Responsibility: ❖ Contractor, ❖ EO. ❖ Health and Safety Officer ❖ Site Manager	To avoid and reduce pollution

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				avoid scouring and erosion of the receiving systems. ❖ Contain wastewater in a PCD. Contaminated water must not be discharged into the watercourses. ❖ Clean and dirty water must be separated. This water should be looked at for treatment and then reintroduced, to mitigate losses to the catchment water hydrodynamics.				
2	Alien and invasive species	Construction activities	Introduction of alien and invasive species, especially plants.	❖ Compile and implement an alien vegetation management plan from the onset of construction. The plan must identify areas for action (if any) and prescribe the necessary removal methods and frequencies to be applied. This plan must also include a monitoring plan and be updated as/when new data is collated. ❖ Implement a stormwater management plan for all developable areas. ❖ Implementation of a waste management plan. ❖ Temporary storage of domestic waste shall be in covered waste skips. ❖ Removal of domestic waste on a regular basis, no overspill is permitted	Local.		When: ❖ Construction and duration of the project. Responsibility: ❖ Contractor. ❖ EO. ❖ Health and Safety officer ❖ Site Manager	Avoidance / minimisation of the disturbance and degradation of vegetation and ecosystem.
3	Fauna	Construction activities	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust,	❖ Clearly mark construction zones to prevent impact on surrounding areas, using physical barriers like safety tape and signs instead of painted lines. ❖ Prior to vegetation clearing activities, the area to be cleared should be walked on foot by 1-2 individuals to create a disturbance in order for fauna to move off. Disturbance must occur as soon before vegetation clearing as possible and no	Local.		When: ❖ Construction and duration of the project. Responsibility: ❖ Contractor. ❖ EO. ❖ Health and Safety Officer	Avoidance / minimisation of the disturbance and mortality of fauna.

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				unnecessary disturbance to the area is permitted ○ Any fauna threatened by the construction activities should be removed safely by an appropriately qualified environmental officer or removal specialist. ❖ Limit construction vehicle speeds to 40 km/h to prevent accidents, and install appropriate speed control measures and signage. ○ Driving on access roads at night should be restricted to maximum 20 km/h to reduce or prevent wildlife road mortalities which occur more frequently during this period. ❖ Minimize the time between clearing an area and starting development to prevent wildlife from returning to disturbed sites. ❖ Conduct excavations progressively and cover any open holes overnight to prevent wildlife from falling in. Inspect these areas before backfilling. ❖ Implement noise and light mitigation measures for any nighttime construction activities to minimise disturbances to nocturnal species expected in the area. ❖ Provide all personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. Discussions The training must include. ○ All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not			❖ Site Manager	

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this. ❖ Design and limit outdoor lighting to reduce its impact on wildlife. Use fixtures with baffles, hoods, or louvres, directing light downward and away from sensitive areas like wetlands. Avoid fluorescent and mercury vapor lights, opting for sodium vapor (yellow) lights whenever possible. ❖ Utilize motion detection lighting where feasible to minimize unnecessary illumination. ❖ Prohibit vehicle traffic and the use of vehicle lights at night. ❖ Keep noise levels low from dusk to dawn to avoid disturbing amphibians and nocturnal mammals.				
4	Agriculture	Construction activities	Negative impact on the soil and agricultural resources	❖ Cleared areas must be rehabilitated and stabilized to avoid impacts to adjacent areas ❖ Restrict the disturbance footprint and clearing of vegetation for the authorized area only. ❖ Make use of existing access routes as much as possible before new routes are considered. Any selected “new” route must be authorized, minimizing disturbances to the wetland areas. ❖ Promptly remove all alien and invasive plant species that may emerge during construction (i.e. weedy annuals and other alien forbs) must be removed ❖ Limit soil disturbance ❖ Create terraces and contours to reduce water runoff and erosion on steep slope areas during the	Local	❖ NEMA; ❖ NWA ❖ Conservation of Agricultural Resources Act (Act 43 of 1983)	When: ❖ Duration of the project construction. Responsibility: ❖ Contractor. ❖ EO.	Protection of soil resources.

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				construction phase. Install silt fences and sediment basins to prevent sediments accumulating into water bodies or around water bodies. ❖ Keep excavation and soil heaps clear of potential contaminates or waste ❖ Lightly till any disturbed soil around the development footprint to avoid compaction ❖ Ensure soil stockpiles are sufficiently safeguarded against rain wash ❖ The use of herbicides is not recommended (opt for mechanical removal). ❖ Make sure all excess consumables are removed from site and deposited at an appropriate waste facility ❖ Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) or construction materials on site (e.g. concrete) in such a way as to prevent them leaking and entering wetland buffer areas or the surrounding environment. ❖ Provide appropriate sanitation facilities for workers during construction and service them regularly ❖ The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected must be disposed of at a licensed disposal facility ❖ The Contractor must be in possession of an emergency spill kit that must be complete and available at all times on site ❖ Any possible contamination of topsoil by hydrocarbons must be avoided. Any contaminated soil must be treated in situ or be placed in				

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				containers and removed from the site for disposal in a licensed facility ❖ A stormwater management plan must be development and implement for the purpose of this project to control runoff from the development site				
Surface Water and Groundwater								
5	Surface Water	Removal of vegetation and alteration to the topography.	Erosion and wash off of exposed soils leading to siltation in down gradient watercourses.	❖ Clearance of vegetation must be limited as far as possible; ❖ Temporary erosion measures such as sediment nets should be employed around exposed working areas; and ❖ The SWMP must be implemented as a first step during the construction phase.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project – specifically construction. Responsibility: ❖ Contractor. ❖ EO.	Minimise soil erosion and reduce deterioration of water quality.
6	Groundwater	Site clearing and infrastructure development	Quantity impacts are not expected during construction	❖ Continue with the groundwater monitoring program at AMB before reclamation starts to monitor changes in the local water table, over time.	Local.	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project construction. Responsibility: ❖ Contractor. ❖ EO.	Minimise deterioration of water quantity.
7	Groundwater	Site clearing and infrastructure development	Any activity on the mine dump and opening of ground and may allow water and air to enter the tailings material; likely after rainfall. Deterioration in groundwater quality due to the increased suspended solids seeping in from exposed surfaces, plus pyrite starting to react.	❖ Continue with the groundwater monitoring program at AMB before reclamation starts. ❖ Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCD. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project construction. Responsibility: ❖ Contractor. ❖ EO. ❖ AMB Site Manager	Minimise deterioration of water quality.

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
			Additional quality impacts are suspected to be low during Construction.	❖ Ensure that PCDs are designed to contain all dirty water generated during the reclamation process, to prevent overflows and spillages.				
Air Quality								
8	Air Quality	PM2.5 and PM10	Stripping of vegetation from the surface of a TSF and wind erosion from exposed areas causes the emission of particulate matter into the air, thus increasing existing ambient air concentrations of criteria pollutants (both PM10 and PM2.5) at receptors.	❖ Restriction of the stripped band to 40 metres x 1.5metres as far as possible; ❖ Restriction of the use of storage piles; ❖ Removing all tailings material down to 'red earth' as the area of work progresses and not leaving remnants of tailings material behind which could be exposed to wind erosion.	Local	❖ National Standards for Ambient Air Quality for PM10 and for PM2.5; ❖ National Dust Control Regulations.	When ❖ Duration of the construction phase of the project. Responsibility: ❖ Contractor. ❖ EO. ❖ Site Manager.	Minimise generation of PM.
Heritage								
9	Undiscovered cultural heritage resources	Vegetation clearance for infrastructure	Destruction of cultural heritage resources	❖ Implement the approved AMB chance find procedures in case where possible heritage finds are uncovered	Local.	❖ Recommendations from SAHRA under relevant sections of NHRA.	When: ❖ Duration of the construction phase of the project. Responsibility: ❖ EO ❖ Licence holder. ❖ Heritage specialist. ❖ Site Manager	Minimise risk of damaging heritage resources.
Social								
10	Social	Impact on employment and income	Employment and Income	❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase; ❖ If further additional employment needs to be recruited, unskilled workers in the local communities of Wards 6 (Jabulani) and 8 (Smersha Block) should be given preference;	Local.	❖ NEMA; ❖ Mine Health and Safety Act (MHSA) ❖ National Spatial Development Framework; ❖ NEM:AQA; ❖ National Dust Control Regulations (Government Notice No. R827, 2013).	When: ❖ Duration of the construction phase of the project. Responsibility: ❖ Contractor. ❖ EO.	Minimise, as far as possible, Negative social impacts Maximise, as far as possible, positive social impacts

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
				❖ Consider formal training of unskilled workers mobilised during the construction phase; ❖ Develop a database of potential suppliers of construction materials within the local area and earmark a percentage of potential intermediary inputs that it could source from local suppliers, HDSAs and Small, Medium and Micro-sized Enterprises (SMMEs). Preference should be given to capable subcontractors who based within the local municipal area. ❖ Communicate the local employment strategy clearly to the local communities adjacent to the mine via the existing stakeholder engagement channels.			❖ AMB Corporate Affairs and Sustainability.	
11	Social	Potential influx of people to the project area	Informal influx Impact	❖ As first priority mobilise AMB workers that are ear-marked for further down-scaling at the mine for deployment during the construction phase and communicate clearly to the local community that the recruitment process is an internal (mine) process; ❖ Engage with local representatives to communicate the recruitment strategy of the Project and to register complaints related to increase level of influx into informal settlements. ❖ Solutions to address service delivery require interventions from the local authorities. However, the applicant can address potential issues that could lead to unrest by ensuring that an effective grievance mechanism is put in place to ensure that stakeholders are provided with a platform to raise their concerns/complaints.	Local.	❖ NEMA; ❖ MHSA National Spatial Development Framework; ❖ NEM: AQA National Dust Control Regulations (Government Notice No. R827, 2013)	When: ❖ Duration of the construction phase of the project Responsibility: ❖ Contractor ❖ EO ❖ AMB Corporate Affairs and Sustainability.	Minimise, as far as possible, Negative social impacts Maximise, as far as possible, positive social impacts

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
12	Social	Increase in nuisance factors (traffic, noise and dust)	Impact of nuisance factors	❖ Strict adherence to the mitigation measures of the traffic and air quality impact reports. ❖ A grievance management mechanism should be in place to receive incident related queries.	Local.	❖ NEMA; ❖ MHSA National Spatial Development Framework; ❖ NEM:AQA National Dust Control Regulations (Government Notice No. R827, 2013)	When: ❖ Duration of the construction phase of the project Responsibility: ❖ Contractor ❖ EO ❖ AMB Corporate Affairs and Sustainability.	Minimise, as far as possible, Negative social impacts Maximise, as far as possible, positive social impacts

8.3 Operational Phase Mitigation Measures

The following activities are planned by the Applicant for the operation phase of the project.

Table 8-5: Summary table of the activities associated with the operational phase of the project

Activity	Description
Operational Phase	
10	Reclamation Activities
11	Operation of pipes
12	Operation of Slurry transfer station and the associated infrastructure

Table 8-6: Operational Phase Mitigation Measures

Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
Terrestrial and Soil								
1	Terrestrial	Refer to the construction phase						
2	Agriculture	Operational activities	Negative impact on the soil and agricultural resources	❖ Ensure that the recommended erosion control methods like installation of terraces and contours are adhered to. ❖ Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilized to avoid impacts on adjacent areas.	Local	❖ NEMA; ❖ NWA ❖ Conservation of Agricultural Resources Act (Act 43 of 1983)	When: ❖ Duration of the project operational phase. Responsibility: ❖ EO.	Protection of soil resources.
Surface Water and Groundwater								

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
3	Surface Water	Uncontained dirty water runoff from the reclamation, processing and stockpiling areas.	Runoff into the downslope watercourses impacting on water quality.	❖ Implementation of the proposed SWMP to contain dirty water runoff.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the operational phase Responsibility: ❖ EO.	Minimise soil erosion and reduce deterioration of water quality.
4	Surface Water	Poor maintenance of stormwater infrastructure.	Silted paddocks and channels as well as eroded berms which lead to spills into the downslope watercourses impacting on water quality.	❖ Implementation of the stormwater monitoring plan	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the operational phase Responsibility: ❖ EO.	Minimise soil erosion and reduce deterioration of water quality.
5	Surface Water	Leaks from the proposed pipelines.	Leaks from the pipeline running off into down gradient watercourses impacting on water quality.	❖ Regular inspections and maintenance of the pipelines; and ❖ Immediate containment of leaks, repair of the pipeline and clean ups.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the operational phase Responsibility: ❖ EO.	Minimise soil erosion and reduce deterioration of water quality.
6	Surface Water	Flooding of infrastructure.	Flooding of infrastructure due to high rainfall which may damage infrastructure and also lead to runoff of dirty water into down gradient watercourses.	❖ Implementation of the proposed SWMP to contain dirty water runoff up to a recurrence interval of 1:50 years.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the operational phase Responsibility: ❖ EO.	Minimise soil erosion and reduce deterioration of water quality.
7	Groundwater	TSF 2 reclamation	The proposed TSF reclamation will not have any significant impacts on the groundwater quantity. Large volumes of water are used in the reclamation process. There is a possibility that water will seep into the underlaying	❖ Continue with the groundwater monitoring network, monthly and according to the Licence conditions. More important - the monitoring data is required to assess possible impacts on the local surface water and groundwater environments,	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project operational phase. Responsibility:	Minimise deterioration of water quantity.

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
			formations, but the additional recharge should be neglectable.	plus to monitor the impacts on the local groundwater users identified.			❖ EO.	
8	Groundwater	TSF 2 reclamation	Possible increase in salt and metal concentrations associated with leaching from reclamation. Water quality in the area will slowly start deteriorating if surface water management is ineffective: elevated concentrations of sulphate and iron are expected. This should be contained on site and the water moved of the open surfaces as soon as possible to avoid contamination.	❖ Develop sound surface runoff management plans to ensure that all dirty runoff is contained and diverted to the PCDs. No pooling of water on surface allowed. The groundwater table is near surface and contaminated seepage will quickly enter the underlying aquifers if not managed effectively. ❖ Commit to remove all tailings material and to monitor the quality of soils in the footprint areas. If soil monitoring suggests unacceptably high salt and metal concentrations, soil amelioration must be considered. ❖ Monitor groundwater quality in all boreholes identified. The groundwater monitoring network efficiency must be assessed and new monitoring boreholes drilled, if required. Additional mitigation measures need to be implemented if pollution is found migrating off site. ❖ Ensure that PCDs can contain all dirty water generated during the reclamation process to prevent overflows and spillages.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project operational phase. Responsibility: ❖ EO.	Minimise deterioration of water quality.
Air Quality								
9	Air Quality	Refer to the construction phase						
Social								
10	Social	Impact on employment and income Potential influx of people to the project area	Refer to the construction phase					

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
		Increase in nuisance factors (traffic, noise and dust)						
11	Social	Impact on community health and safety	Community health and safety	❖ Strict security measures to apply at the Project. ❖ The company to cooperate with the local SAPS and community safety forums. ❖ Establish a communication strategy and network with the local community in AMB and in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders on a regular (quarterly) basis. ❖ Strict adherence to the mitigation measures of the air quality impact report	Local.	❖ NEMA; ❖ MHSA National Spatial Development Framework; ❖ NEM: AQA National Dust Control Regulations (Government Notice No. R827, 2013)	When: ❖ Duration of the operational phase of the project Responsibility: ❖ EO ❖ AMB Corporate Affairs and Sustainability.	Minimise negative impacts to community health and safety
12	Social	Potential impact on adjacent farming community	Impact on adjacent farming community.	❖ Strict adherence to the mitigation measures of the ground and surface water impact reports relevant to the project; ❖ Establish a communication strategy and network with the local farming community in Ward 6. The communication strategy should include protocols to lodge complaints, complaints register, speedy resolution of complaints and meetings with community leaders on a regular (quarterly) basis.	Local.	❖ NEMA; ❖ MHSA National Spatial Development Framework; ❖ NEM:AQA National Dust Control Regulations (Government Notice No. R827, 2013)	When: ❖ Duration of the operational phase of the project Responsibility: ❖ EO ❖ AMB Corporate Affairs and Sustainability.	Minimise negative impacts on the adjacent farming community.
Noise								
13	Noise	Machinery and Vehicle Moving around.	Mechanical sources due to operation of equipment, material impact noises (such as the noise made when materials are dropped at a height to ground level), electrical noise	❖ All employees and contractors should receive Health and Safety induction that includes an environmental awareness component (noise). This is to allow employees and contractors to realise the potential noise risks that activities (especially night-time	Local	❖ South African National Standards (SANS) 10103:2008. ❖ international noise monitoring protocol (such as ISO 1996).	When: ❖ Duration of the operational phase of the project Responsibility: ❖ EO	Minimise negative impacts on the adjacent farming community.

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Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
			(reverse hooters from equipment or the "whine" of an electrical pump) and noises from vehicles moving around.	activities) pose to the surrounding environment. ❖ AMB must implement a line of communication (i.e., a helpline where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers, or alternative means to communicate issues. The mine should maintain a commitment to the local community and respond to concerns in an expedient fashion. Sporadic and legitimate noise complaints could develop and if valid, should be investigated. Feedback must be provided to the affected stakeholder(s) with details of any steps taken to mitigate the impact (if valid complaint) or preventative steps to minimise this from happening again. ❖ AMB must investigate any reasonable and valid noise complaint if registered by a receptor staying within 2,000 m from the plant or active mining area. ❖ It is recommended that AMB develop and implement a noise monitoring programme.			❖ AMB Corporate Affairs and Sustainability	

8.4 Decommissioning Mitigation Measures

The following activities are planned by the Applicant for the decommissioning phase of the project. Table 8-7: Summary table of the activities associated with this decommissioning phase of the project

Activity	Description
Decommissioning Phase	
13	Decommissioning and rehabilitation activities: Demolition of temporary infrastructure such as: screens, the slurry transfer station and pipelines, where required and Rehabilitation of the project area where this would not be used for new deposition activities.

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Table 8-8: Closure and Decommissioning Phase Mitigation Measures

Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
Terrestrial and Soil								
1	Terrestrial	Refer to the construction phase						
2	Agriculture	Decommissioning activities	Negative impact on the soil and agricultural resources	❖ Rehabilitation of the Project area will be undertaken, including the ripping of the compacted soil surfaces and establishment of vegetation. ❖ Ensure successful rehabilitation of areas disturbed during construction and these areas are stabilized to avoid impacts on adjacent areas. ❖ Ensure rehabilitation of contaminated soil by removal of pollutants by implementing methods such as bioremediation and phytoremediation	Local	❖ NEMA; ❖ NWA ❖ Conservation of Agricultural Resources Act (Act 43 of 1983)	When: ❖ Duration of the projects decommissioning phase. Responsibility: ❖ EO.	Protection of soil resources.
Surface Water and Groundwater								
3	Groundwater	Break down and remove all infrastructure	Once the reclamation has stopped, groundwater will start to recover to its pre-mining level. No negative impacts expected.	❖ Monitor the water table.	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project decommissioning phase. Responsibility: ❖ EO.	Minimise deterioration of water quantity.
4	Groundwater	Break down and remove all infrastructure	The spread of contamination in the weathered aquifer will most probably reduce as the source of contamination has been removed. This will happen over a long period of time.	❖ Monitor groundwater quality in all boreholes. ❖ Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project decommissioning phase. Responsibility: ❖ EO.	Minimise deterioration of water quality.
Air Quality								
5	Air Quality	Refer to the construction phase						

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8.5 Post-Closure Mitigation Measures

The following activities are expected to occur during the post-closure phase of the project.

Table 8-9: Summary table of the activities associated with this post-closure phase of the project

Activity	Description
Post-Closure	
14	Rehabilitation activities only for reclamation infrastructure and areas not to be reused

Table 8-10: Post-Closure Phase Mitigation Measures

Reference No.	Aspect	Activities	Impact	Mitigation Measures	Size and Scale of Disturbance Post-Mitigation	Compliance with Standards	Time Period for Implementation & Responsible Person	Outcomes
Surface Water and Groundwater								
1	Groundwater	No activities	❖ No impacts foreseen ❖ The spread of contamination in the weathered and fractured aquifers will reduce over time as the source of contamination has been removed	❖ Monitor the groundwater table. ❖ Monitor groundwater quality in all boreholes. ❖ Maintain sound surface runoff management to ensure that all dirty runoff is contained and diverted to the PCDs	Local	❖ DWAF Best Practice Guidelines ❖ GN R704	When: ❖ Duration of the project decommissioning phase. Responsibility: EO.	Minimise deterioration of water quality.

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9 SPECIFIC IMPACT MANAGEMENT PLANS

The impact management actions per Phase are detailed in Section 8 of this report. The impact management outcomes for the project are as follows:

- Maintain the footprint of the activity and restrict activities to the TSF and designated areas. Avoid and protect all sensitive areas/no-go areas
- Protect sensitive areas as far as practicable;
- Minimise dust fallout during construction and reclamation;
- Reduce groundwater pollution and seepage and sinkhole formation due to the underlying dolomite;
- Reduce surface water pollution;
- Prevent further land, stream and wetland contamination;
- Maintain transparent engagement and communication; and
- Ensure the full rehabilitation of a site by removing sources of pollution and aligning rehabilitation of the land for its intended future use.

The following compliance mechanisms are required by AMB on an annual basis or as determined by the Environmental Authorisation:

- An environmental audit of the EMPr should be undertaken every 2 years as a minimum during operation or at least every five years by an independent auditor.
- An internal audit should be undertaken annually.

9.1 Environmental Awareness Plan

9.1.1 Communication Chain

The communication of the environmental risks for each phase of the project will take place for the management, administrative and site workers of the site, as well as contractors and sub-contractors.

9.1.2 Chance Find Procedure

The Chance Find Procedure and associated awareness of heritage resources must be presented during the toolbox talks. This is to be done prior to construction is initiated to ensure staff are aware of the importance of this procedure prior to this risk manifesting.

9.1.3 Management Sector

A workshop will be conducted to inform management of the risks associated with the project. The risks for all aspects will be explained and the appropriate management options discussed. The workshop will also elaborate on the monitoring programmes that will be implemented to identify and monitor the level of impact on the environment and discuss various remediation actions, should there be deterioration.

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The evaluation process is integral in the assurance that the site reduces any possible environmental risks associated with the project. The workshop will be conducted prior to the construction phase to ensure that all risks are discussed before there is any chance of the impacts occurring.

The workshop may be repeated at certain stages during the construction phase, in the case of new employees.

This workshop will seek to explain the following necessary actions:

- Risks associated with each aspect will be discussed to ensure that there is an understanding of how each action of the project may impact on the environment.
- The mitigation of the environmental risk will be elaborated on.
- It is important that each person understands these management strategies as it ensures that the impact on the environment is kept to a minimum.
- Data collection regarding each aspect will also be explained to ensure that each aspect is monitored according to those protocols specified by the authorisations and licence. Along with data collection, the reporting of findings will be discussed.
- This workshop will take place before the construction phase begins, thus ensuring a full understanding of the project and its associated environmental risks before any construction activity is undertaken.
- The workshop will be repeated at the beginning of the operational phase as part of a handover to the next responsible party.
- The following communication channels and media will/ can be used to communicate environmental and social issues with AMB employees during construction:

    - Head of Department (HOD) Meetings: The Site Manager communicates information to senior management on environmental issues, and the information is minuted.
    - HSEC Meetings: 'Environmental issues should be an agenda item on monthly safety, health & environmental meeting agendas.
    - Publications: Leaflets, posters etc. are produced by the relevant department or other designated persons, for use on notice boards, and distribution.
    - EMS Database: Feedback from line management on objectives, targets and actions.
    - Daily/ Weekly Safety Meeting: All meetings are scheduled to commence with a discussion on safety, health & environmental topics.

9.1.4 Construction and Contractors Workers Sector

The workers associated with the activities on site will attend an induction course to ensure that each person is aware of the environmental risks associated with the project, and compliance obligations and conditions to adhere to. This induction will form part of the health and safety induction. The environmental risks of each aspect as well as the mitigation will be elaborated on.

A debriefing should take place when the project moves from one phase to the next. A Job Hazard Analysis (JHA) or Issue Base Risk Assessment could also be conducted to identify potential risks associated with the project.

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Furthermore, weekly toolbox talks / green meetings must cover topics raising awareness on environmental and social issues relating to the project.

9.1.5 Environmental Officer

The EO will oversee environmental awareness induction training to all contractor staff. The EO will ensure that the necessary environmental induction training takes place and that records of attendance are maintained and up to date.

An EO must also be present on site during the pre-construction and construction phases of the project to ensure compliance and the implementation of the EA, WUL and EMPr condition.

9.2 Strategic Communication Plan

9.2.1 Environmental Communication Strategies

AMB Management is required to establish procedures for the internal communication between the various levels and functions of the organisation, and receiving, documenting and responding to environmental risks for each phase of the project will take place for the management, administrative and worker sectors of the site, as well as contractors. The organisation shall conduct processes for external communication on its significant environmental aspects and record its decision in line with AMB communication policy as well as conditions stated in any EA or License.

9.2.1.1 Stakeholder Engagement Plan

A Stakeholder Engagement Plan (SEP) and Grievance Mechanism (GM) must be compiled for a project. The SEP needs to provide guidance for engagement with Stakeholders.

9.2.1.2 Internal Communication

Internal communication is done within the Administrative Sector.

9.2.1.3 External Communication Strategies

The following communication channels and media can be used to communicate environmental issues to individuals who are not employed by AMB or its subcontractors:

- **Communication from External Parties and Employees:** A clear communication point is established within the company through the AMB communication procedure that determines who is responsible for liaison with the media in respect of any crisis that may arise. A complete procedure for media liaison is available to all employees. Communication from external interested and affected parties may be received by email, fax, telephonically or by mail. The onsite Grievance procedure and mechanisms will be used to facilitate communication on grievances

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- **E-mail:** E-mail communication received must be stored, with replies, in an appropriate folder on a server. E-mail messages, relevant to environmental management, should be kept for a minimum of two years before deletion.
- **Mail:** Correspondence received by mail must be filed, along with the response (where relevant), within the relevant department's filing system for a minimum period of two years. Paper correspondence will be archived in this department.
- Storage of Correspondence: All original correspondence must be retained by the Site Manager for a minimum period of two years.

❖ **Environmental Reports:** Copies of relevant specialist study reports and Environmental Impact Assessments as it relates to this application, will be available on request from an external party by the Site Manager.

9.2.1.4 Evaluation of the Environmental Awareness Plan

The evaluation of the environmental awareness and training plan will be conducted. This evaluation will entail the auditing of the operation in both the construction and operation phase once activity has commenced. The environmental awareness and training plan described above is sufficient to make all those involved in the project aware of those risks that may occur as well as the necessary mitigation required to minimize these risks.

9.2.1.5 The environmental awareness and training plan indicate that AMB is serious about the environment's well-being and empowerment of the local people. Emergency Incident Reporting

Environmental incident reporting is a vital part of communication at the AMB TSF Reclamation Project. Employees are required to report all environmentally related problems, incidents and pollution, directly to the site manager. In the event of an Environmental Incident, the incident must be reported according to the Incident Reporting Procedure and Emergency incident procedure.

9.2.1.6 Induction

All full-time staff and contractors are required to attend an induction session. Employees are inducted when they start on the project. Any contractor, who works on the project is required to undergo AMB's prescribed induction training. This induction will form part of the health and safety induction.

Environmental issues and aspects related to the project will be addressed in the induction sessions. All environmental impacts and aspects and their mitigatory measures will be discussed, explained and communicated to employees. The induction sessions will be modified according to the level of employee attending the induction session so that all employees gain a suitable understanding of environmental issues and pollution.

The records of all individuals attending induction sessions to be kept; the records to be kept include names, ID, contact details, designation and signature.

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9.2.1.7 Hazardous Substances

Individuals dealing with potential hazardous situations and risks that could lead to hazardous spills, pollution incidents, excessive dust or other forms of environmental damage should receive appropriate job specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency situation. All these actions will be done in accordance to the AMB procedures on management of hazardous substances and TSF emergency processes.

9.2.1.8 Dust mitigation

Individuals dealing with potential situations and risks that could lead to excessive dust should receive appropriate job-specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency situation.

9.2.1.9 Fire Incidents

Individuals dealing with potential hazardous situations and risks that could lead to fire incidents or emergencies should receive appropriate job-specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency situation.

9.2.1.10 Pollution Incidents or Forms of Environmental Damage

Any incident or form of environmental damage must be dealt with in accordance with the Incident management procedure. This document is held with AMB.

Individuals dealing with potential situations and risks that could lead pollution incidents or other forms of environmental damage to receive appropriate job-specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency situation.

9.2.1.11 Waste Management

Site personnel and contractors responsible for the operation and safe handling of the various waste streams will receive appropriate job-specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency situation. AMB must ensure that training and awareness programmes cover the safe transportation, handling, storage, transfer, handling, use and disposal of all waste streams, and the location of waste receptacles for each waste stream. All waste management activities must be done in accordance to the AMB procedures, the EMPr and in terms of registers dealing with storage of waste in specific areas.

Staff awareness training programme will accommodate training, on which bin to use for different wastes.

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9.2.1.12 Water Management

All persons responsible for active water management will receive appropriate job-specific training on the risks and potential consequences of their appointment and work situation, how to avoid environmental impacts and how to respond during an environmental incident or emergency.

9.3 Emergency Response Plan

An Environmental Emergency Response Plan defines the process to follow to respond rapidly and effectively to and manage emergency situations that may arise as a result of the AMB TSF Reclamation Project. This plan must be initiated when an emergency:

- Cannot be immediately brought under control;
- Has the potential to extend beyond site boundaries;
- Has the potential to significantly impact on the environment and/or community; and
- Requires assistance from External Emergency Services.

AMB will develop an Emergency Response Plan for the AMB TSF Reclamation Project.

This plan outlines response actions for potential incidents of any size. It details response procedures that will minimise potential health and safety hazards, environmental damage, and clean-up efforts. The plan has been prepared to ensure quick access to all the information required in responding to an emergency event. The plan will ensure that Contractors comply with all procedures described in this document.

9.3.1 Intent

A Work Method Statement should be prepared prior to the commencement of any activities, detailing how this plan is to be implemented as well as details of relevant responsible parties for the implementation. This method statement must include the following:

- Areas where accidents and emergency situations may occur;
- Communities and individuals that may be impacted, as read in the specialist studies;
- Response procedure;
- Provisions of equipment and resources;
- Designation of responsibilities; and
- Communication, both internally and externally.

The purpose of this plan is to define the emergency response structure and process of the AMB TSF Reclamation Project. The objectives of the plan are:

- To ensure communication of all vital information as soon as possible;
- To provide clear guidance in the management of emergencies that have the potential to impact on life, property, environment and community;
- Clearly define roles and responsibilities;

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- To facilitate the reorganisation and reconstruction activities so that normal operations can be resumed;
- For employees to be able to take prompt effective action to reduce the risk of injury, minimise environmental impact and property damage likely to result from possible emergencies;
- To specify the emergency communication process necessary to establish links with key site personnel.

The Emergency Preparedness and Response Code of Practice will be compiled in accordance with the Occupational Health and Safety OHSAS 18001 if required, and the Mine Health and Safety Act, 1996 (Act No. 29 of 1996).

9.3.2 Planning

There are three levels of emergency, these are delineated as follows:

- Local Emergency: An alert confined to a specific locality.
- Site Emergency: An alert that cannot be localised and which presents danger to other areas within the site boundary or outside the site boundary.
- Evacuation: An alert when all personnel are required to leave the affected area and assemble in a safe location.

If there is any doubt as to whether any hazardous situation constitutes an emergency, then it must be treated as an Evacuation, and every effort must be made to reduce or stop the cause of any emergency provided it is safe to do so. Factors effecting the success of the emergency response strategy include:

- The type and scale of incident/accident will govern the type of response.
- The scale of the incident, accident or emergency will govern the resources required to bring under control.
- Communications after which an incident or emergency is first reported governs scale, type and resources required to maintain effective control and bring to resolution.

To facilitate the effective implementation of the procedures, copies of the Environmental Emergency Response Plan must be placed in accessible and visible locations around the site.

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Table 9-1: Emergency Scenario Contingency Planning

Incident	Prevention Measures	Procedures/processes on site	Designation
Spill which would result in the contamination of land, surface or groundwater.	❖ All equipment refuelling, servicing and maintenance activities should only be undertaken within appropriately sealed/contained or bunded designated areas. ❖ No refuelling, storage, servicing, or maintenance of equipment should take place within sensitive environmental resources to reduce the risk of contamination by spills. ❖ Any fluids drained from the machinery during servicing should be collected in leak-proof containers and taken to an appropriate disposal or recycling facility. ❖ A spill must be given the highest priority, and clean-up turn-around time must be as fast as possible, ❖ Ensure all paddocks and stormwater systems are desilted prior to commencing with construction. ❖ Ensure all paddocks and stormwater systems have sufficient capacity to hold dirty water – especially during rainfall events. ❖ Adhere to the stormwater management plan for this EMPr. ❖ Signage to be placed around the dams to indicate risk at the site. ❖ If these activities result in damage or accumulation of contaminated slimes on the bare soil, tailings must be removed and processed where appropriate. ❖ Chemical toilets used during construction must be regularly cleaned. Care and due diligence should always be taken. ❖ Contact details of emergency services and HazMat Response Contractors are to be clearly displayed on the site. All staff are to be made aware of these details and must be familiar with the procedures for notification in the event of an emergency.	1. Spill or release identified. 2. Assess person safety, safety of others and environment. 3. Stop the spill if safely possible. 4. Contain the spill to limit entering surrounding areas. 5. Identify the substance spilled. 6. Quantify the spill {under or over guideline/threshold levels). 7. Notify the Site Manager and emergency response crew and authorities {in the event of major spill). 8. Inform users {and downstream users) of the potential risk. 9. Clean up of the spill as fast as possible.	Contractor, Site Manager, EO

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Incident	Prevention Measures	Procedures/processes on site	Designation
		10. Record of the spill incident on company database.	

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AMB's EO Representative, who is responsible for managing the day-to-day on-site implementation of this Plan, must act as liaison and advisor on all environmental and related issues.

It is necessary to prevent land from becoming sterilised due to a spill. Criteria that may be considered for restoring the affected area include natural biodegradation of oil, replacement of soil and revegetation. Once a spill of reportable size has been contained, the EO and the relevant Authority must be consulted to confirm that the appropriate clean up levels are met.

9.4 Conceptual Stormwater Management Plan

Please refer to Section 8.7.6 of the EIA and the surface water Impact assessment in Appendix D for a detailed description of the Conceptual Stormwater Management Plan. The water quality monitoring requirements can also be found in the Surface water Impact Assessment.

9.4.1 Proposed Stormwater Management Measures

The purpose of the conceptual Stormwater Management Plan (SWMP) is to ensure that clean and dirty water are adequately separated, by diverting clean water away from dirty areas, and ensuring that dirty water from the operation is captured, contained and managed appropriately in accordance with GN R704 regulations and DWS best practice guidelines.

9.4.2 Sizing of Stormwater Measures

9.4.2.1 Peak Flows and Volumes

GN 704 regulations requires that clean and dirty water systems are sized so that they do not spill more than once in 50 years. The 1:50 year flows and volume for the 1-day storm event, were calculated using the Soil Conservation Service (SCS) method (Schmidt and Schulze, 1987).

9.4.2.2 Channel and Berm Sizing's

The Manning's equation was used to calculate the channel and berm sizes required for the 1:50 year peak flows.

Calculations were undertaken using a Microsoft Excel spreadsheet. The typical proposed design for clean and dirty water channels and berms is shown in Figure 9-1.

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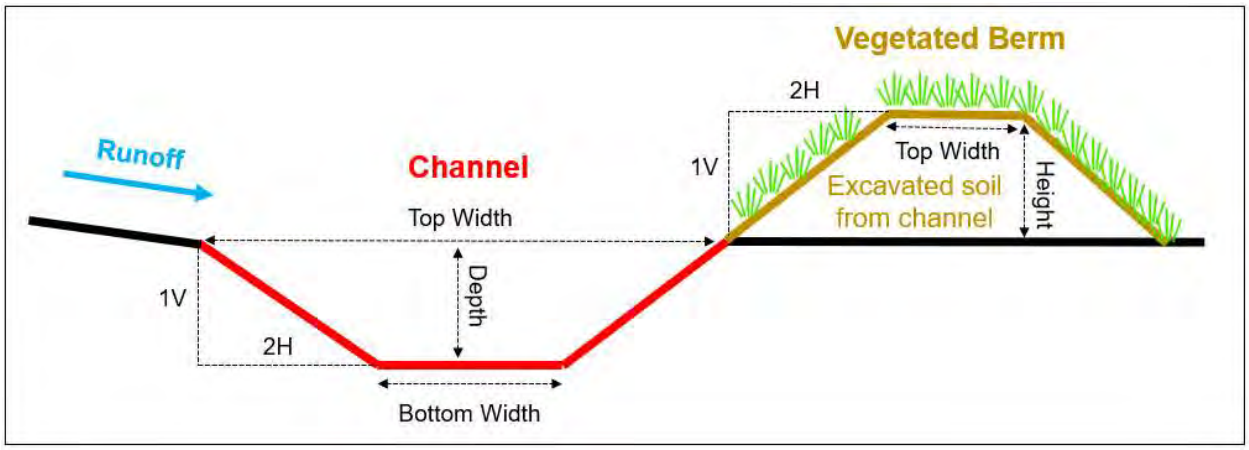

Figure 9-1: Typical proposed design for channels and berms

9.4.3 Assumptions and Limitations

The following are assumptions and limitations for the conceptual SWMP:

- The SWMP is conceptual. A detailed SWMP should be designed based on the concept design prior to construction taking place.

9.4.4 Clean and Dirty Areas

The clean and dirty areas are show Figure 9-2. Dirty areas include all proposed infrastructure except for the substation and topsoil stockpile. The areas surrounding dirty areas will be managed as clean areas.

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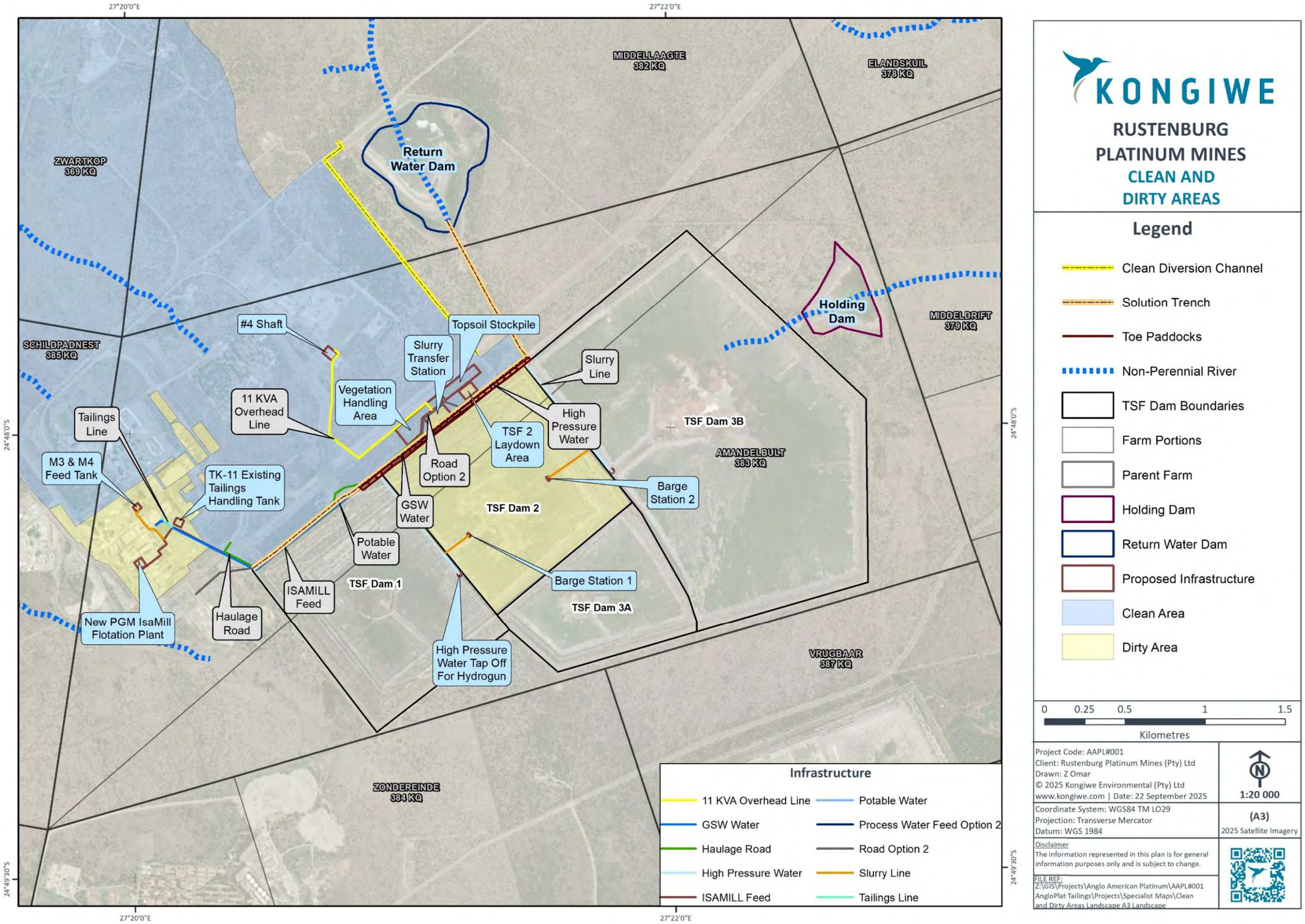

Figure 9-2: Clean and dirty area

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9.4.5 Proposed Stormwater Measures

The proposed SWMP for the project is indicated on Figure 9-3 and Figure 9-4 is discussed in the sections below. The SWMP has been designed as closed system (i.e. no discharge of dirty water to the surrounding environment).

9.4.5.1 TSF Dam 2

The top of the TSF is proposed to be divided into paddock compartments. The purpose of the paddock compartments is to ensure that stormwater is contained and managed on the TSF footprint, and also to ensure that the barge pump and associated infrastructure is not overwhelmed and flooded during periods of high rainfall. Only the paddock compartment being mined will drain to the barge pump. Stormwater accumulation within the paddock compartments will evaporate, and if excessive, can be released slowly to the barge pump by carefully creating opening/s in the paddock walls. Once the water is released, the paddock wall will be repaired. It is proposed that the compartment paddock walls are constructed to be 1.5 m high, which is higher than the 1:50 year storm event depth, including the depth of an average year of rainfall.

The existing toe paddocks should be left in place until mining progresses to ground level, to capture runoff from the side slopes of the TSF.

9.4.5.2 Vegetation handling area

This area will be used to stockpile vegetation and oversize material screened out from the hydraulically reclaimed material. All vegetation from TSF 2, which is originally screened out on the TSF will be chipped and turned into compost at an area allocated on TSF No.1. Most of the screened-out vegetation done on the TSF surface will be placed in a dedicated area on top of the TSF 1, where chipping and composting will be done. The secondary screened vegetation at the transfer station, will be placed in a container after conveyor screening and transported back onto TSF 1 to be added to the composting process.

It proposed that an earth berm is constructed around the perimeter of this area. The purpose of the berm will be to deflect clean runoff away and to contain any dirty water runoff. If need be, dirty water from this area can drain to the existing solution trench via a channel.

9.4.5.3 Slurry Transfer Station

The slurry processed from this area will be pumped to the existing processing plant near the AMB Concentrator. An earth berm will contain dirty runoff and divert external clean runoff away. Slurry leaks and spills will be captured in lined sumps or containment facilities and will be pumped back into the processing system.

9.4.5.4 TSF Laydown Area

The laydown area will be used to store diesel and to refuel heavy machinery. The diesel storage tanks should be placed in a concrete lined bunded area. The bunded area should be sized to contain at least 110 % of the

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volume of diesel that is proposed to be stored there. Refuelling of machinery should take place over a concrete lined area that drains to a sump which will capture and contain any spills. The levels in the sump should be inspected routinely.

9.4.5.5 Topsoil Stockpile Area

Topsoil will be stripped from the areas where construction will be undertaken and will be placed at the topsoil stockpile area. In order to contain silt, it is proposed that an earth berm is placed around the perimeter of this area.

9.4.5.6 PMG Processing Plant, Chrome Recovery Plant and Services Plant

The project will reuse existing infrastructure, specifically the M3 & M4 Chrome Plant and existing buildings for the new PGM Plant, which will be located within the Merensky footprint. The PGM Processing Plant will receive the hydraulically conveyed slurry from Dam 2 where PGMs will be extracted. The chrome recovery plant will receive the tails from the PGM Processing Plant and will extract chrome. The Services Plant is designed to deliver critical support services to the plants such as precise dosing of process chemicals such as depressants, frothers and collectors, as well as the preparation and supply of flocculant for thickener operations. The Services Plant also manages the supply of essential utilities, including makeup water, potable water, gland service water, compressed air and instrument air, all of which are vital for maintaining process stability and equipment functionality.

No detailed designs were available at the time of this study, however, it is likely that these areas will be concrete lined and bunded, to capture any spills. The bunded areas will most likely report to sumps that will pump water back into the process for reuse. It is proposed that concrete lined channels that report to the proposed PCD are constructed between the bunded areas to capture any overflows, or if plant maintenance needs to be undertaken, then water drained from the plants can flow to the PCD via the lined channels.

9.4.5.7 Contractors Laydown Area

It is likely that tools, materials, equipment and vehicles will be stored or parked at the contractor's laydown area. It is proposed that an earth berm is constructed around the perimeter of this area. Any hazardous or dangerous materials should be stored within designated lined bunded areas. Washing of vehicles and other equipment should take place on a concrete lined area that reports to a sump that should be fitted with an oil water separator. Water from the oil water separator can be reused for washing purposes, whilst the separated hydrocarbons should be appropriately stored until removed offsite.

9.4.5.8 Chrome Stockpile Area

The existing chrome stockpile area will be used to stockpile chrome product from the chrome recovery plant. This area is concrete lined and bunded and should report to a sump that will pump water either back into the process for reuse, or pumped to the proposed PCD.

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9.4.5.9 Pollution Control Dam

The project will utilise two existing PCDs, one situated centrally between the AMB Central OT and the AMB Concentrator, and another located in the CRP area near the AMB CRP admin offices. The existing PCD will receive dirty water from the new PGM and chrome processing plants, as well as potentially from the chrome stockpile area.

9.4.5.10 Tailings Handling Plant

The Tailings Handling Plant is an existing facility located within the AMB Concentrators dirty water footprint area. The area is concrete lined and bunded.

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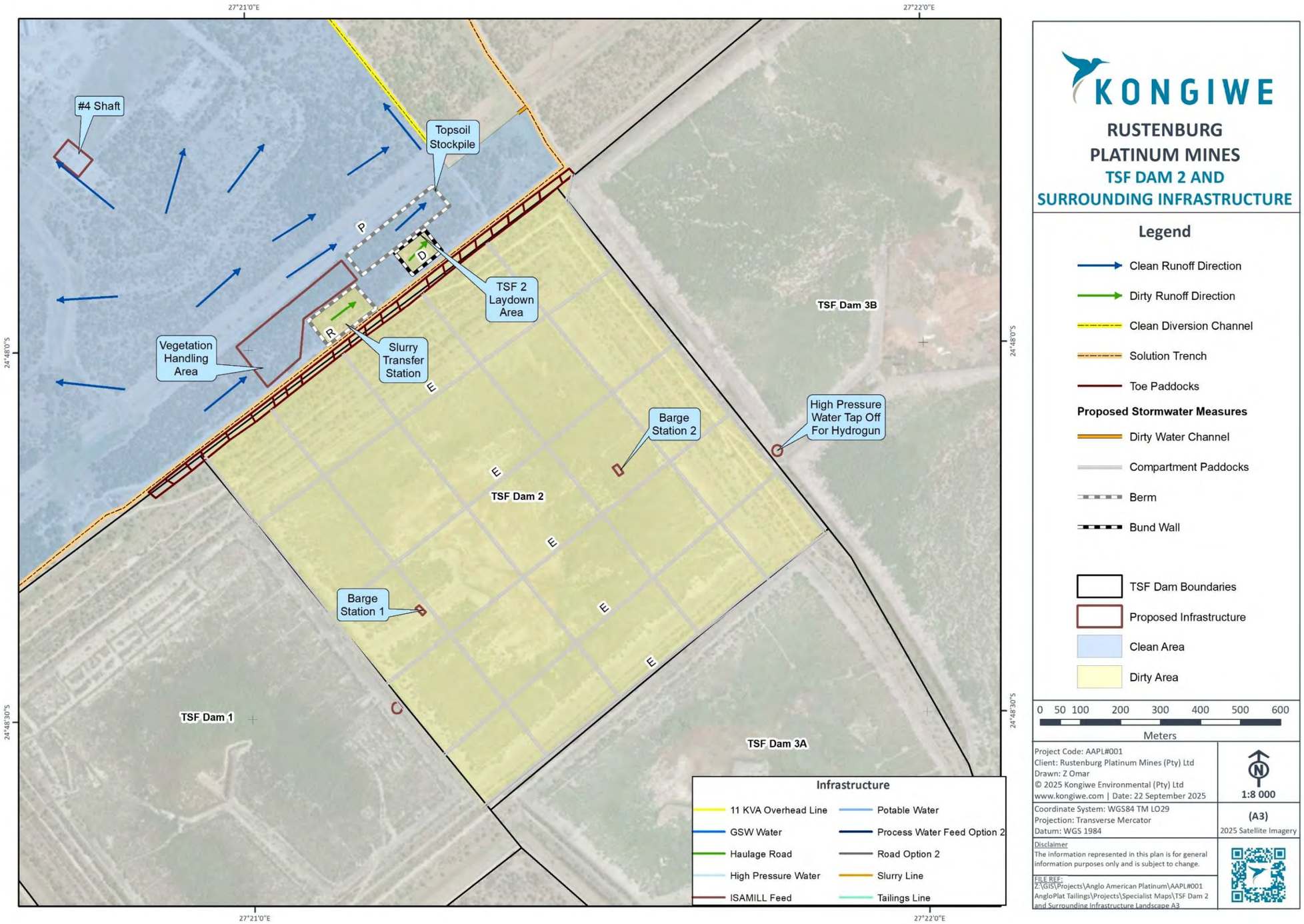

Figure 9-3: Conceptual stormwater management plan for TSF Dam 2 and surrounding infrastructure

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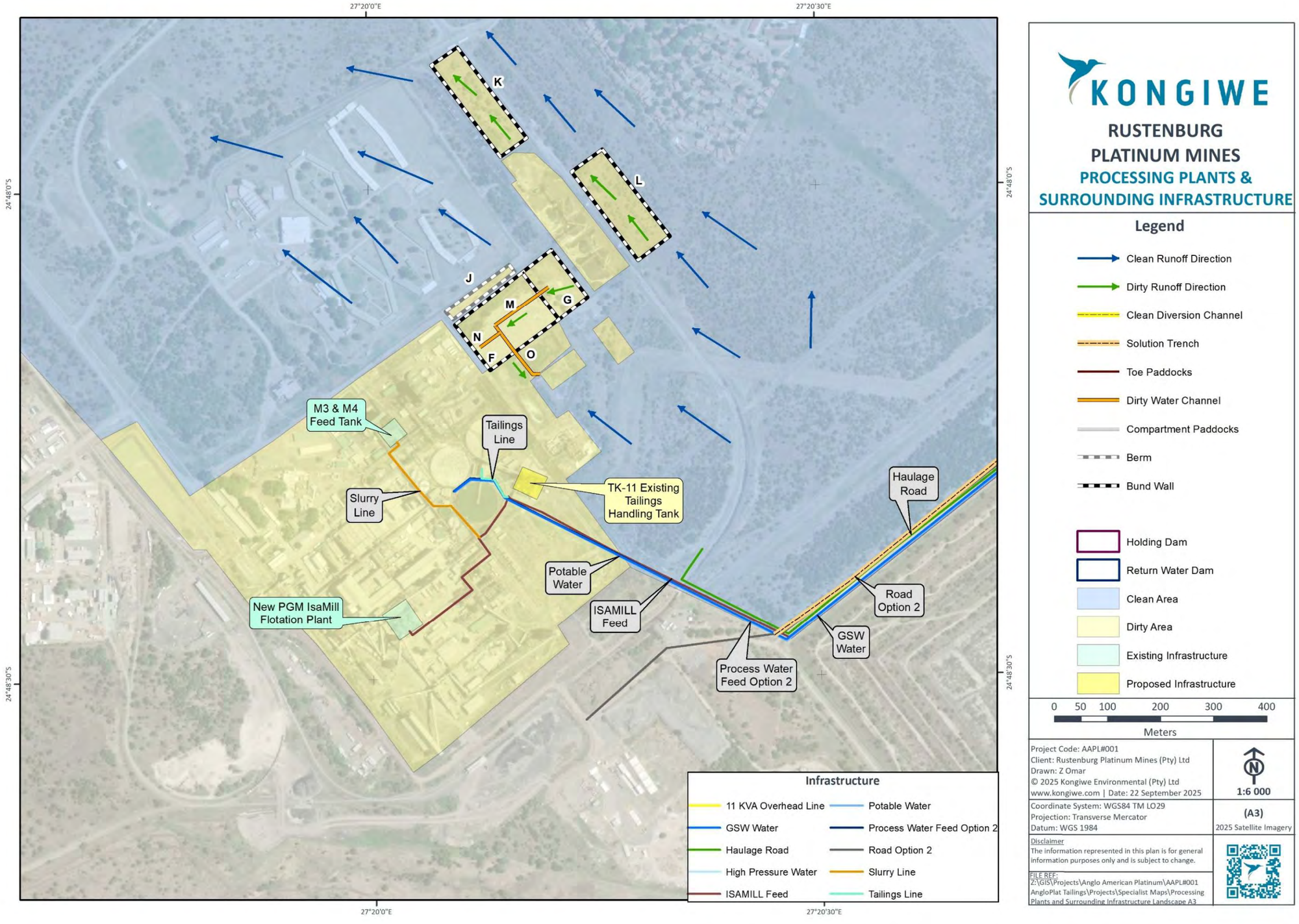

Figure 9-4: Conceptual stormwater management plan for the processing plants and surrounding infrastructure

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9.4.6 Proposed Stormwater Measure Sizing's

It is proposed that earth berms P, Q and R are constructed to be 0.5 m in height with side slopes of 1V:2H. The berms should be vegetated with natural occurring grass to prevent erosion.

Concrete bund wall D around the TSF 2 Laydown area should be constructed to contain at least 110 % of the diesel proposed to be stored there. The compartment paddock walls E are proposed to be 1.5 m in height with side slopes of 1V:2H.

9.4.6.1 Stormwater Infrastructure

Water infrastructure (paddocks, channels, berms and slurry sumps) should be monitored on a monthly basis during the dry season, and on a weekly basis during the wet season. They should further be monitored immediately after any large storm events. Should blockages, silted up structures or breaches occur, immediate action should be undertaken to remove debris and repair breaches. Monitoring should be undertaken by the onsite Environmental Officer (EO) or maintenance manager. Inspections should be recorded and should include the following:

- Date of inspection;
- Rainfall amount received prior to inspection;
- Photographs of blockages, silted up structures or breaches witnessed;
- What action was undertaken to fix issues, and the amount of time taken to address them; and
- Photographs post action taken.

Inspection reports should be kept ready and supplied to the DWS when requested, or as part of the WUL conditions.

9.4.7 Surface Water Quality

Surface water quality at the AMB Concentrator is monitored on a monthly basis. The water quality between March 2024 and February 2025 was obtained from the report: Amandelbult Concentrator Water Quality Monitoring Report (Shanko Projects, 2025), and was used to describe the surface water quality in the vicinity of the project. It should be noted that the tributaries surrounding the AMB Concentrator that flow into the Bierspruit and Crocodile River are non-perennial, flowing only briefly after receiving sufficient rainfall. These non-perennial streams were not flowing at the time of the site visit and could therefore not be sampled.

9.4.7.1 Monitoring locations

The sampling locations are indicated on Figure 9-5 and are summarised in Table 9-2.

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Table 9-2: Description of the locations of the surface water quality monitoring points.

Monitoring Location	Description of Location	Latitude*	Longitude*
AMD J (AMC 02)	Return Water Dam	-24.78177	27.35029
AMD U (AMC 01)	Holding Dam	-24.79265	27.37930
AMD T1 (AMC t1)	Holdings trench	-24.79565	27.35788
AMD T2 (AMC 03)	Trench from plant to Stormwater Dam	-24.80627	27.33068
CRP Stormwater Dam	CRP Stormwater Dam	-24.80382	27.33265
Kilken Turf Dam	Kilken Turf Dam	-24.80348	27.33614

*Coordinates in decimal degrees, geographic coordinate system, WGS84 datum

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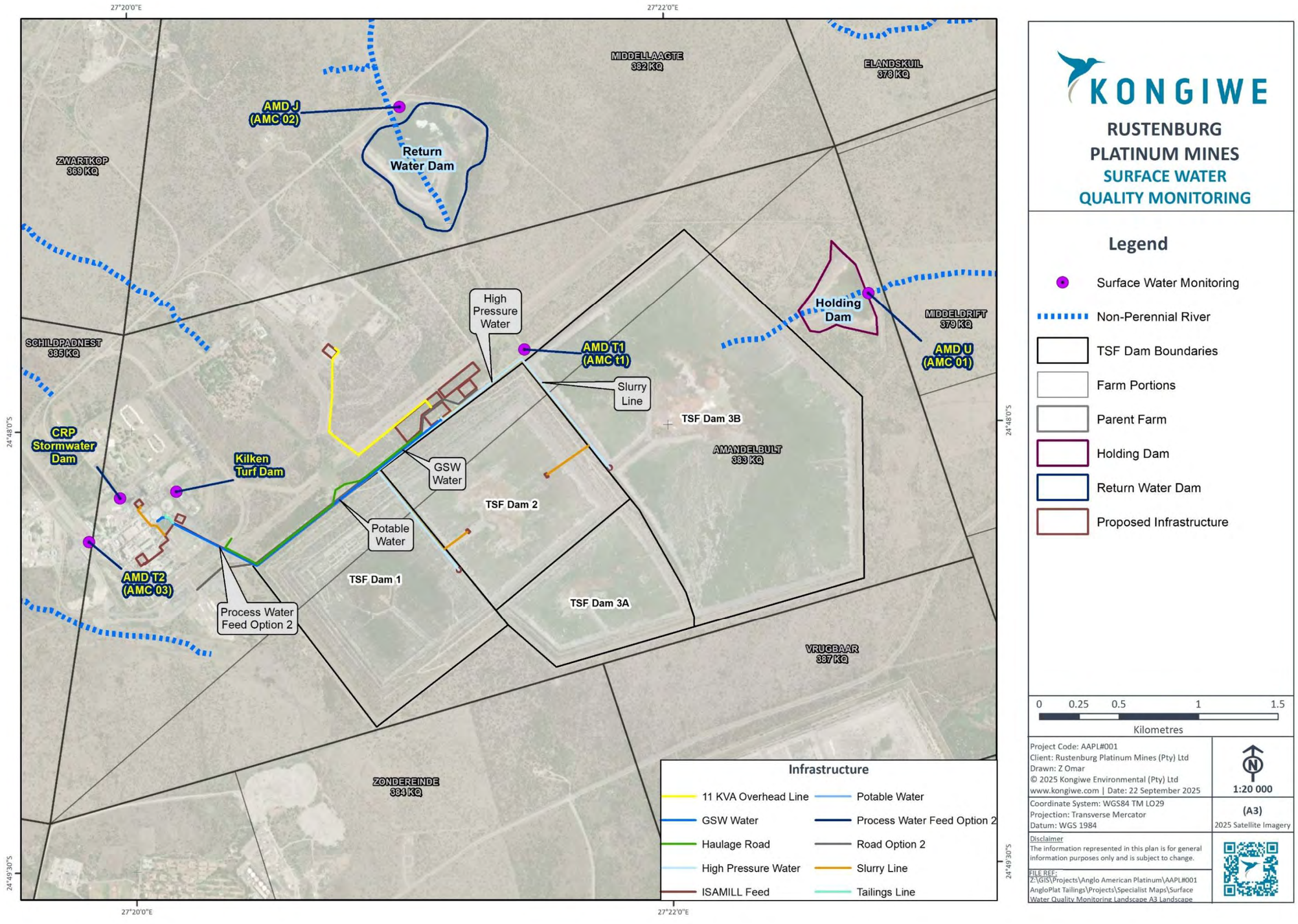

Figure 9-5: Surface water quality monitoring location

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9.4.7.2 Results and discussion

The water quality results for dirty water contained system is summarised below. It should be noted that the surrounding non-perennial streams are generally dry, and therefore, the monitoring points only monitor the dirty water dams and channels. The following provides a summary of the water quality:

- pH was within limits except in May 2024 at CRP SWD where pH slightly exceeded the limit;
- Electrical Conductivity (EC) on average exceeded the limits at all monitoring points indicating high dissolved salts in the dirty water circuit;
- Total hardness was generally higher than 600 mg/l at most of the monitoring points and can be described as extremely hard water;
- Sodium and chloride exceeded the limits at all of the monitoring points during most months;
- Elevated levels of nitrate were recorded at most of the monitoring points;
- Heavy metals (aluminium, iron, manganese, chromium, copper, cobalt, cadmium, nickel, lead and zinc) on average exceeded limits at most of the monitoring points; and
- *E.coli* was elevated at all monitoring points.

In summary, the water quality of the dirty water circuit at AMB can be described as having a neutral to alkaline pH, being very saline and hard, as well as having elevated nitrate, heavy metals and *E.coli*.

9.4.8 Conclusion and Recommendations

In conclusion, the most important aspect to prevent negative impacts from a surface water perspective, is to ensure that a sound SWMP is implemented prior to the commencement of reclamation activities, in accordance with the conditions stipulated in GN R704. Monitoring and maintenance of stormwater measures is of utmost importance and should be conducted as outlined in this report.

The following is recommended:

- The proposed SWMP under section 9.4 is implemented in the EMPr;
- The impact mitigation measures under section 9.2.1.3 of the EIA are implemented; and
- The monitoring plans under section 8.7.3of the EIA implemented.

Should the above be implemented then from a surface water perspective the proposed project can commence.

9.5 Groundwater

Please refer to Chapter 5, 17, and 18 of the Groundwater report in Appendix D for a detailed view of the required site investigation, groundwater management and monitoring requirements.

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9.5.1 Groundwater Management Measures

To monitor and prevent the spread of groundwater contamination, groundwater management procedures and practices must be implemented that are in line with accepted practices and in accordance with the requirements of the Environmental Management Plan (EMP). The key objectives and targets for groundwater management during and after the completion of the reclamation project are:

- Implement a management plan aimed at reducing and/or eliminating adverse impacts on the receptors identified, including vertical flow to the residual and weathered dolomitic aquifers as well as horizontal flow to watercourses. The management plan must be earmarked at achieving conditions comparable to the at least likely case scenario presented in this report. Where possible, conditions applied for the best-case scenario should be planned for.
- Track and record the progress of implementation of all groundwater management measures.
- Implement sufficient monitoring procedures to measure the effectiveness of groundwater management measures.
- Analyse the information obtained from all monitoring programmes against compliance targets to establish trends and to determine the need to trigger additional actions to reduce adverse impacts.
- Should the trends indicate adverse impacts on groundwater levels and/or quality, implement suitable measures within the shortest possible time to remediate and/or eliminate such adverse impacts identified.

The following over-arching groundwater management measures should be implemented for the project to minimise impacts on the groundwater environment, during all phases.

Table 9-3:General groundwater management measures

Construction Phase
The dedicated groundwater monitoring network must be maintained in the monitoring boreholes located around the TSF. Where boreholes are inaccessible, measures must be identified to gain access and continue monitoring. Of specific importance are boreholes EMPR05, EMPR08, EMPR15 and MBH16-04. The monitoring program is discussed below.
Make financial provision for sufficient groundwater level and quality monitoring to implement the groundwater monitoring program, before the reclamation starts.
Implement the stormwater runoff management measures developed for the project to ensure that all dirty runoff is contained and reused in the reclamation water balance. Avoid ponding of water over exposed areas.
Ensure that dirty water containment measures are designed to contain all dirty water generated during the project to prevent overflows and spillages.
Implement sound house-keeping measures to prevent and clean spills, address leaks and undertake regular inspections. Ensure that the record keeping procedure is in place and that instructions given are carried out.
Measure rainfall on site.
Operational Phase
Complete regular inspections of dirty water containment structures, specifically noting incidences of overflow and leakage. If the latter is identified, measures must be taken to rectify these immediately.
Maintain sound house-keeping measures to prevent spills and leaks.
Maintain the groundwater monitoring program, specifically in EMPR05, EMPR08, EMPR15 and MBH16-04.

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Measure rainfall on site.
Record all groundwater-related complaints related to the reclamation project and deal with each complaint within the agreed timeframe.
Decommissioning and Closure Phase
Complete all rehabilitation to a satisfactory level, focusing specifically on stormwater management. Clean runoff must be diverted and dirty water captured. Measures must be put in place during TSF rehabilitation to prevent erosion.
Continue with the groundwater monitoring period for a minimum of two years after completion of the rehabilitation. The continued need for groundwater monitoring will depend on the outcome of the final closure assessment.

9.5.2 Groundwater Availability

A Hydrocensus was completed in April 2023 within a 5 km radius around the Amandelbult TSFs (Water Hunters, 2023). Six boreholes were visited, all of which are used for monitoring purposes by Valterra and the adjacent Northam Platinum Zondereinde Mine. Three private boreholes situated on the farm Witvley were included in the Hydrocensus. These boreholes (WV-BH01-03) are more than 5 km southeast of the Amandelbult. Two of these were blocked at 32 m and 34 m and the third borehole is not in use. No large-scale groundwater abstraction was observed within the 5 km radius survey. As mentioned earlier, groundwater is used for irrigation along the Crocodile River. The amount of groundwater abstracted from these boreholes is not known.

Water Hunters (2023) completed an assessment of the use of scavenger boreholes around the Amandelbult TSFs with the objective to assess the impact of abstracting groundwater to manage the movement of contaminated groundwater from the TSFs. The sustainable yields of the boreholes tested as part of this study are presented in Table 9-4 It is shown that the sustainable yields of boreholes around TSF 2 vary between 0.2 litres per second (L/s) and 21.5 L/s with a weighted average of 1.8 L/s. The distribution of the sustainable yields of boreholes located around TSF 2 is presented in Table 9-4. It is shown that boreholes with a higher yield are located down gradient of the RWD and Holding Dam. Boreholes tested south of the Amandelbult TSFs have yields ranging between 0.2 L/s and 0.57 L/s.

Unfortunately, borehole logs were not provided with the Water Hunters report. It is therefore not possible to confirm the geology or geological structures associated with higher groundwater occurrence in the vicinity of TSF 2. Groundwater strikes were recorded at depths of between 10 m and 13 m bgl in the boreholes tested at the TSFs. The available dataset suggests that no significant groundwater preferential flow paths are present immediately south of the Amandelbult TSFs. At the RWD and Holding Dam, the depth to groundwater strikes varies between 7.5 m and 27.5m below surface.

Table 9-4: Sustainable borehole yields around TSF 2

Borehole ID	Borehole depth (m)	Recommended sustainable yield (L/s)
RWDP1	30	5.27
RWDP2	25	1.17
RWDP4	30	0.83
RWDP5	30	5.87
RWDP8	25	1.08

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Borehole ID	Borehole depth (m)	Recommended sustainable yield (L/s)
36W	61	21.50
PIT05	66	6.13
HDP02	38	2.80
HDP05	25	2.44
HDP06	25	0.37
RWDP03	21	0.20
TSFP08	25	0.20
TSFP15	30	0.57
HDP04	27	2.60
PIT7A	40	10.00

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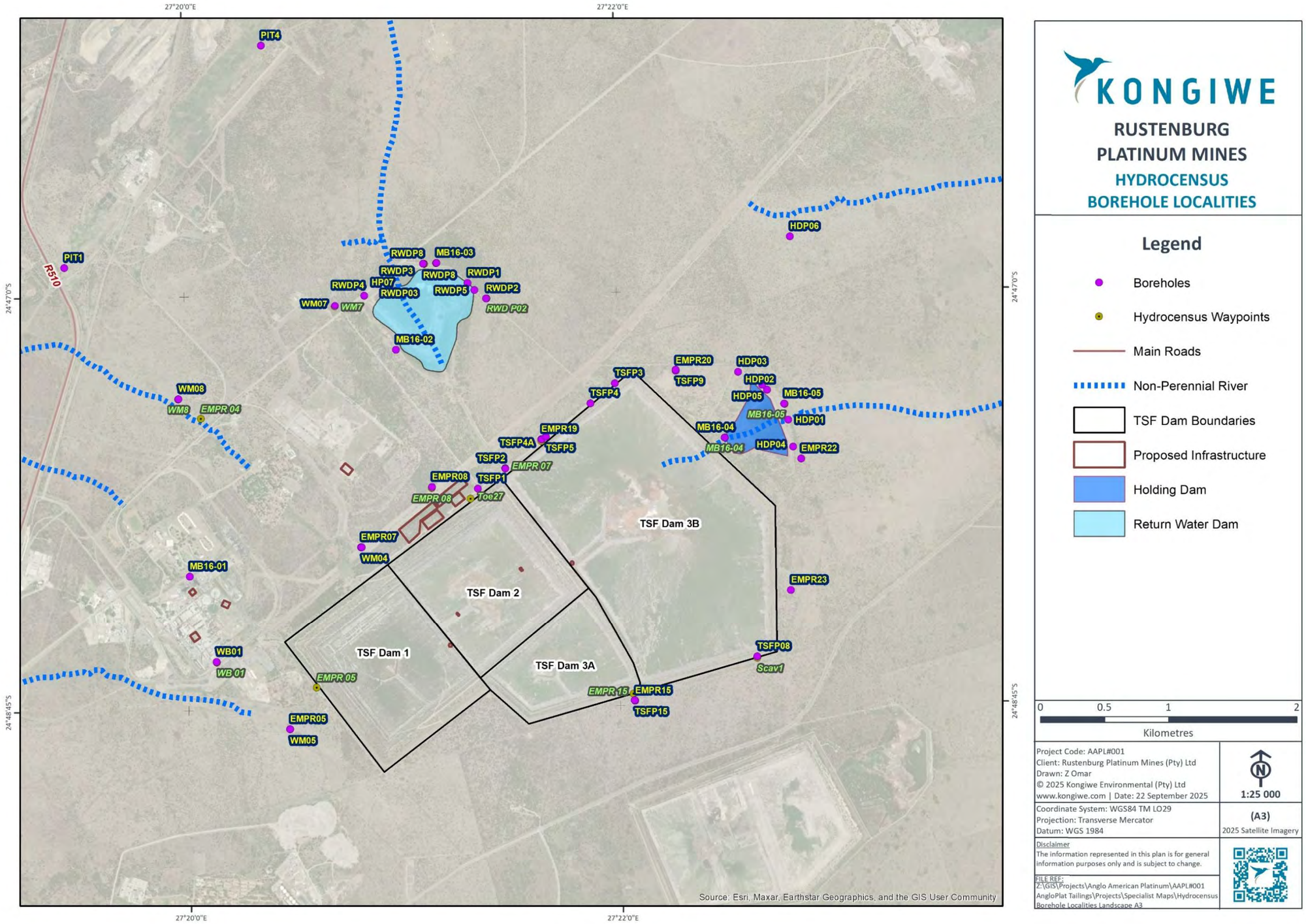

Figure 9-6: Hydrocensus borehole localities

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9.5.3 Groundwater Quality

The following specific measures are recommended to minimise and/or eliminate the impacts on groundwater quality:

- To minimise negative long-term impacts associated with the project, it is important that tailings reclamation must be completed to soil level over the TSF 2 footprint.
- The base of the TSF 2 footprint must be shaped prior to tailings re-deposition to ensure that no ponding takes place and that the footprint is sufficiently drained to minimise long-term infiltration of leachate. In this regard, internal drainage systems like gravel, perforated pipes, equivalent seepage collection systems and toe drains can be considered. It is assumed that the footprint of TSF 2 will not be lined prior to re-deposition, as the surrounding TSFs are not lined.
- Ensure that clean and dirty water is separated at the reclamation and drying areas, and that dirty water is contained. Contain dirty water in adequately sized and lined sumps or dams.
- Prevent the uncontrolled runoff of dirty water from the TSF 2 footprint.
- All dirty water being pumped from the reclamation areas should be reused in the water balance or pumped off site to prevent unnecessary discharge into the natural environment.
- It is recommended that a geochemical assessment is undertaken on the tailings material to be deposited on the TSF 2 footprint, focussing on the risk of acidification as well as operational and long-term leachate qualities. This information must be used to update the risk assessment presented in this report, if it is materially different from the dataset used in this report.
- Valterra must maintain the existing water quality monitoring program during reclamation and re-deposition. The monitoring program must focus specifically on groundwater, TSF seepage and dirty water dam quality. The data must be analysed according to the monitoring program presented below and suitable actions must be implemented should trends indicate adverse impacts.
- The impact and risk assessment presented in this report must be updated if any component of the project changes to what was used in this study, or if additional information becomes available that deviates from that used.

9.5.4 Groundwater Monitoring

To monitor and prevent the spread of groundwater contamination, groundwater management procedures and practices must be implemented that are in line with accepted practices and in accordance with the requirements of the Environmental Management Plan (EMP). It is recommended to implement the groundwater monitoring program presented in this report to establish the extent of contamination in the shallow weathered and deeper fractured aquifers, during and after the reclamation activities. The key objectives of the groundwater monitoring program are to:

- Detect short and long-term groundwater level and quality trends;
- Recognise changes in groundwater quality and levels;
- Measure impacts and define mitigation measures; and
- Develop improved monitoring systems.

Groundwater monitoring must be undertaken to establish the extent of contamination in the shallow weathered and deeper fractured aquifers, during and after the reclamation activities.

9.5.5 Monitoring locations

Monitoring must be maintained in all boreholes drilled around the Amandelbult TSFs as well as the RWD and Holding Dam, as is currently the case. Of specific importance is monitoring in boreholes EMPR05, EMPR08, EMPR15 and MBH16-04 to ensure that groundwater quality down gradient of all the TSFs are considered.

Where access to these monitoring boreholes is flagged as a problem, Valterra must implement measures to rectify the causes of inaccessibility prior to the commencement of tailings reclamation.

9.5.6 Monitoring requirements

The proposed groundwater monitoring requirements are presented in Table 9-5.

Table 9-5: Monitoring requirements in all proposed monitoring positions

Monitoring parameter	Element for analysis	Monitoring frequency	Monitoring trigger-response criteria
Depth to groundwater level in existing boreholes	Groundwater level	Quarterly	Variations of more than 3 m for 2 consecutive months should be investigated.
Water quality analysis in all existing boreholes around the TSF complex as well as the RWD and Holding Dam	All elements included in the analyses completed as part of this assessment	Quarterly	Variations in concentrations of more than 15% for major cations and anions and more than 7% for metal concentrations for more than 2 consecutive months should be investigated. Any result that exceeds specified water quality objectives must be investigated when it occurs. Specific focus must be placed on monitoring positions that exceed the WUL conditions.

Monitoring parameter	Element for analysis	Monitoring frequency	Monitoring trigger-response criteria
Water quality analysis of seepage water collected in the dirty water circuit during tailings reclamation	All elements included in the analyses completed as part of this assessment	Quarterly	Variations in concentrations of more than 15% for major cations and anions and more than 7% for metal concentrations for more than 2 consecutive months should be investigated. Any result that exceeds specified water quality objectives must be investigated when it occurs.
Rainfall	Rain depth (mm)	Daily on site	None

The monitoring trigger-response criteria listed in Table 9-5 must be reviewed on an annual basis and updated, based on the outcome of the monitoring program results. All monitoring information must be entered into a spreadsheet for record keeping and analysis. Copies of the certificates of analyses must be kept on file for inspection and comparison. Specific note must be taken of the laboratory reporting units. If significant exceedances are recorded during the monitoring program, the following actions should be taken:

- Log the exceedances in the incident reporting system within 24-hours of it occurring.
- Undertake an investigation to identify causes of the exceedances.
- Implement the necessary remedial actions according to the outcome of the investigation and consultation with the affected parties.
- Report significant exceedances to the Environmental Manager for action as well as to the regulatory authority and track the incident until completion.

The results of the monitoring program must be reported on a quarterly and annual basis for the purpose of internal Valterra water management. These reports must also be submitted to the authorities for review, according to the conditions of the WUL.

9.5.7 Groundwater Monitoring Reports

Monitoring reports must contain the following information:

- Monitoring borehole location map;
- Geology map;
- All coordinates of the groundwater sampling sites;
- Certificates of analysis must be included for quality assurance. Monitoring results will be compared to South African National Standards (SANS241) and the relevant catchment guideline limits;
- Time-series graphs for key indicator elements (e.g., pH, EC, TDS, Fe, Mn, Al, NO3, SO4);
- A discussion regarding observed trends and potential groundwater contamination; and
- Recommendations regarding possible amendments or additions to the groundwater monitoring programme, based on trends and other information observed.

9.5.8 Quality Assessment and Quality Control

Quality assurance means:

- Developing a system of activities to ensure that measurements meet defined standards of quality with a stated level of confidence;
- Defining monitoring objectives, quality control procedures to be followed and quality assessment;
- To define data quality objectives, including accuracy, precision, completeness, representativeness and comparability; and
- Designing a network, selecting sampling sites, selecting instruments and designing the sampling system, as discussed above.

All monitoring equipment must be maintained as required, and calibration must be undertaken on a regular basis.

To ensure that the Groundwater Monitoring Strategy complies with the above, it is important that analytical laboratories used should be accredited for each type of analysis required, to ensure that accurate analytical methods are used.

While only one or two of the common major ions found in waters may be specified as key indicators, it is necessary to analyse for the full suite of common ions for quality control purposes and to detect discrete events and long-term trends in anion composition.

Special attention must be paid to sampling methods and to preservation and handling of samples prior to analysis. pH and conductivity must be measured in the field.

Close attention must be given to siting, logging and construction of monitoring boreholes and assessment of their condition must be made quarterly.

The following sampling protocol is proposed:

- Sterilised plastic bottles, with a plastic cap and no liner within the cap are required for the sampling.
- Sample bottles should be marked clearly with the borehole name, date of sampling, water level depth and the sampler's name.
- Water levels should be measured prior to taking the sample, using a dip meter (m bgl).
- Each borehole to be sampled should be purged (to ensure sampling of the aquifer and not stagnant water in the casing) using a submersible pump or a clean, sterile bailer. At least three borehole volumes of water should be removed through purging; or through continuous water quality monitoring, until the electrical conductivity value stabilizes.
- The following field measurements should be recorded on a field form for each sampling point: pH, EC and temperature.
- Samples should be kept cool in a cooler box in the field and kept cool prior to being submitted to the laboratory.
- The pH and EC meter used for field measurements should be calibrated daily using standard solutions obtained from the instrument supplier.

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9.5.9 Dust Fallout Monitoring Plan

The Amandelbult Concentrator has dust monitoring buckets positioned at 14 locations across the site (Figure 9-7). Large particles (>30µm) mostly are deposited within 100 m of the source, intermediate-sized particles (10 µm to 30 µm) are likely to travel up to 200 m to 500 m and smaller particles (<10 µm) can travel up to 1km from the source, as very small particles can travel much further (DETR, 2000). Because dust collected in the buckets is measured by mass, dust buckets mostly reflect emissions from sources that lie within 100 m from the sampler. The Amandelbult sampler that reflects emissions from TSF Dam 2, therefore, is AMA05, which is located adjacent to the TSF. Throughout 2024, the dustfall rates at the AMA05 station (Figure 9-7) remained below the non-residential dustfall limit of 1 200 mg/m^2/day. The dust monitoring at this station should be continued and used to establish a baseline against which the impacts of the reclamation activities can be assessed.

The baseline established at this dust bucket location should be used to monitor the impact of the reclamation process and to demonstrate that mitigation measures are being strictly implemented. Monthly and seasonal variations should be taken into consideration in this analysis. If the measured dustfall within the project area shows a marked increase from pre-reclamation phase levels, and particularly if the measured dustfall rates exceed the regulated dustfall rate, urgent measures must be undertaken to further mitigate emissions.

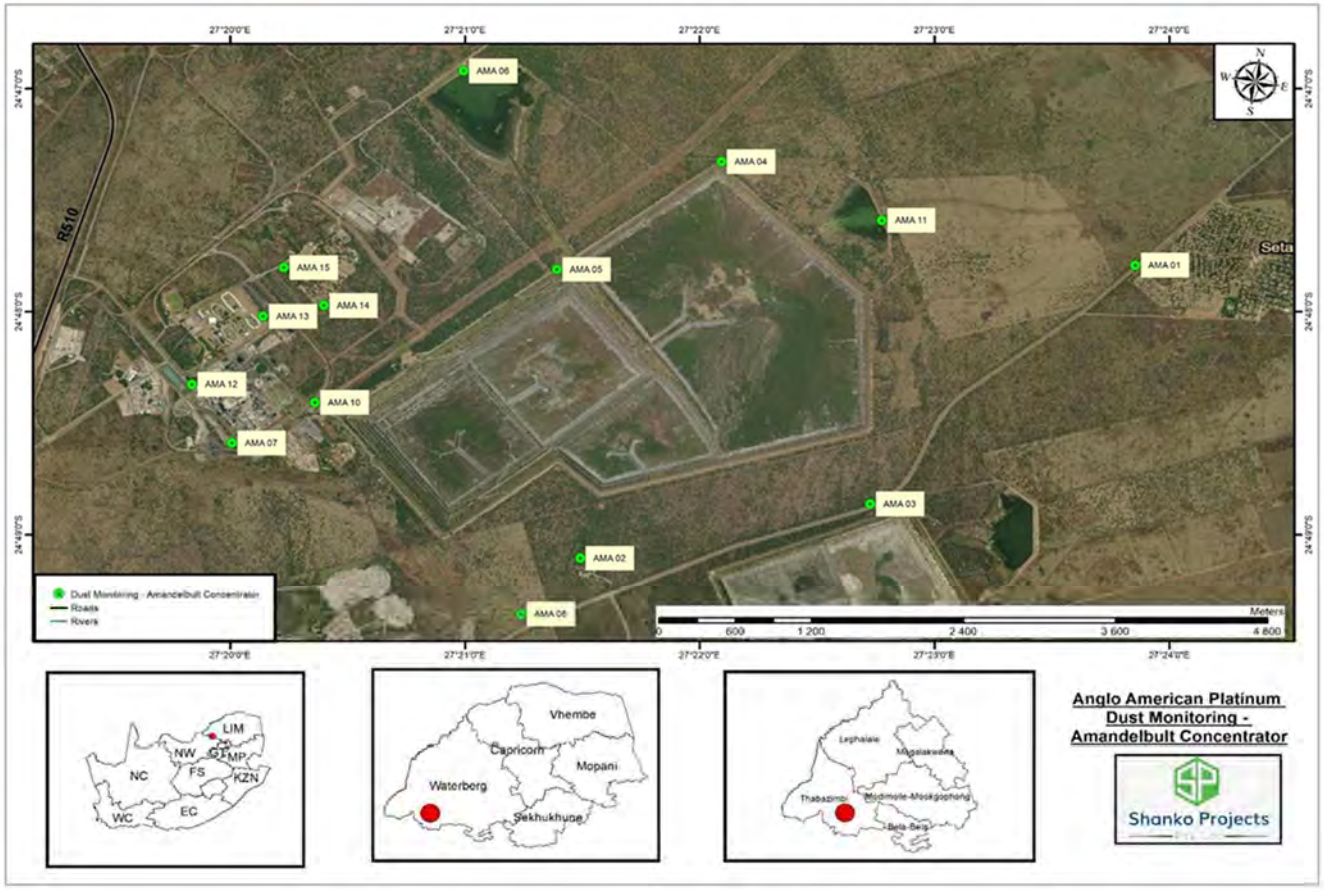

Figure 9-7: Location of dust buckets (SP, December 2024).

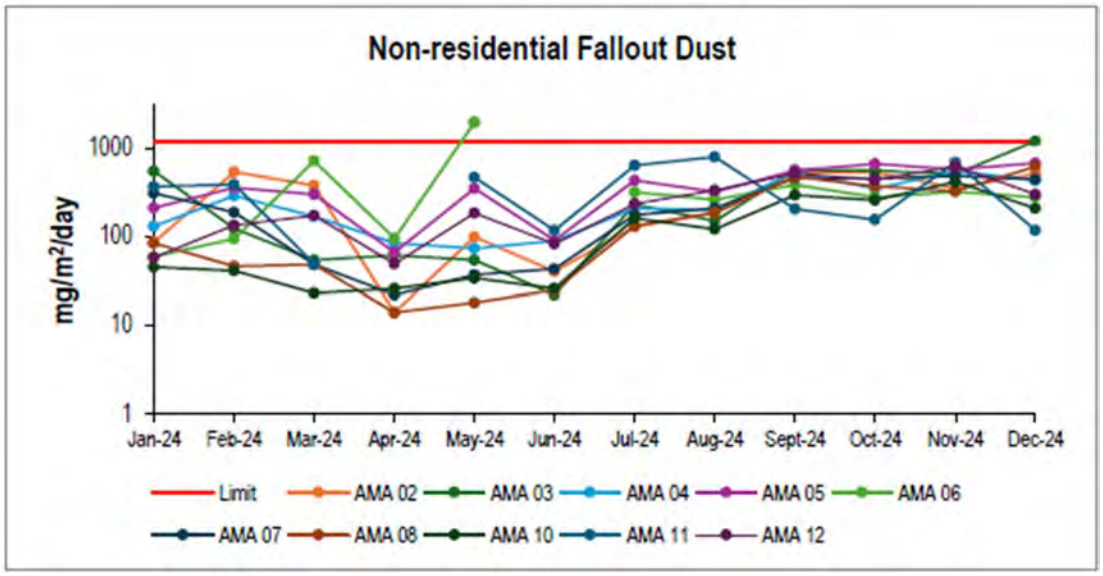

Figure 9-8:Graphic representation of non-residential fallout dust values on a logarithmic scale for 12 months (SP, December 2024).

9.6 Heritage Management Plans

The project will encompass a range of activities during the construction phase, including ground clearance and excavation, establishment of construction camp areas and small-scale infrastructure development associated with the project.

It is possible that cultural material will be exposed during construction and may be recoverable, keeping in mind delays can be costly during construction, and as such must be minimised. Development surrounding infrastructure and construction of facilities results in significant disturbance, however foundation holes do offer a window into the past and it thus may be possible to rescue some of the data and materials. It is also possible that substantial alterations will be implemented during this phase of the project, and these must be catered for. Temporary infrastructure developments, such as construction camps and laydown areas, are often changed or added to the project as required. In general, these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.

During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken. In all such cases the approved AMB CFP must be followed.

9.7 Possible finds during construction and operational phases

The study area occurs within a greater historical and archaeological site as identified during the desktop and fieldwork phase. Soil clearance and excavation for infrastructure as well as the proposed reclamation activities, could uncover the following:

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- Historical structures and foundations;
- Unmarked burial grounds and graves; and

9.7.1 Timeframes

It must be kept in mind that mitigation and monitoring of heritage resources discovered during construction activities will require permitting for collection or excavation of heritage resources and lead times must be worked into the construction time frames. Table 9-6 gives guidelines for lead times on permitting, however the AMB CFP is prescriptive in this regard and must at all times be followed in line with the overall operations management planning.

Table 9-6: Lead times for permitting and mobilisation

Action	Responsibility	Timeframe
Preparation for field monitoring and finalisation of contracts	The contractor and service provider	1 month
Application for permits to do necessary mitigation work	Service provider – Archaeologist and SAHRA	3 months
Documentation, excavation and archaeological report on the relevant site	Service provider – Archaeologist	3 months
Handling of chance finds – Graves/Human Remains	Service provider – Archaeologist and SAHRA	2 weeks
Relocation of burial grounds or graves in the way of the development	Service provider – Archaeologist, SAHRA, local government and provincial government	6 months best case scenario where no next of k (NoK) is identified. Time frames will be significantly impacted and extended where negotiations with NoK is involved.

9.8 Noise Monitoring Plans

Environmental Noise Monitoring can be divided into two distinct categories, namely:

• Passive monitoring – the registering of any complaints (reasonable and valid) regarding noise; and

• Active monitoring – the measurement of noise levels at identified locations.

Active environmental noise monitoring is recommended because the projected elevated noise levels at verified NSR are higher than the night-time rating level for the area. In addition, should a valid complaint (from a stakeholder living within 2,000 m from a noise-generating mining activity) be registered, the applicant must investigate this complaint as per the following sections. It is recommended that the noise investigation is done by an independent acoustic consultant. It should be noted that this noise monitoring programme may be used

as a guideline, as site-specific conditions may require that the monitoring locations, frequency or procedure be adapted.

9.8.1 Measurement localities and procedures

9.8.1.1 Measurement Localities and Frequencies

It is recommended that an acoustic specialist be appointed to assist with the design of a noise monitoring programme after considering the future mitigation measures to be implemented by AMB. Depending on the mitigation measures implemented as well as the status of NSR, quarterly noise monitoring is recommended at representative NSR locations where noise levels may be more than 45 dBA at night (refer to **Noise Impact Assessment Report**). One or two noise level measurement locations may be sufficient, but, noise levels should be discussed with all NSR where noise levels are higher than 45 dBA. When investigating a noise complaint, measurements must be conducted at the location of the person that registered a valid and reasonable noise complaint (staying within 2,000 m from the project). A second instrument should be deployed simultaneously at AMB. In cases where noise issues are registered, noise measurements should be conducted inside bedrooms, and, if noise levels exceed 35 dBA, acoustic treatment should be considered for such buildings.

9.8.1.2 Measurement Procedures

Ambient sound measurements should be collected as defined in SANS 10103:2008 or an acceptable international noise monitoring protocol (such as ISO 1996). When investigating a noise complaint, measurements should be collected during a period or in conditions similar to when the receptor experienced the disturbing noise event. Due to the variability that naturally occurs in sound levels at most locations, it is recommended that semi continuous measurements are conducted over a period of at least 36 hours, covering at least a full day- (06:00 – 22:00) and two night-time (22:00 – 06:00) periods.

9.9 Social Management Plans

The following chapter sets out the framework for the Social Management Plan which is established to ensure that the proposed mitigation measures as included in the SIA are effectively implemented during the life of the project and are continually refined and modified as necessary on the basis of actual field conditions and circumstances which may not have been anticipated at the time of the SIA preparation.

9.9.1 Stakeholder Engagement Plan

There must be ongoing consultation processes to understand issues on the ground. To ensure effective consultation with community members during the authorisation, construction, operation and decommissioning phases of AMB reclamation and processing projects, it is recommended that AMB continue utilising existing forums.

AMB's existing Stakeholder Engagement Plan (SEP) will assist in outlining the approach on how to effectively communicate with community members. It is recommended that the SEP is updated annually ensure that it

stays relevant and that it addresses relevant concerns/comments raised by stakeholders. The following section provides key objectives to be included in the SEP.

The AMB Corporate Affairs and Sustainability team has an existing Stakeholder Engagement Plan which can, if required, be updated to include aspects of additional stakeholder engagement community participation linked to this. The purpose of a SEP:

- To identify and assess the processes and/or mechanisms that will improve the communication between local communities, the wider community and AMB;
- To provide a guideline on how to effectively share information with community members-information must be communicated to stakeholders early in ways that are meaningful and accessible. ;
- To serve as a tool to facilitate grievance management – accessible and responsive means for stakeholders to raise concerns and grievances about the project must be established throughout the life of the project.

9.9.2 Grievance Mechanism

A grievance mechanism is a formal, legal or non-legal complaint process that can be used by individuals, workers, communities and/or civil society organisations that are being negatively affected by certain business activities and operations. A grievance mechanism plan aims to prevent, defuse and resolve community complaints and disputes.

The World Bank Group (2005:72) states that a company's grievance procedures should be communicated to all stakeholders, community members should be made aware of the procedures to follow, that is, people should know where to go and whom to talk to if they have a complaint and understand what the process will be for handling the complaint. Communication with stakeholders should be provided in a format and language that will be understood by stakeholders. It is recommended information is communicated orally in areas where literacy levels are low.

A grievance mechanism provides stakeholders with an opportunity to raise their concerns and provides them with confidence that their issues will be addressed – this encourages better community relations and good reputation for the company. AMB has a grievance procedure and process whereby stakeholders can lodge complaints or concerns to AMB. The existing Grievance Redress Mechanism (GRM) can be/ must be utilised for this project.

9.9.3 Human Rights

AMB to maintain its Human Right Policy with the aim to have zero human rights infringements in the workplace and community throughout the life of the project.

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9.10 Socio-Economic Monitoring Programme

The proposed socio-economic monitoring programme below should be implemented during the construction phase, continue into operations, and throughout the life of the project.

Table 9-7: Proposed Socio-Economic programme

Item	Parameters	Frequency	Responsible person
Procurement Management Plan	Procurement awards	Ongoing- throughout the life of the project	AMB: Human Resources Manager/ Finance Manager and the Procurement officer.
Recruitment/retrenchment plan	Number of recruited candidates (sourced locally) Retrenchment-linked with training programme and continued Professional Development of staff	Ongoing- throughout the life of the project	AMB: Human Resources Manager/ Finance Manager.
Training programmes/Learnerships/Internships	Number of training programmes offered and the effectiveness	Ongoing- results to be included in the Social Labour Plan (SLP)	AMB: Human Resources Manager/ Finance Manager.
Health and Safety Plan	Number of reported health and safety incidents	Ongoing-Monthly	AMB: Human Resources Manager/ Finance Manager, Safety, Health, Environment and Quality Officer
Commitments Register	Fulfilling commitments made in EIA, SIA as well as those made throughout the stakeholder engagement process	Ongoing-annual reviews	AMB: Human Resources Manager/ Finance Manager/Environmental Manager/Stakeholder

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9.11 Waste Management Plan

The Waste Management Plan (WMP) plays a key role in achieving sustainable waste management throughout all phases of the project. The plan prescribes measures for the collection, temporary storage and safe disposal of the various waste streams associated with the project and includes provisions for the recovery, re-use and recycling of waste. The purpose of this plan is therefore to ensure that effective procedures are implemented for the handling, storage, transportation and disposal of waste generated from the project activities on site.

This management plan was formulated based on waste stream information available at the time of compilation. Construction and operation activities must be assessed on an ongoing basis to determine the efficacy of the plan and whether further revision of the plan is required. This plan should be updated throughout the life-cycle of the project, as required to ensure that appropriate measures are in place to manage and control waste and to ensure compliance with relevant legislation.

Prior to the commencement of construction, a detailed Waste Management Method Statement for the site should be compiled by the Contractor.

9.11.1 Waste Management Principles

An integrated approach to waste management is needed on site. It is important to ensure that waste is managed with the following objectives in mind during all phases of the project:

- Reducing volumes of waste is the greatest priority;
- If reduction is not feasible, the maximum amount of waste is to be recycled; and
- Waste that cannot be recycled is to be disposed of in the most environmentally responsible manner

Valterra Platinum subscribes to a policy of zero waste to landfill (ZW2L), fundamentally focussed on the waste hierarchy approach. Until alternatives to landfilling is exhausted, all wastes are either reused, recycled, treated or composted, incinerated and then only disposed of if no other solution is found.

9.11.2 Project Phase Waste Management

A plan for the management of waste during all phases of the project is detailed below.

9.11.2.1 Waste Inventory

- The Environmental Officer (EO), or designated staff member, must develop, implement and maintain a waste inventory reflecting all waste generated during the project life cycle for both general and hazardous waste streams.
- Construction methods and materials should be carefully considered in view of waste reduction, re-use, and recycling opportunities, to be pro-actively implemented.
- Once a waste inventory has been established, targets for the recovery of waste (minimisation, re-use, recycling) should be set.

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- The EO must conduct waste classification and rating in terms of SANS 10288 and Government Notice 634 published under the NEM: WA.

9.11.2.2 Waste Collection, Handling and Storage

- Waste manifests and waste acceptance approvals (i.e. receipts) from designated waste facilities must be kept on file at the site office, to record and prove continual compliance for future auditing.
- Conservancy tanks and portable toilets must be monitored by the contractor or responsible subcontractor and maintained regularly. Records of removal to be kept.
- Waste collection bins and hazardous waste containers must be provided by the principal contractor and subcontractors and placed at strategic locations around the site for the storage of general and hazardous waste.
- A dedicated waste area must be established on site for the storage of all waste streams before removal from site.
- Signage/ colour coding must be used to differentiate disposal areas for the various waste streams as per the current waste procedure.
- Adequate waste collection bins at site must be supplied.
- Waste storage shall be in accordance with all best-practice guidelines and under no circumstances may waste be burnt on site.
- Waste generated on site must be removed on a regular basis throughout the operation phase.
- Waste must be removed by a suitably qualified contractor and removed off site to licensed waste management facilities. Proof of appropriate management must be provided by the contractor and kept on site.

9.11.2.3 Record Keeping

The success of waste management practices is determined by measuring criteria such as waste volumes, cost recovery from recycling and cost of disposal. Recorded data can indicate the effect of training and education, or the need for education. It will provide trends and benchmarks for setting goals and standards. It will provide clear evidence of the success or otherwise of the plan.

- Documentation (waste manifest, certificate of issue or safe disposal) must be kept detailing the quantity, nature, and fate of any regulated waste for audit purposes.
- Waste management must form part of the monthly reporting requirements in terms of volumes generated, types, storage and final disposal.

9.11.2.4 Monitoring of Waste Management Activities

Records must be kept of the volumes/ mass of the different waste streams that are collected from the site throughout the life of the project. The appointed waste contractor is to provide monthly reports to the operator containing the following information:

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- Monthly volumes/ mass of the different waste streams collected with trend analysis; and
- Monthly volumes/ mass of the waste that is reused, recycled, treated, and disposed of.

This report will aid in monitoring the progress and relevance of the waste management procedures that are in place. This report must from part of the EO's reports on a monthly basis.

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10 COMPLIANCE MONITORING MECHANISM

Table 10-1 depicts the monitoring and management plan for the management measures and actions identified in the impact assessment. Where specific monitoring and management plans are required, these are detailed in Section 9.

Table 10-1: Monitoring and Management Plan

Impact Management Action	Monitoring / Management Action	Monitoring Frequency	Roles and Responsibilities	Compliance Mechanism/Guidance	Compliance Reporting Frequency	Monitoring trigger response criteria
Groundwater						
Groundwater level	Groundwater levels	Quarterly	AMB/EO	-	Quarterly	Variations by more than 3m for 2 consecutive months should be investigated.
Water quality analysis in all existing boreholes around the TSF complex as well as the RWD and Holding Dam	❖ All elements included in the analyses completed as part of this assessment.	Quarterly	AMB/EO	South African National Standards (SANS241) and the Crocodile and Bierspruit catchment guideline limits;	Quarterly	Variations in concentrations of more than 15% for major cations and anions and more than 7% for metal concentrations for more than 2 consecutive months should be investigated when it occurs. Specific focus must be placed on monitoring positions that exceed the WL conditions.
Water quality analysis of seepage water collected in the dirty water circuit during tailings reclamation	❖ All elements included in the analyses completed as part of this assessment.	Quarterly	AMB/EO		Quarterly	Variations in concentration of more than 15% for major cations and anions and more than 7% for metal concentration for more than 2% consecutive months should be investigated. Any result that exceeds specified water quality objectives must be investigated when it occurs.
Rainfall	Rain depth (mm)	Daily	AMB/EO		Daily on site	none
Surface Water						
Surface water quality monitoring	The DWS Best Practice Guideline G3: Water Monitoring Systems	Monthly (or as suggested by the DWS) prior to the commencement of construction	AMB/EO	❖ DWS best practice guidelines G3: Water Monitoring Systems. ❖ South African National Accreditation System (SANAS) accredited laboratory for analysis. ❖ Compare against baseline quality.	Monthly	A continued decrease in water quality below the standards listed on a continual basis. If there is a clear reduction in water quality due to the activities.
		Monthly (or as suggested by the DWS) basis during the life of the project	AMB/EO		Monthly	
		Monthly (or as suggested by the DWS) until the project has completely and successfully been rehabilitated.	AMB/EO		Monthly	
Stormwater infrastructure	Stormwater management infrastructure	Monthly Basis during the dry season. Weekly basis during the wet season	AMB/EO		Monthly	Any storm events. Or flooding due to mismanagement and improper maintenance
		Monitored immediately after a stormwater event	AMB/EO/Maintenance Manager		Immediately	

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Impact Management Action	Monitoring / Management Action	Monitoring Frequency	Roles and Responsibilities	Compliance Mechanism/Guidance	Compliance Reporting Frequency	Monitoring trigger response criteria
Reporting	Monitoring reports to include trend analyses. Sampling of water quality from upstream monitoring points must be compared to downstream monitoring points	Monitoring reports submitted to DWS	AMB/ECO		Quarterly (or as recommended by the DWS)	
Air Quality						
Dust fallout	Dust Fallout Monitoring	Monitoring should be done on a monthly basis and seasonal variations should be taken into consideration. Monitoring to be conducted during the construction, operational decommissioning phase.	AMB/EO	❖ Internal audit by AMB in house specialists ❖ National Dust Control Regulations.	Monthly (or as required by the EA).	National Dust Control Regulations (Government Notice No. 517, 2018)
	Visually	Daily	AMB/EO	❖ Internal audit by AMB in house specialist.	Monthly	Visual observation of heavy dust generated by traffic or activities.
Heritage						
Possible finds	Chance find procedure	Monitoring will depend on the type and significance of archaeological find.	❖ AMB ❖ Project EO ❖ Heritage Specialist	Ensure compliance with relevant legislation and recommendations from SAHRA under Section 35 and 38 of NHRA	Monthly Checklist/Report	If any form of heritage is discovered or unearthed on site. If any graves are discovered.
Social						
Refer to section 9.10 for the social related management and monitoring requirements						

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11 OATH UNDERTAKING

The EAP hereby confirms:

- The correctness, to the best of her knowledge, of the information provided in the specialist reports and on information provided by AMB. The information was accepted as being as reliable as information generated during an EIA and a feasibility study, and provided in good faith, can be;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- The acceptability of the project in relation to the finding of the assessment and level of mitigation proposed.

Kongiwe Environmental (Pty) Ltd	
Company Name	
Ripfumelo Macevele	
Name of the Environmental Assessment Practitioner	**Signature**
10 December 2025	
Date	