

BLITS TRANSPORT (PTY) LTD

DRAFT BASIC ASSESSMENT REPORT

DRAFT BASIC ASSESSMENT REPORT (BAR) FOR THE MINING PERMIT APPLICATION OF SAND (GENERAL) FOR BLITS TRANSPORT (PTY) LTD IN RESPECT TO THE REMAINDER OF FARM KLEINKLIPKOP 287 JR IN THE MAGISTERIAL DISTRICT OF CULLINAN.

FILE REFERENCE NUMBER SAMRAD: GP30/1/5/3/2 (10456) MP

NAME OF APPLICANT: Blits Transport (Pty) Ltd

TEL NO: +27 12 735 2020

FAX NO: N/A

POSTAL ADDRESS: P.O. Box 938, Cullinan, 1000

PHYSICAL ADDRESS: Boekenhoutskloof, Portion 39, Cullinan, 1000

FILE REFERENCE NUMBER SAMRAD: GP30/1/5/3/2 (10456) MP



This document has been prepared by:



Vahlengwe Mining Advisory and Consulting
133 Bellairs Drive, Glenvista Extension 5,
Glenvista, 2058
+27 11 432 0062 | +27 81 895 1540
info@vahlengweadvisory.co.za
www.vahlengwe.co.za

Prepared for:

Blits Transport (Pty) Ltd

Name	Responsibility	Signature	Date
Londolani Sitsula	Report Compiler		October 2022
Sunday Mabaso	Project Manager/Reviewer		October 2022

© 2022 Vahlengwe Mining Advisory and Consulting. All Rights Reserved.

This document has been prepared by Vahlengwe Mining Advisory and Consulting for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between Vahlengwe Mining Advisory and Consulting and the Client. Any information provided by third parties and referred to herein has not been checked or verified by Vahlengwe Mining Advisory and Consulting, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of Vahlengwe Mining Advisory and Consulting.

1. IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), 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 (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 section 16(3)(b) of the EIA Regulations, 2014, 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 section 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 a 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 Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner 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.

2. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process—

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be managed, avoided, or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
 - (i) identify and motivate a preferred site, activity, and technology alternative;
 - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
 - (iii) identify residual risks that need to be managed and monitored.

LIST OF ABBREVIATIONS

BID	Background Information Document
CoT	City of Tshwane
DEA	Department of Environmental Affairs
DMRE	Department of Mineral Resources and Energy
DPA	Dinokeng Project Area
CRR	Comments and Responses Report
EA	Environmental Authorization
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act, 1989 (Act No. 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GDARD	Gauteng Department of Agriculture and Rural Development
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GNR	Government Notice Regulation
Ha	Hectares
I&APs	Interested and Affected Parties
Km	Kilometer's
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NAAQS	National Ambient Air Quality Standards
NBA	National Biodiversity Assessment
NCR	Noise Control Regulations Act, 1989 (Act 73 of 1989)
NEM: AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM: BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
PPP	Public Participation Process
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System

EXECUTIVE SUMMARY

Introduction

Blits Transport (Pty) Ltd has appointed Vahlengwe Mining Advisory and Consulting as the independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Authorisation process for the proposed mining permit application of sand (general) situated in the Remainder of the Farm Kleinklipkop 287 JR in the Magisterial District of Cullinan, covering an area of 5ha. The proposed area is located approximately 42 km South-West of Moloto Village and some 10.49 km North-East of Pebble Rock Golf Village with access through the R451.

Blits Transport (Pty) Ltd is applying for a mining permit in terms of Section 27 of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA), and therefore, required to undertake an Environmental Impact Assessment process to acquire an Environmental Authorization in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA). The competent authority for the environmental authorisation process is the Department of Mineral Resources and Energy (DMRE), Gauteng Province.

The proposed mining project triggers activities listed in Listing Notice 1, Activity No. 21 of the NEMA, and will require a Basic EIA authorisation process in terms of NEMA Government Notice Regulation GNR. 327 (as amended, 7 April 2017). The environmental impacts of the proposed project activities were determined by first identifying the environmental aspects and then conducting an environmental risk assessment to identify the significant environmental aspects. The environmental impact assessment considered all phases of the project and the rating system used is applied to the potential impact on the receiving environment.

Details of The Applicant

Table (i): Details of the Applicant

Name of Applicant:	Blits Transport (Pty) Ltd		
Registration number (if any):	2008/029649/23		
Trading name (if any):	Blits Transport (Pty) Ltd		
Responsible person: (E.g., CEO, Director, etc.)	Mr Jacob Van der Walt		
Contact person:	Mr Jacob Van der Walt		
Physical address:	Boekenhoutskloof, Portion 39, Cullinan, 1000		
Postal address:	P.O. Box 938, Cullinan		
Postal code:	1000	Cellphone:	+27 83 656 9574
Email:	blitsjc@gmail.com		

Environmental Consultants

Vahlangwe Mining Advisory and Consulting is the appointed Independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment Process for the environmental authorisation application for the proposed mining project of sang (general) situated in the Remainder of the Farm Kleinklipkop 287 JR in the Magisterial District of Cullinan.

Table (ii): Details of the EAPs

Company name:	Vahlangwe Mining Advisory and Consulting Cc
Contact person:	Sunday Mabaso
Physical address:	133 Bellairs Drive, Glenvista Extension 5, Glenvista, 2058
Telephone:	+2711 432 0062
Email:	info@vahlangweadvisory.co.za

Public Participation Process Methodology

A Public Participation Process (PPP) is undertaken as required in terms of EIA Regulations, 2014 (as amended). During the undertakings of the PPP, the environmental and social impacts are being investigated, and any stakeholder who is affected by the project is given an opportunity to comment, raise concerns and contribute to the assessment to ensure that local knowledge, needs, and values are understood and taken into consideration throughout the process.

This Draft Basic Assessment Report is available for public comment for a period of 30 days and all comments or concerns raised will be recorded and responded to in the Comments and Responses Report (CRR). The 30-day comment period will commence from **(27 October 2022 - 25 November 2022)**

The following activities were undertaken to announce the project and initiate the Basic Assessment process:

- A Background Information Document (BID) including an Interested and Affected Parties (I&APs) Registration form handed and distributed via email on **27 October 2022**;
- Newspaper advertisement is placed in the **Streeknuus** on the **03 November 2022**;
- Site notices placed around the site on **27 October 2022**; and
- An electronic copy can be accessed and downloaded from the www.vahlegweadvisory.co.za from the **27 October 2022**.

TABLE OF CONTENTS

1. Introduction.....	1
2. Details of.....	1
2.1. Details of the EAP.....	1
2.2. Expertise of the EAP.....	2
3. Location of the overall Activity.....	3
4. Locality map.....	3
5. Description of the scope of the proposed overall activity.....	5
5.1. Listed and specified activities.....	5
5.2. Description of the activities to be undertaken.....	5
6. Policy and Legislative Context.....	6
7. Need and desirability of the proposed activities.....	10
8. Motivation for the overall preferred site, activities, and technology alternative.....	10
9. Full description of the process followed to reach the proposed preferred alternatives within the site.....	11
9.1. Details of the development footprint alternatives considered.....	11
9.1.1. The property on which or location where it is proposed to undertake the activity.....	11
9.1.2. The type of activity to be undertaken;.....	11
9.1.3. The design or layout of the activity;.....	12
9.1.4. The technology to be used in the activity;.....	12
9.1.5. The operational aspects of the activity; and.....	12
9.1.6. The option of not implementing the activity.....	13
9.2. Details of the Public Participation Process Followed.....	13
9.3. Summary of issues raised by I&APs.....	13
9.4. The Environmental attributes associated with the alternatives.....	15
9.4.1. Baseline Environment.....	16
9.4.1.1. Type of environment affected by the proposed activity.....	16
9.4.1.2. Description of the current land uses.....	20
9.4.1.3. Description of specific environmental features and infrastructure on the site.....	27
9.4.1.4. Environmental and current land use map.....	27
9.4.2. Impacts and risks identified including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts.....	28

9.4.3. Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;.....	30
9.4.4. The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.....	35
9.4.5. The possible mitigation measures that could be applied and the level of risk.....	36
9.4.6. Motivation where no alternative sites were considered.....	36
9.4.7. Statement motivating the alternative development location within the overall site.....	36
9.5. Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.....	36
10. Assessment of each identified potentially significant impact and risk.....	42
11. Summary of specialist reports.....	47
12. Environmental impact statement	48
12.1. Summary of the key findings of the environmental impact assessment.....	48
12.2. Final Site Map.....	49
12.3. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.....	49
12.4. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr.....	50
12.5. Aspects for inclusion as conditions of Authorisation.....	50
12.6. Description of any assumptions, uncertainties, and gaps in knowledge...	50
12.7. Reasoned opinion as to whether the proposed activity should or should not be authorised.....	51
12.7.1. Reasons why the activity should be authorized or not.....	51
12.7.2. Conditions that must be included in the authorisation.....	51
12.8. Period for which the Environmental Authorisation is required.....	51
12.9. Undertaking: Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic Assessment Report and the Environmental Management Programme Report.....	51
12.10. Financial Provision: State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.....	51

12.10.1. Explain how the aforesaid amount was derived.....	51
12.10.2. Confirm that this amount can be provided for from operating expenditure.....	53
12.11. Specific Information required by the competent Authority.....	53
12.11.1. Compliance with the provisions of sections 24(4) (a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998).....	53
12.11.2. Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.....	53
13. Undertaking.....	54

LIST OF TABLES

Table 1: Details of the EAP.....	1
Table 2: Expertise of the EAP.....	2
Table 3: Details of the overall activity location.....	3
Table 4: Listed and specified activities.....	5
Table 5: Policy and Legislative Context.....	6
Table 6: Summary of issues raised by I&APs.....	15
Table 7: Population profile.....	21
Table 8: Age group.....	21
Table 9: Consequence and significance rating.....	31
Table 10: Impacts and risks identified.....	33
Table 11: Positive and negative impacts of the proposed activity.....	35
Table 12: Likelihood rating system.....	38
Table 13: Risk Analysis Matrix.....	38
Table 14: Identified and assessed impacts and risks the activity will impose on the preferred site.....	39
Table 15: Summary of the PPP followed.....	42
Table 16: Summary of specialist reports.....	47
Table 17: Summary of the Environmental Impact Assessment.....	48
Table 18: Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.....	49
Table 19: Closure components to the prospecting activities.....	52

LIST OF FIGURES

Figure 1: Locality map of the proposed area.....	3
Figure 2: Site plan map of the proposed area.....	4
Figure 3: Climate of Tshwane.....	16
Figure 4: Geological Map.....	18
Figure 5: Topographical map.....	19
Figure 6: Vegetation cover.....	20
Figure 7: Population groups.....	21
Figure 8: Languages.....	22
Figure 9: Gender distribution.....	22
Figure 10: Educational level.....	23
Figure 11: Waste management.....	23
Figure 12: Water resources for consumption.....	24
Figure 13: Average household income.....	24
Figure 14: Agricultural hub.....	25
Figure 15: Land use at Dinokeng.....	26
Figure 16: Environmental and land use map.....	27
Figure 17: Final site plan.....	49

LIST OF APPENDICES

Appendix 1: CVs of the EAP

Appendix 2: Locality Map

Appendix 3: Public Participation Process

A – Background Information Document

B – I&APs Registration Forms

C – Newspaper Advertisement

Appendix 4: Land Use Map

Appendix 5: Final Site Plan

SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

1. Introduction

Blits Transport (Pty) Ltd proposes to undertake mining activities for sand (general) with the authorization of a mining permit in respect to in the Remainder of the Farm Kleinklipkop 287 JR in the Magisterial District of Cullinan, Gauteng Province.

The planned invasive mining activities will cover an area of about 5 hectares. The project entails the clearing of vegetation, topsoil removal, excavation of the sand and material handling whereby the sand will be stockpiled and sold to the market. The mining activities may have minimal surface disturbance since the mining area is limited to 5ha, hence the application is for a mining permit in terms of Section 27 of the MPRDA.

There will be no blasting activities required in this operation since the sand intended to be mined occurs on the surface and sub-surface with the extraction by an excavator. The mining activities will be conducted for a period of two (2) and subjected to the renewal of another year should the resources not be depleted within the two-year period.

2. Contact Person and correspondence address

2.1. Details of

Table : Contact details of the EAP

Company name:	Vahlegwe Mining Advisory and Consulting (Pty) Ltd
Contact person:	Sunday Mabaso
Physical address:	133 Bellairs Drive, Glenvista, 2058
Telephone:	+27 11 432 0062
Email:	info@vahlegweadvisory.co.za

2.2. Expertise of the EAP

This section describes the EAP's qualifications and experience for the proposed Project. Appendix A contains the EAPs' curriculum vitae and degrees.

Table 2: Expertise of the EAP

NAME	Sunday Mabaso
QAULIFICATIONS	MBA: Climate Change and Energy Law
RESPONSIBILITY ON PROJECT	Project Leader and Reviewer
PROFESSIONAL REGISTRATION	EAPASA (Reg. No. 2022/4485)
EXPERIENCE	Sunday M. Mabaso is the Principal Consultant with more than 20 years of service at the Department of Mineral Resources and Energy of which he served seven (7) years as a Regional Manager (3 years in Northern Cape and 4 years in Gauteng). He has acquired various qualifications in mining and has recently completed an MBA with Milpark Business School and a post Graduate Certificate in Climate Change and Energy Law with the University of the Witwatersrand. His experience includes monitoring and enforcing compliance with Social and Labour Plan and Mine Economics in terms of the MPRDA and the Mining Charter, Water Use Licence Applications in terms of the National Water Act and Environmental Management and Waste Management in terms of NEMA and NEM: Waste Act.

NAME	Londolani Sitsula
QAULIFICATIONS	Bachelor of Earth Sciences in Mining and Environmental Geology
RESPONSIBILITY ON PROJECT	Project Assistant and Report Compiler
EXPERIENCE	Londolani Sitsula is an environmental professional and has been in the mining and environmental field since 2017. She is an experienced environmental consultant with a detailed understanding of the potential environmental and social impacts associated with mining activities in a variety of environments. Her experience includes Environmental Assessments (BAR and S&EIR), WULA, Environmental Compliance Auditing, in the mining and environmental sectors. Her technical skills lie in report writing, specialist report review, environmental impact assessments, research on the mining and prospecting methods, and public participation.

3. Location of the overall Activity

Table 3: Details of the overall activity location

Farm Name:	The remainder of the Farm Kleinklipkop 287 JR
Application area (Ha)	5 ha
Magisterial district:	Cullinan
Distance and direction from nearest town	The proposed area is located approximately 42 km South-West of Moloto Village and some 10.49 km North-East of Pebble Rock Golf Village with access through the R451
21-digit Surveyor General Code for each farm portion	T0JR0000000028700000

4. Locality map

Attach a locality map at a scale not smaller than 1:250000 showing the nearest town and attach as **Appendix 2**.

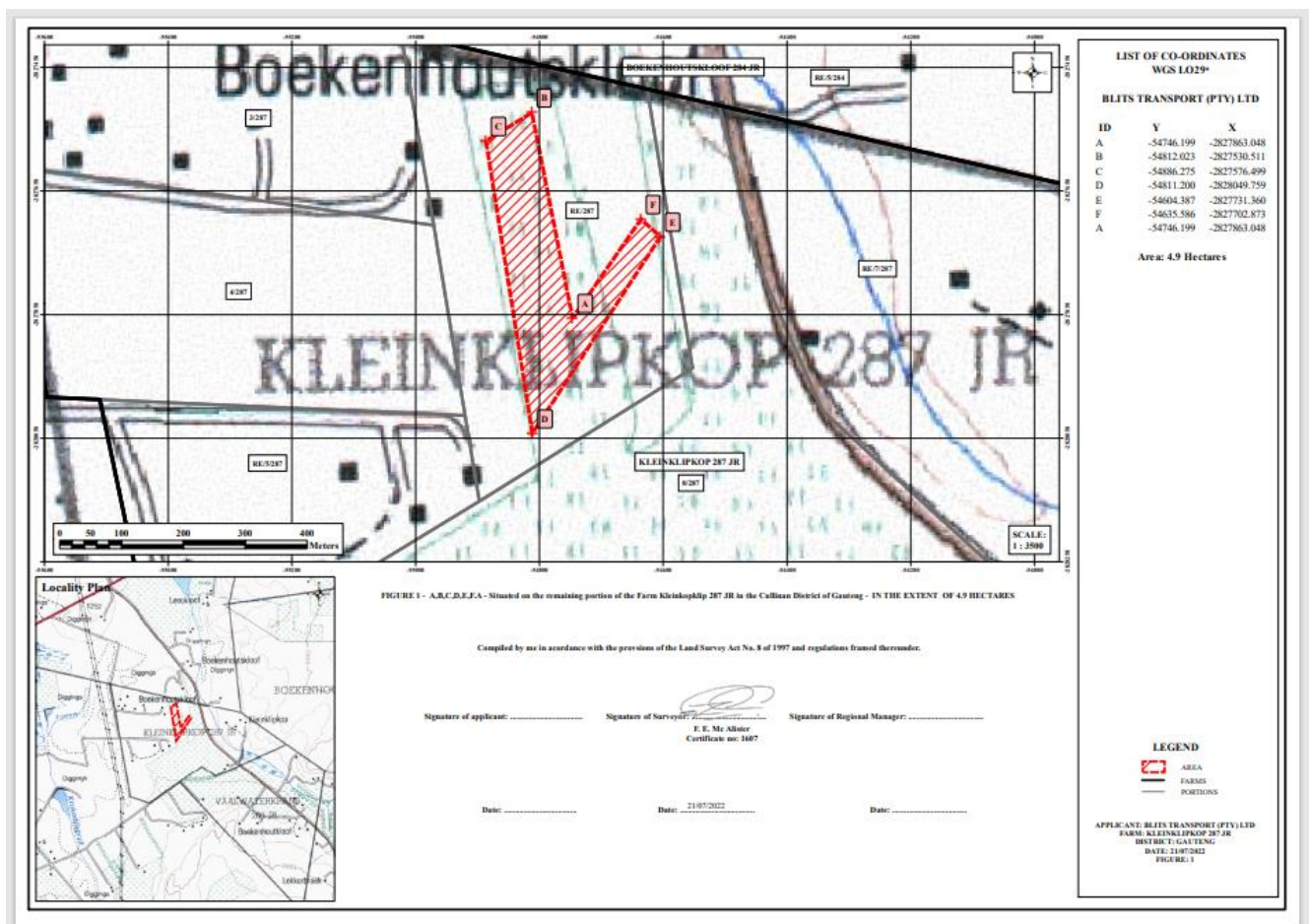


Figure 1: Locality map of the proposed area.

5. Description of the scope of the proposed overall activity

Attach a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site

Blits Transport (Pty) proposes to conduct the mining activities for the extraction of sand (general) in respect to Remainder of the Farm Kleinklipkop 287 JR in the Magisterial District of Cullinan, Gauteng Province. The planned mining activities will cover an area of about 5 hectares. Access to the mining area will be through existing roads. The project entails the following activities:

- Vegetation Clearing;
- Topsoil and overburden stripping;
- Excavation;
- Stockpiling; and
- Material handling including the loading, hauling and transportation.



Figure 2: Site plan map of the proposed area

5.1. Listed and specified activities

Table 4: Listed and specified activities

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY (HA OR M ²)	LISTED ACTIVITY	APPLICABLE LISTING NOTICE <i>GNR 983, GNR 984 or GNR 985</i>	WASTE MANAGEMENT AUTHORISATION
Mining area Excavations	5.0 ha	<input checked="" type="checkbox"/>	GNR 327, 17 April 2017	<input type="checkbox"/>
Offices and ablution	0.01 ha	<input checked="" type="checkbox"/>	GNR 327, 17 April 2017	<input type="checkbox"/>
Wash plant	0.01 ha	<input type="checkbox"/>	Not listed	<input type="checkbox"/>
Workshop	0.04 ha	<input type="checkbox"/>	Not listed	<input type="checkbox"/>
Stockpiles	0.38 ha	<input type="checkbox"/>	Not listed	<input type="checkbox"/>
Settling dams	0.53 ha	<input type="checkbox"/>	Not listed	<input type="checkbox"/>
Access Roads	184 m ²	<input type="checkbox"/>	Not listed	<input type="checkbox"/>

5.2. Description of the activities to be undertaken

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity).

The mining activities will be conducted in phases which will include the following activities:

- **Construction Phase;**

The proposed mining permit is situated in a farm having an existing mining permit on portion of that farm. Therefore, the construction phase will involve the preparation of the area to be excavated which will include clearing the vegetation and removal of the topsoil which will be stockpiled and later used for rehabilitation and/or concurrent rehabilitation where possible. There is pre-existing infrastructure in place required for the mining operation which is located outside the boundaries of the mining area, and the infrastructure is as follows:

- Access road;
- Office and ablution;
- Mining equipment;
- Wash plant;
- Workshop;
- Stockpiling;
- Two settling dams;
- Admin Offices and ablution; and
- Material storeroom

- **Operational Phase; and**

A 30cm topsoil layer will be removed to access the desired sand to be sold to the market. Excavations of the sand layer to the base rock will be conducted between five (5) to six (6) meters. Depending on the customer specification according to the uses of the sand required, the plaster sand material will be taken through the wash plant and the sediments settling ponds which are already in place and loaded onto the haul trucks to be transported from the mine site to the market locations. In the event of the need for the other sands (building sand) in terms of the customer specifications, the sand will be excavated from the in situ, stockpiled, loaded, and sold to the market.

The concurrent rehabilitation will be conducted as far as possible at areas where the extraction is complete and where the economic sand is no longer available. The operation will be a cut and fill method where the mined-out area will be rehabilitation as the mining operations proceeds.

- **Decommissioned.**

The decommissioning phase will involve the final rehabilitation of the disturbed area and the general clean-up of all the redundant infrastructure.

6. Policy and Legislative Context

Table 5: Policy and Legislative Context

Applicable legislation and guidelines used to compile the report	Reference where applied
<p><u>The Constitution of the Republic of South Africa, 1996</u></p> <p>Under Section 24 of the Constitution of the Republic of South Africa, 1996 (the Constitution) it is clearly stated that:</p> <p>Everyone has the right to</p> <p>a) an environment that is not harmful to their health or well-being; and</p> <p>b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -</p> <p>(i) Prevent pollution and ecological degradation;</p> <p>(ii) Promote conservation; and</p> <p>(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</p>	<p>Vahlangwe Mining Advisory and Consulting is undertaking an EIA process to identify and determine the potential impacts associated with the proposed mining activities. Mitigation measures recommended will aim to ensure that the potential impacts are managed to acceptable levels to support the rights as enshrined in the Constitution.</p>
<p><u>National Environmental Management Act, 1998 (Act No 107 of 1998) and EIA Regulations (as amended in 2021)</u></p> <p>The Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA), as amended was set in place in accordance with Section 24 of the Constitution. Certain environmental principles under NEMA must be adhered to, to inform decision making for issues affecting the environment.</p> <p>Section 24 (1)(a) and (b) of NEMA state that:</p> <p>The potential impact on the environment and socio-economic conditions of activities that require</p>	<p>Activities associated with the proposed mining activities are identified as in the Listed Activities in the Listing Notice 1, Activity No. 21 (as amended) which states that:</p> <p>Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002</p>

<p>authorization or permission by law and which may significantly affect the environment, must be considered, investigated, and assessed prior to their implementation and reported to the organ of state charged by law with authorizing, permitting, or otherwise allowing the implementation of an activity.</p> <p>The EIA Regulation, 2014 was published under GN R 326 on 07 2017 (EIA Regulations) and came into operation on 07 April 2017. Together with the EIA Regulations, the Minister also published GN R 327 (Listing Notice No. 1), GN 325 (Listing Notice No. 2) and GN R 324 (Listing Notice No. 3) in terms of Sections 24(2) and 24D of the NEMA, as amended.</p>	<p>(Act No. 28 of 2002), including: —</p> <p>(a) associated infrastructure, structures, and earthworks, directly related to the extraction of a mineral resource; or</p> <p>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening, or washing.</p>
<p><u>Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002)</u></p> <p>The Act make provision for equitable access to and sustainable development of the nation’s mineral and petroleum resources; and provide for matters connected therewith.</p> <p>2. The objects of this Act are to: —</p> <p>(a) recognize the internationally accepted right of the State to exercise sovereignty over all the mineral and petroleum resources within the Republic;</p> <p>(b) give effect to the principle of the State’s custodianship of the nation’s mineral and petroleum resources;</p> <p>(c) promote equitable access to the nation’s mineral and petroleum resources to all the people of South Africa;</p> <p>(d) substantially and meaningfully expand opportunities for historically disadvantaged persons, including women, to enter the mineral and petroleum industries and to benefit from the exploitation</p>	<p>The proposed projected is applied in terms of Section 27 of the MPRDA, 2002 (Act No. 28 of 2002) and the planned activities are according to the scope of the Financial and Technical Competence Report in terms of the Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002): Mineral and Petroleum Resource Development Regulations GNR 527 of 2004.</p> <p>The application was lodged at the Department of Mineral Resources and Energy in the Gauteng Region since the proposed project is in the Remainder of Farm Kleinklipkop 287 JR in the Magisterial District Of</p>

of the nation's mineral and petroleum resources;

(e) promote economic growth and mineral and petroleum resources development in the Republic;

(f) promote employment and advance the social and economic welfare of all South Africans;

(g) provide for security of tenure in respect of prospecting, exploration, mining, and production operations;

(h) give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development; and

Regulation 2(1) of the Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002):
Mineral and Petroleum Resource Development Regulations GNR 527 of 2004; clearly states that:

An application for any permission, right or permit is made in terms of the Act and must be lodged by submitting an appropriate form contained in annexure I by hand or registered post to the Regional Manager in whose region the land is situated or to the designated agency at the relevant address specified in the appropriate form

Cullinan.

7. Need and desirability of the proposed activities.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

- **Need**

There is an absolute demand of sand in the construction industries with various target markets that need the sand. The mining of the sand provides a reasonable revenue that contributes to the country's economy and somewhat has a positive impact on the socio-economy of the local communities through job opportunities that are created for the local community members to uplift their livelihoods.

- **Desirability**

Blits Transport (Pty) Ltd intends to conduct the mining activities for sand (general) in a safe and sustainable manner, and ensure that, not only the employment of the environmental management practices, but also ensure that the socio-cultural dimensions are taken into consideration.

By conducting a sustainable mining of sand will merge into the environmental pillar of safe mining and environmental management practices; and merge into the socio-economic pillar in a way that the project can yield inter-generational benefits such as income, employment and payment of taxes which will contribution to the local, regional, and national economy.

8. Motivation for the overall preferred site, activities, and technology alternative.

- **Preferred site**

Based on the geology of the area, the sand occurs as weathered material from the shale mudstone giving a very good quality sand for different building purposes. The sand occurs in a vast area extent in the area, however, most of that area is either on property owned by another miner, covered with other economic activities or are sensitive areas which need not to be disturbed by mining activities. Therefore, there is no preferred alternative site in this regard.

- **Activities**

The sand is occurring within the applicant's property and in limited quantity, hence they have applied for a mining permit since the availability of the sand is not economical viable for the application of a mining right. The layout plan of the infrastructure has been planned to avoid sensitive areas as far as possible. The intended method of vegetation clearance will have

minimal environmental impacts. The applicant intends to utilize the pre-existing infrastructure that is currently used for the mining activities including the conventional mining method of extracting the sand. There are no alternative technologies identified for the proposed mining activities in this regard.

9. Full description of the process followed to reach the proposed preferred alternatives within the site.

NB! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

9.1. Details of the development footprint alternatives considered.

With reference to the site plan as provided above and the location of the individual activities on site, provide details of the alternatives considered with respect to:

9.1.1. The property on which or location where the activity is proposed to be undertaken;

The property on which the activity is proposed to be undertaken belongs to the owner of the company, 'the applicant'. The mining area is covering an extent of 5ha, a portion of the Farm Kleinklipkop 287 JR within which the Farm can have two more area location alternatives considered for the proposed area. The location alternatives were opted for based on several criteria, including environmental considerations with regards to how sensitive the area is in terms of soils, wetlands, groundwater, and so on; sensitive receptors with regards to the proximity of the mining operations to the communities and farmsteads; and the area's dependence on the necessary infrastructure.

There was no alternative property on which or location where the activity will be undertaken considered since the landowner is the company owner applying for the mining permit, and therefore, will not have landowners' issues and other matters pertaining the access to the property. There is pre-existing infrastructure on the property that will be able to sustain the mining operations. The property may have two strategic alternatives to be considered in terms of the mining area depending on the sand quantity and environmental sensitivity.

9.1.2. The type of activity to be undertaken;

The mining method is a surface open cast since the sand is occurring on the surface and/or subsurface which will be mined to a maximum depth of approximately 5-6 meters. The operation will be a cut and fill where in concurrent rehabilitation will be implemented. Vegetation clearance will be conducted where necessary. There is existing infrastructure such as access roads, electricity power, water and other auxiliary infrastructure required for the

mining operation, and therefore, no infrastructure establishment will be required. The use of existing roads was most preferred because of the impact on vegetation and potential erosion that the construction of new roads might have.

9.1.3. The design or layout of the activity;

Since this area will not require any complicated surface infrastructure, no design and layout alternatives for the proposed area were determined. Alternatives were considered for the location of the mining area which includes the area with high quantity and occurrences of the desired sand to be sold to the market.

9.1.4. The technology to be used in the activity;

The mineral to be mined is surface to sub-surface in occurrence which will require excavation of approximately 5-6 meters in depth; therefore, the mining method is a surface open cast operation with a cut and fill approach to allow for the concurrent rehabilitation. An excavator will be utilized to extract the sand material from the in-situ.

The plaster sand will be processed through a wash plant to the settling ponds then loaded onto the haul truck by a front-end loader and transported to the market. On the other hand, the building sand will be stockpiled from the extraction, loaded onto the haul truck using a front-end-loader and transported to the market. The processing of the sand will depend on the customer specification. No alternatives are indicated in this regard.

9.1.5. The operational aspects of the activity; and

- **Operational**

The applicant intends to utilize a bulldozer to clear vegetation for the land preparation for the mining activities. There is existing infrastructure that will be utilized as far as possible to carry out the mining operations, and therefore, no construction and establishment of new infrastructure will be required in this regard.

Blits intends to utilize the conventional surface mining method of the extraction of sand by the excavator, loading of the sand material onto the haul truck and transportation of the material to the market. Concurrent rehabilitation will be implemented as the mining method will be a cut and fill.

9.1.6. The option of not implementing the activity.

The alternatives considered is the “No-Go” alternative which is the option of not proceeding with the Project. These will also be further assessed during the Impact Assessment of the Project.

9.2. Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB! The affected parties must be specifically consulted regardless of whether they attended public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

- **Public Participation Materials**

Following the legislative requirements and good practice, it is important to develop documentation, which will be easily accessible to all stakeholders who would be affected or interested in the project. The following documents have been developed and distributed to all stakeholders listed in the stakeholder database. The public participation materials used as part of the Environmental Impact Assessment (EIA) process are included as appendices to this report.

Background Information Document (BID):

The BID aims to provide important information regarding the following:

- Project description of the proposed mining activities;
- The Environmental Impact Assessment and the Public Participation Process to be undertaken in support of the Project process and relevant contact details;
- 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 the draft Basic Assessment Report; and
- The BIDs were hand delivered to the affected and surrounding landowners.

I&AP Registration Form:

A registration form was distributed to the community attached to the BID for the registration of the Interested and Affected Parties (I&AP).

Site notice:

A3 sized site notices informing the I&APs about the project information as per the published newspaper advert, were developed, laminated, and erected at the boundary of the proposed site as required by Section 24J of NEMA read with EIA regulation Section 41 on **27 October 2022**. Further notices were placed within the vicinity of the proposed project site at strategic locations where it was deemed to be visible to community.

Newspaper advertisements:

A newspaper advertisement, informing all Interested & Affected Parties (I&APs) residing in surrounding communities near the proposed area within the jurisdiction of Tshwane Municipality will be published and include information about Blits intention to apply for a mining permit for the mining of sand (general) in respect of the remainder of the Farm Kleinklipkop 287 JR in the Magisterial District of Tshwane, Guteng Province. The newspaper publication will be conducted through **Streeknuus Newspaper** dated 03rd November 2022.

I&APs were informed to register any comments or concerns that they might have, regarding the proposed project by contacting the Environmental Assessment Practitioner (EAP), via email through the provided comments request form or request additional information via the telephone. The EAP details were included in the advert, Background information (BID) and site notice.

Public meeting:

A public meeting with all interested and affected parties will be held at the nearby location accessible to every individual if a considerate number of I&APs have registered to participate on the PPP to raise their comments, issues, and concerns.

9.3. Summary of issues raised by I&APs

(Complete the table summarising comments and issues raised, and reaction to those responses)

Table 6: Summary of issues raised by I&APs

INTERESTED AND AFFECTED PARTIES	DATE COMMENTS RECEIVED	ISSUES RAISED	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
<u>AFFECTED PARTIES</u>				
Landowner/s				
Lawful occupier/s of the land				
Landowners or lawful occupiers on adjacent properties				
Municipal councillor (if more than one, attach list as an Annexure)				
Municipality (if more than one, attach list as an Annexure)				
Communities				
Dept. Land Affairs				
Traditional Leaders				
Dept. Environmental Affairs				
Other Competent Authorities affected				
<u>OTHER AFFECTED PARTIES</u>				
<u>INTERESTED PARTIES</u>				

9.4. The Environmental attributes associated with the alternatives.

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical, and biological aspects)

9.4.1. Baseline Environment

9.4.1.1. Type of environment affected by the proposed activity.

(Its current geographical, physical, biological, socio- economic, and cultural character).

- Climate**

Tshwane experiences short, moderate winters and lengthy, humid subtropical summers. The city experiences cold, clear nights and pleasant to somewhat warm days that are typical of South African winters. Despite the mild winter lows on average, it can get chilly at night because of the clear skies, with minimum temperatures at night in recent years ranging from 2 to 5 °C (36 to 23 °F).

Tshwane's high average annual temperature of 18.7 °C is owing mostly to the city's protected valley location, which serves as a heat trap and isolates it from cool southerly and south-easterly air masses for most of the year. This is despite the city's comparatively high height of roughly 1,339 meters.

The summer months are when it rains the most, while the winter months, when frosts can be severe, are when it's dry. Snowfall is a very uncommon occurrence; although snowflakes were seen in the city in 1959, 1968, and 2012, the city has never seen any accumulation.

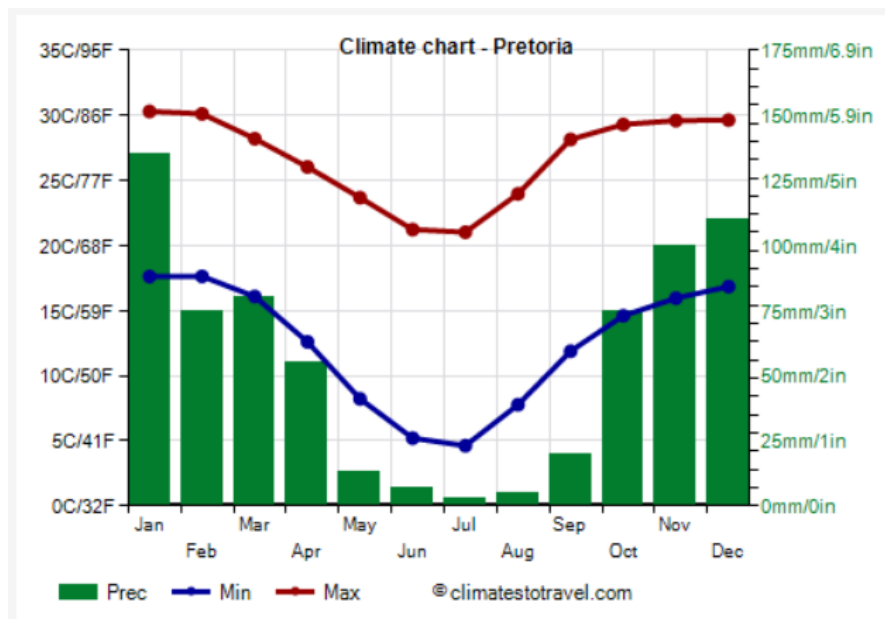


Figure 3: Climate at the City of Tshwane

- **Geology and Soils**

The geology of the area is situated within the Pretoria Group of the Transvaal Supergroup predominated by the quartzites (outcrops), mud rock, sandstone, and shale.

The Pretoria Group is made up of two interbedded volcanic layers and sedimentary strata that are 6 500–7 000 meters long and alternately argillaceous and arenaceous. Intruding diabase and ultramafic sills are frequent throughout the Pretoria Group strata, and minor amounts of chert and carbonate rocks are also present. The Chuniespoort Group's dolomites and iron formations provide an irregular foundation for the Pretoria Group, which is followed by the Rooiberg Group's felsites. It is attributed to an alluvial-lacustrine paleo-environmental context, and deposition in the eastern portion of the depository was stopped by fluvimetric lake-fill sedimentation.

Only the southern two thirds of the eastern Transvaal outcrop contain the five highest strata of the Pretoria Group; to the north, the mafic Rustenburg Suite of the Bushveld Complex truncates these sedimentary rocks. The Ray Ton Formation, which is located near Pretoria, is most likely a relative of these five formations.

The sandstones have a variety of sedimentary features, such as ripple marks, planar and trough cross-stratification, planar stratification, and isolated tiny channel-fills. The quartzitic sandstones typically form scarp slopes that offer good exposures; however, the more immature lithologies have undergone little to no recrystallization. Instead, they have undergone local recrystallization to coarse quartz mosaics by Bushveld contact metamorphism and/or intrusive sills. Soils on hard or weathering rock with little soil formation, typically shallow, and with or without sporadic varied soils. Lime is scarce or non-existent in nature.

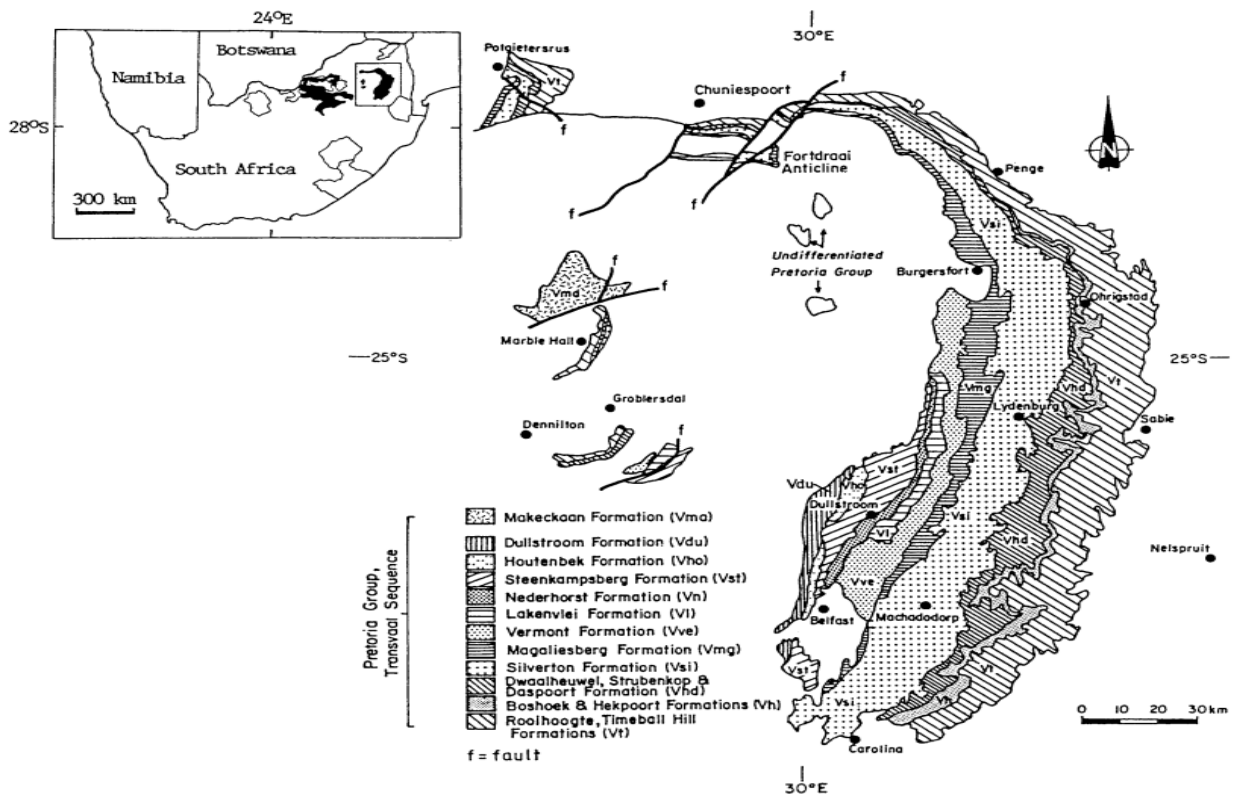
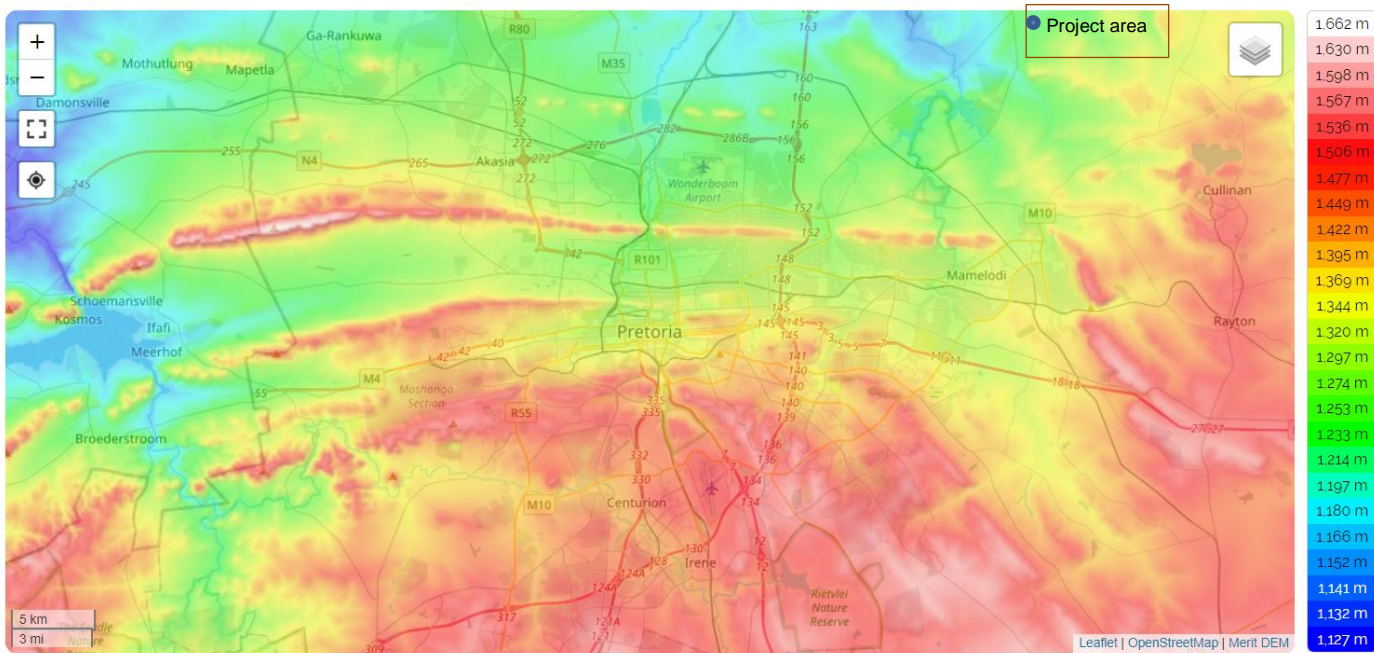


Figure 4: Geological map of the proposed area

- **Topography**

Pretoria, in the north-east of South Africa, is the territory that separates the Highveld and the Bushveld, located about 50 kilometres (31 miles) north of Johannesburg. It is located 1,370 m above sea level in a warm, well-protected, agricultural valley, surrounded by the hills of the Magaliesberg range. Pretoria has a total size of roughly 1,644 km². The proposed area is located 1 233m above sea level with an expected change to topography to 1 214m above sea level due to the intended mining activities.



Pretoria, City of Tshwane Metropolitan Municipality, Gauteng, 0126, South Africa (-25.74594 28.18794)

Figure 5: Topographical map of Pretoria.

- **Hydrology**

According to the South African National Biodiversity Institute, the area falls within the Sub-water Management Area. The area two rivers flowing through in both the easterly and westerly sides of the proposed area. Boekenhoutskloospruit river flows from the north-easterly to the south easterly of the proposed mining area and is approximately 360 m east of the proposed area. The other river is Krokodilspuit flowing from the north westerly to the south westerly and is 1.7 km west of the mining area boundaries.

The area is also characterized by marshes along both rivers with one located 2 km north westerly of the mining area. The closest marsh is located about 560 m along the Boekenhoutskloospruit river. There is a water pan located about 87 m East of the mining area and will minimum impacts by the mining activities since the proposed area is within the acceptable buffer zone.

- **Fauna and Flora**

The area is located within the Central Sandy Bushveld. This vegetation is found in low undulating areas, sometimes between mountains and sandy plains, and it supports tall, deciduous woodlands. Terminalia sercia and Bureka Africana woodlands on deep sandy soils,

Combretum woodland on shallow rocky or gravelly soils. Acaia, Ziziphus, and Euclea species can be found on the flats and lower slopes of eutrophic sands and some less sandy soils. Some areas of the valley may be dominated by A. Tortillis. On dystrophic sands, a grass-dominated herbaceous layer with a low basal cover. Rural communities cover a large portion of the unit in the broad arc south of the Springbokvlakte.

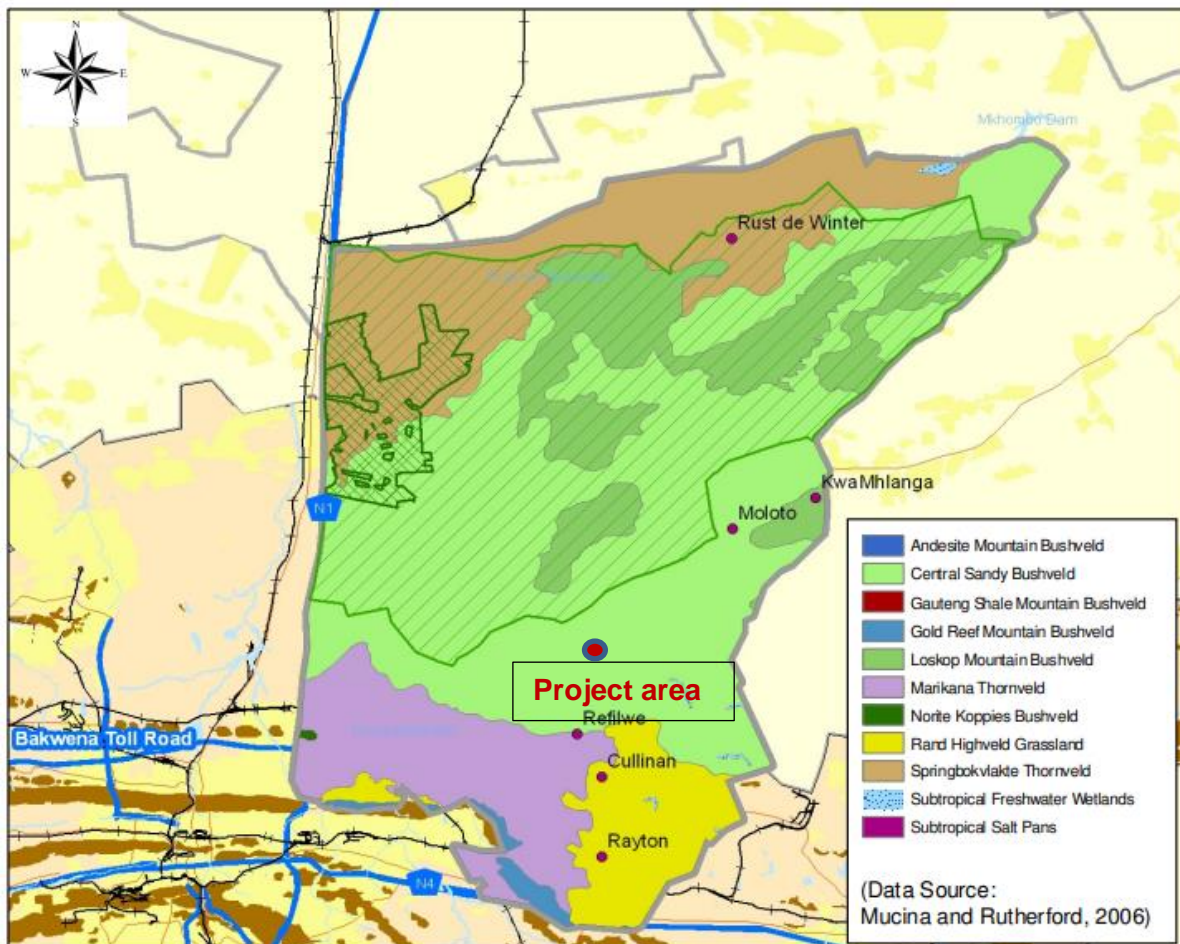


Figure 6: Vegetation cover in the proposed area.

- **Socio-Economic Status**

The area is in the Nokeng tsa Taemane Local Municipality. This municipality has a predominantly urban socio-demographic profile, like the City of Tshwane (CoT), which is not reflected in the land use profile. This could be attributed to the demographics of those who migrate to these areas. As part of Metsweding District Municipality, this municipality had the highest percentage of total population in-migration. The municipality is rapidly expanding along the CoT and the main road to Cullinan.

People who migrate are those who want to get away from city life and those who come from rural areas in search of work.

- **Population profile**

Table 7: Population profile at Cullinan

Group	Percentage
Black African	64,3%
Coloured	2,7%
Indian/Asian	0,5%
White	31,7%
Other	0,8 %

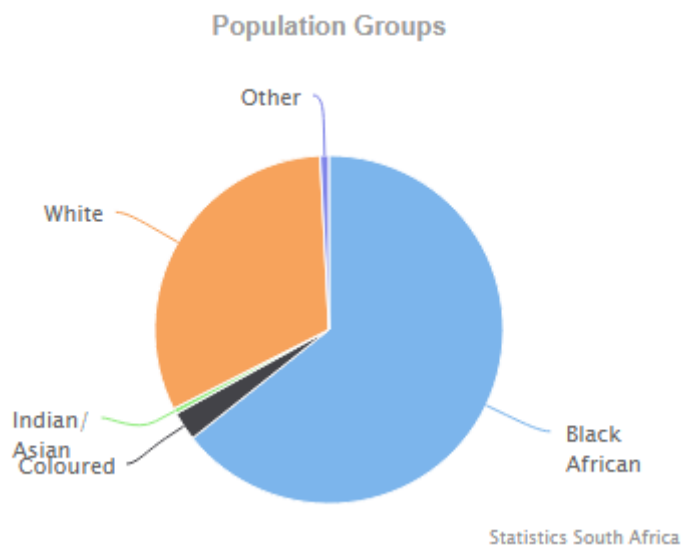


Figure 7: Population groups

- **AGE**

Table 8: Age groups

Age	Males	Females
0-4	2,3%	1,9%
5-9	1,8%	1,9%
10-14	2%	1,7%
15-19	4,3%	2,3%
20-24	5,8%	2,6%
25-29	12,9%	3,7%
30-34	11,6%	3,4%
35-39	8,9%	3,2%
40-44	5,9%	2,5%
45-49	4,3%	2,1%
50-54	3,3%	1,4%
55-59	2%	1,3%

60-64	1,1%	1,1%
65-69	1,1%	1,1%
70-74	0,7%	0,7%
75-79	0,4%	0,4%
80-84	0,2%	0,2%
85+	0,1%	0,1%

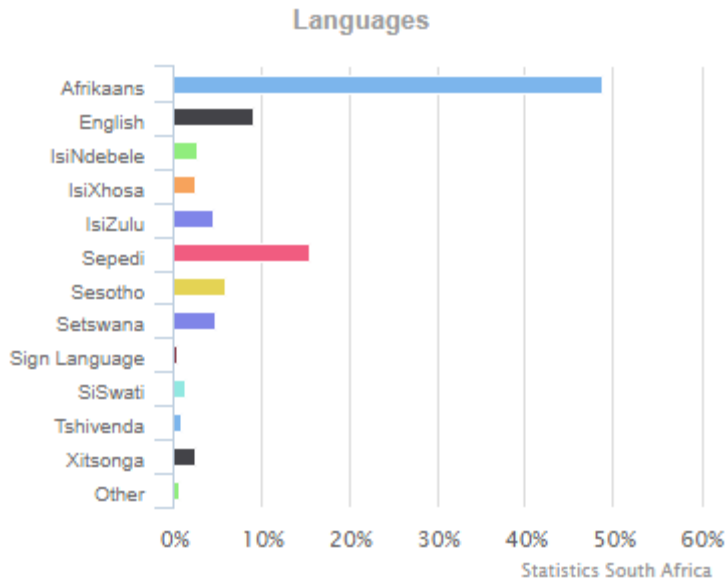


Figure 8: Languages in Cullinan.

- Gender

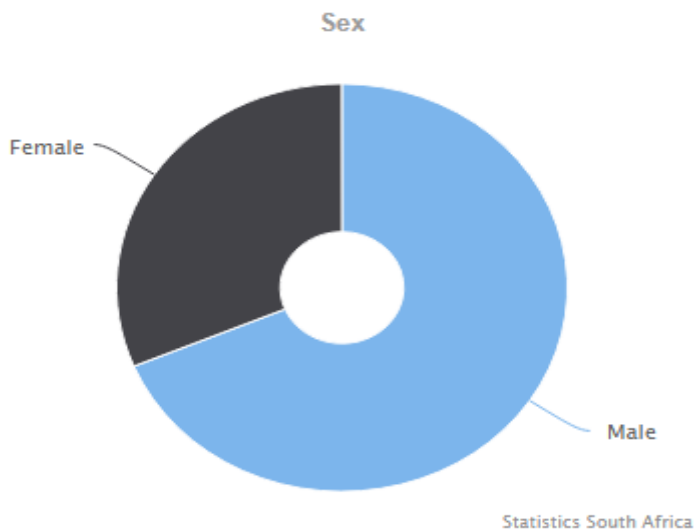


Figure 9: Gender distribution in Cullinan

- **Educational Level**

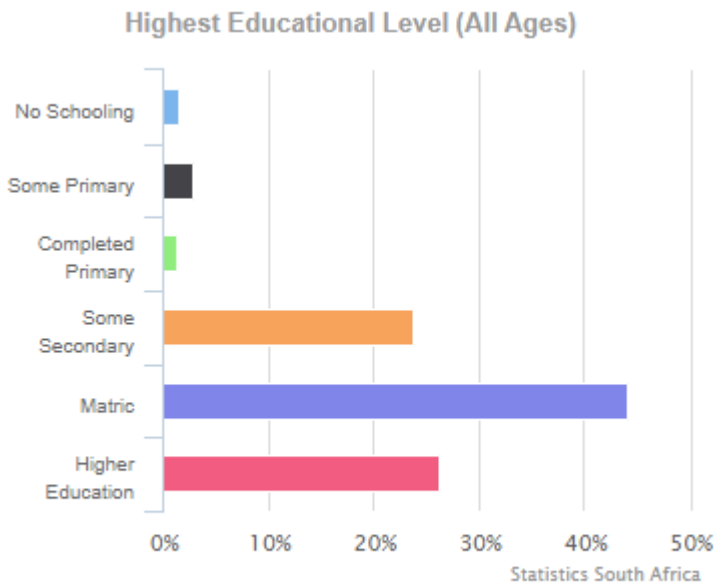


Figure 10: Educational level at Cullinan

Waste

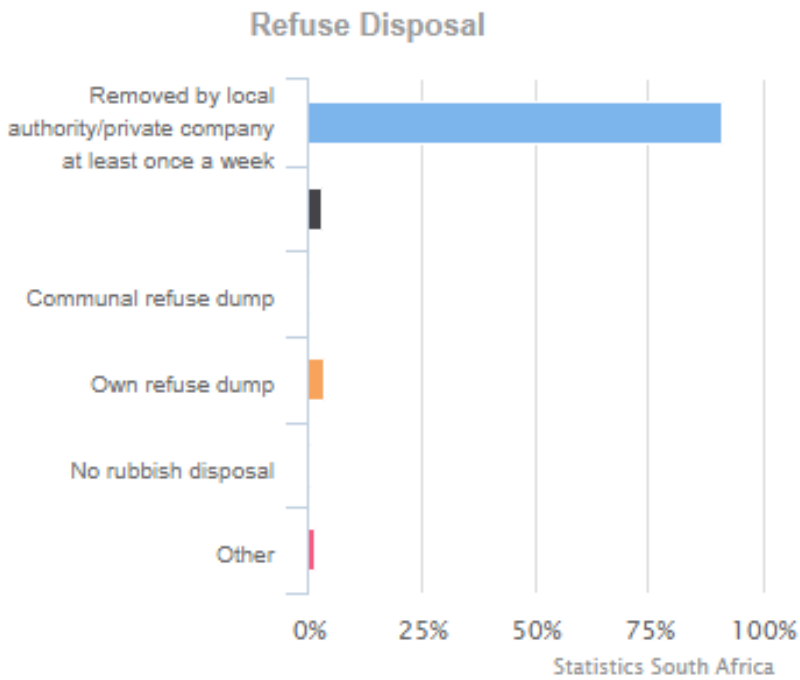


Figure 11: Waste management

Water

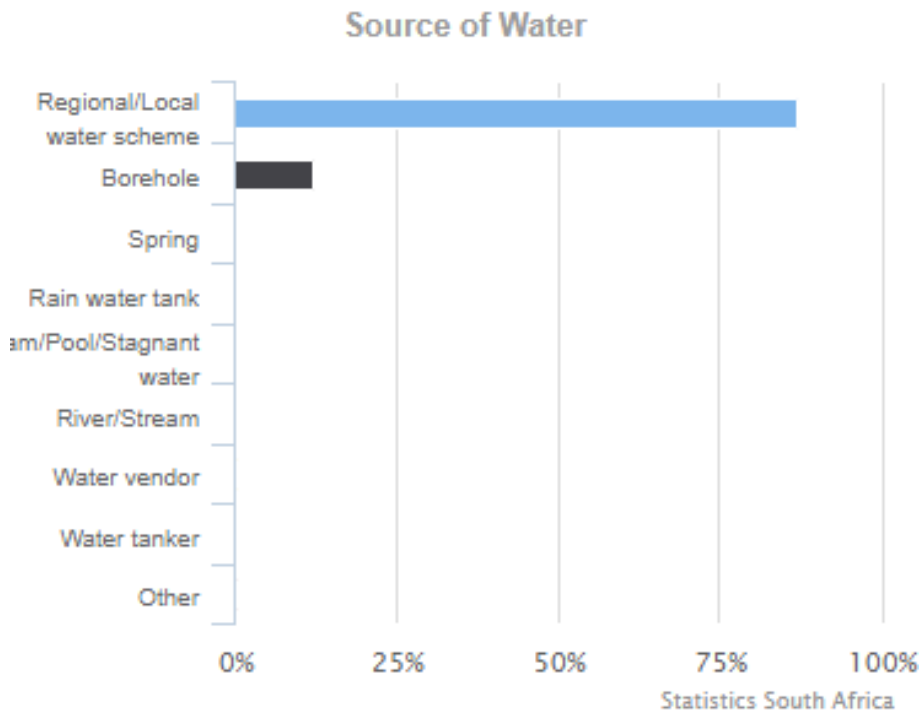


Figure 12: Water sources for consumption

Income

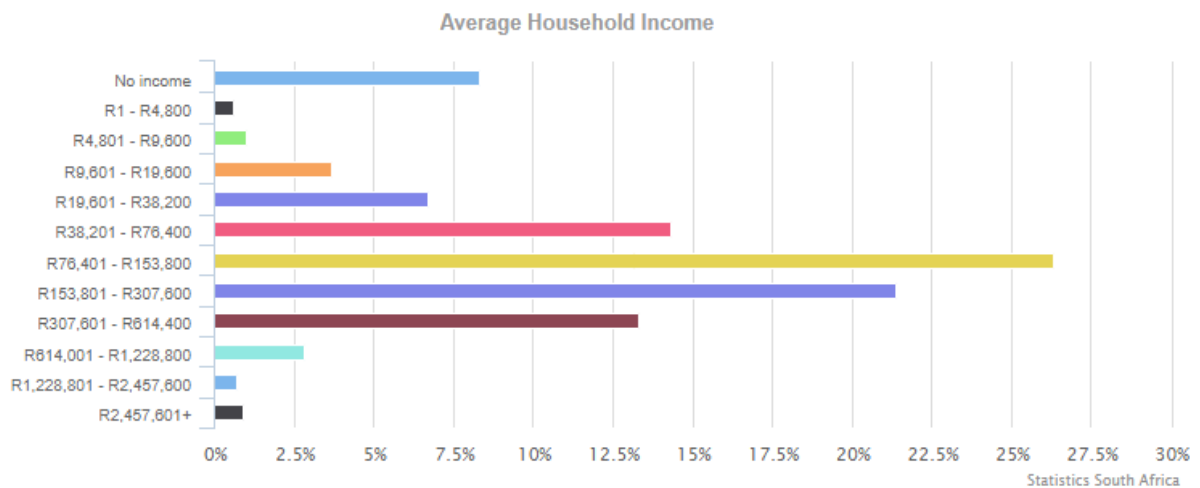


Figure 13: Average household income

- Agriculture

The area falls under the area with high agricultural potential. GDARD has delineated several agricultural hubs as part of the of the Gauteng Agricultural Potential Atlas throughout the province. These hubs are concerned with the establishment of high-

quality agricultural activity centres, where niche market agricultural products such as vegetables, including indigenous vegetables, flowers, herbs, and spices, will be farmed. The first of these hubs opened in the Metsweding District in 2007, with a significant portion located in the Nokeng tsa Taemane municipal area (Figure 6). This agricultural hub is in the subregions of Elandshoek, Cullinan, De Wagendrift, and Kameelfontein/Wallmansthal.

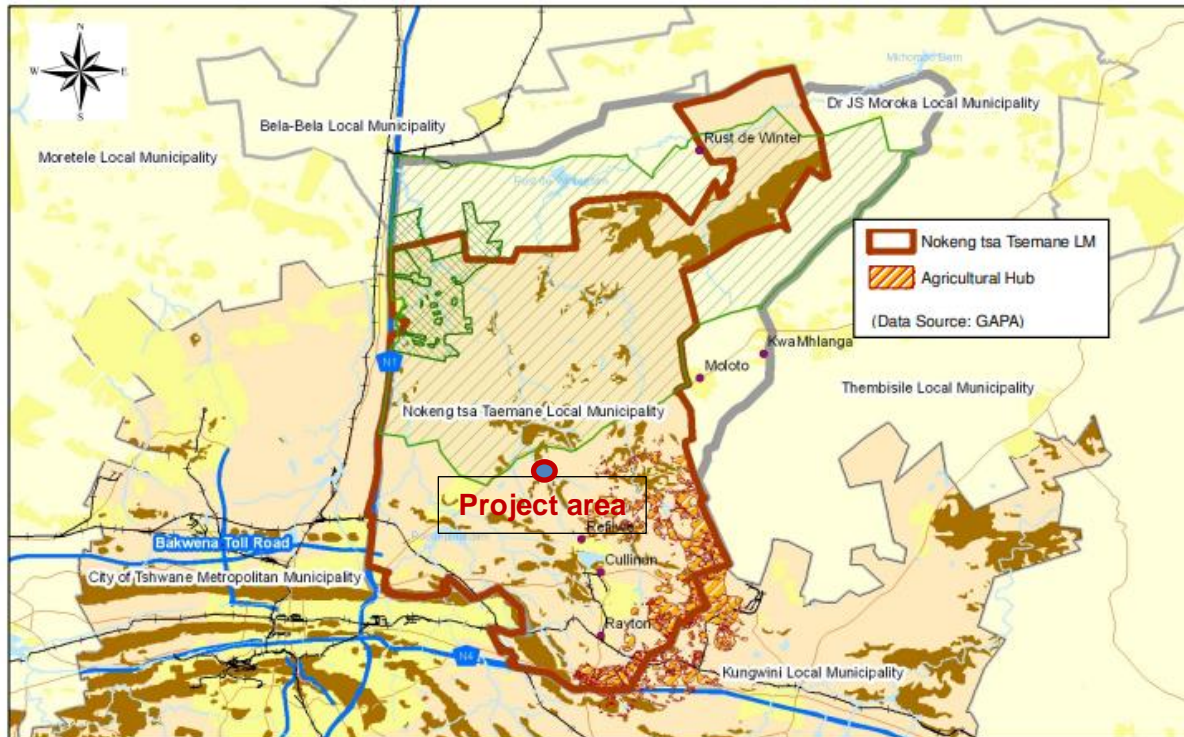


Figure 14: Agricultural hub.

- **Archaeological and Heritage Resources**

Dinokeng's cultural heritage dates back more than a million years. It spans human cultural development from the Stone Age to the present. It covers prehistoric African history, colonial conquest, and more recent events. As a result, it depicts the interaction of the first humans and their adaptation and utilization of the environment, human migration, new technologies, warfare, and the struggle for survival, as well as evidence of ethnic and racial conflict, but also of living and working together. The record also depicts whites conquering black people, British imperialism, and the struggle for freedom linked to apartheid's rise and fall, including the struggle for land, forced removals, and unequal economic development.

There are no known Heritage resources at the proposed mining area, hence the environmental sensitivity screening report indicates a low sensitivity in this regard.

9.4.1.2. Description of the current land uses.

The DPA is divided into two main towns, Cullinan (which includes the township Refilwe) and Rayton (which includes the township Phumzile), which are in the southern part of the DPA . These are the main service centers in the Nokeng tsa Taemane municipal area's rural area. Despite extensive urbanisation in the Roodeplaart Dam area near Pretoria, these two areas remain the most important urban nodes within the municipal area. The adjacent and surrounding farms range from relatively smaller subdivisions in the southern part of the study area near the N4 National Road to larger farms/portions with extensive agricultural activities in the northern parts. Many commercial or business-related activities take place near major roads. The proposed land falls within the agricultural theme sensitivity with cultivations occurring near the mining area.

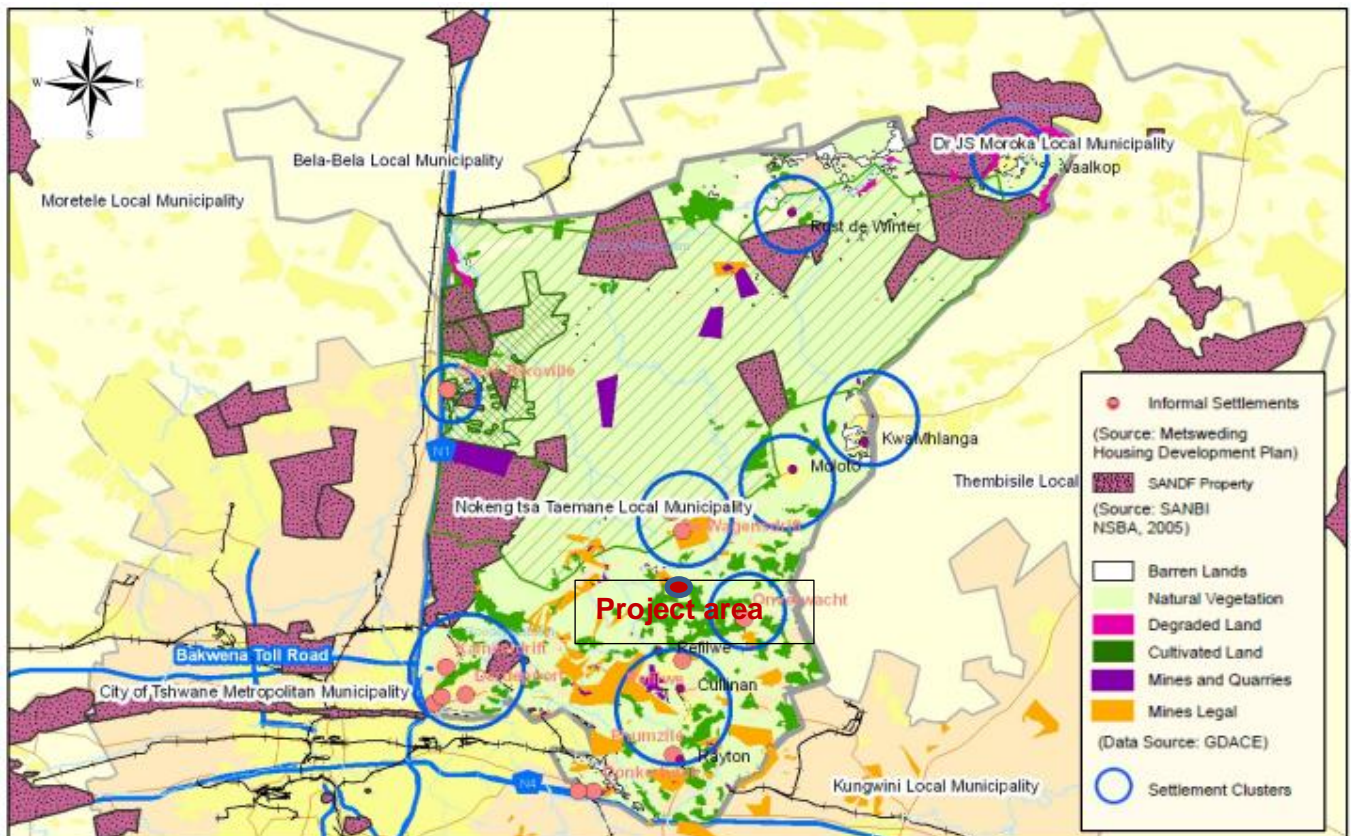


Figure 15: Land use at Dinokeng.

9.4.2.3. Description of specific environmental features and infrastructure on the site.

The northern mining permit area is access through the R451 road which is located 300 m east of the proposed area. There are dwellings within the mining area, however not within the mining operation area. The houses are connected to the municipality electricity power grid. There are also boreholes that are used for office and domestic use. Electricity power line occur about 1.3 km west of the mining area, running from the northwest to the southwest of the mining area. The area is located within the cultivated are with the closest cultivations occurring from the west- southerly to the east northerly of the Farm Portion boundaries. There are unknown gravel roads going in and around the mining area.

Diggings in a form of the sand mining also occur in the 1 km from the north easterly and westerly sides of the Farm Portion boundaries. Marshes occur along Krokodilspruit river located 1.3 km north westerly of the mining area and another marsh occurring southeast along the Boekenhoutskloospruit river. There are dams located along the Krokodilspruit river with one located 1.5 km northwest of the mining area and the other one located 1.5 km southwest of the of the mining area respectively. Another dam is located 2 km northeast of the mining area along the Boekenhoutskloospruit river.

9.4.1.4. Environmental and current land use map.

(Show all environmental, and current land use features)

The environmental and current land use of the proposed area is shown on the map below. There were no cultural or heritage resources identified on site.

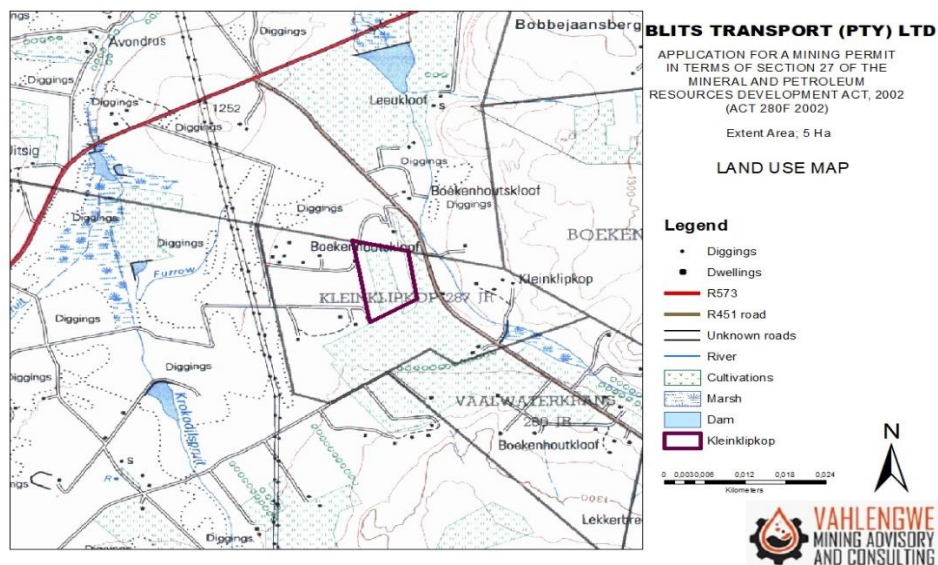


Figure 16: Environmental and current land use map.

9.4.2. Impacts and risks identified including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts

Project activities

During the operation the following activities will take place on site:

- Vegetation clearance;
- Topsoil and overburden removal, and stockpiling;
- Excavation, loading and hauling of the material;
- Processing (washing); and
- Rehabilitation

Various mining related activities from the site operational, decommission and rehabilitation are associated with environmental impacts that may be major positive, negative, and cumulative. The potential impacts are discussed per environmental features/ aspect below.

- **Visual**

Dust generation and creation of visual disturbance may occur from site clearance and establishment of the infrastructure.

- **Vegetation clearance**

The vegetation clearance due to the associated mining operations will allow for increased surface water runoff, which may lead to soil erosion and loss of topsoil.

- **Soils**

The removal of topsoil may affect topsoil life and nutrition, as well as disrupt the natural sequence of soil layers, altering soil and land capability. If not properly mitigated, a change in soil capability will have an impact on the end land use. Heavy vehicle movement in the construction area causes soil compaction, water runoff, and soil erosion, especially during the rainy season. Hydrocarbon spillages from temporary storage of hazardous products may contaminate the soil.

- **Land use and Land Capability**

Prior to the mining activities, the land was used for farming. The mining operation has currently altered the land's farming practices. Farming, on the other hand, may be implemented if the land is properly rehabilitated to a landscape suitable for a sustainable farming practice.

- **Surface Water**

A water pan is about 207 meters east of the mining area. The Boekenhoutskloospruit flows from the northeast of the mining area to the southeast, 450 meters east of the mining area, with a dam located 1.9 kilometers northeast of the mining area. Another river flows northwest to southwest, 1.7 kilometers west of the mining area, with a marsh area 1.8 kilometers northwest, one dam 2 kilometers northwest, and the other 1.9 kilometers southwest of the mining area. The mining area boundary, however, anticipates a 100-meter buffer from the surface water resource. The mining operation is outside the safe buffer zone from the surface water resources, and will therefore, not have a direct impact on the available surface water resources.

- **Groundwater**

Groundwater may also be subjected to contamination due to hydrocarbons spillages from the operating fuel-dependant equipment which may seep into the ground water.

- **Socio-Economic**

The mine is currently employing 10 personnel from the local community with an intent to alleviate unemployment within the host community. Local businesses will also benefit from the procurement of goods and services that will sustain the project for the proposed period of the project. Project related employment has the potential to considerably improve the livelihoods and income stability of employees and their dependents.

- **Health and Safety**

The mining equipment such as the copper cables, dust control equipment, sprayers, equipment and vehicles, and pumps will be subjected to theft. These issues pose safety risks for law enforcement, affected landowners and adjacent communities. The mining property may be subjected to vandalism due to criminals seeking valuable items from the mining operation.

Workers may sustain injuries related to the operation and material handling. The proposed project is associated with the dust generation that contains fine particulate matter of which if inhaled may cause respiratory diseases to the workers.

Exposure to silica material for an extended time may cause silicosis to workers. The applicant will implement the health and safety measures to manage the health and safety impacts.

- **Noise**

Noise disturbance to surrounding communities are expected to occur during mining operations due to the operating equipment and vehicles.

9.4.3. Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;

Criteria to Consider when Determining Severity of impacts:

The ranking of impacts/determination of significance is estimated using two criteria, namely Consequence and Probability. These consider the contributing factors / criteria listed in the legislation. The definitions of each are provided below.

The **Consequence** of an impact resulting from an aspect is expressed as a combination of:

- **Nature** of impact: An indication of the extent of the damage (negative impacts) or benefit (positive impacts) the impact inflicts on natural, cultural, and/or social functions (environment).
- **Extent** of impact: A spatial indication of the area impacted (i.e., how far from activity the impact is realised).
- **Duration** of impact: A temporal indication of the how long the effects of the impact will persist, assuming the activity creating the impact ceases. For example, the impact of noise is short lived (impact ceases when activity ceases) whereas the impact of removing topsoil exists for a much longer period.
- **Frequency** of the impact occurring: An indication of how often an aspect, because of a particular activity, is likely to occur. Note that this does not assess how often the impact occurs. It applies only to the aspect. For example, driving takes place daily whilst other activities take place monthly while the resultant frequency of the impacts occurring will vary based on several factors.

Magnitude/Severity of an impact determines to what extent will the environment be destroyed or its functions be altered by the activity.

Significance of the impact is an indication of the importance of the impact in terms of both the physical extent and the time scale. It indicates the level of mitigation required.

Table 9: Consequence and significance rating.

CONSEQUENCE	Nature of Impact:		
	Low	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are not affected.	1
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are affected insignificantly.	2
	Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are altered.	3
	Medium-High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are severely altered.	4
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will temporarily or permanently cease.	5
	Scale/Extent of Impact:		
	Local	The impacted area will only extend as far as the activity being conducted, e.g., the activity footprint	1
	Site	Impact occurs within a 20km radius of the site.	2
	Regional	Impact occurs within a 100km radius of the site.	3
	National	Impact occurs within South Africa.	4
	Duration of Impact:		
	Short-term	The impact will either disappear with mitigation or will be mitigated through the natural processes in shorter time span.	1
	Medium-term	The impact will last up to the end of the project phases, where after it will be negated. The impact will cease within 5 years if the activity is stopped.	3
	Long-term	The impact will last for the entire operational phase and after the operational life of the operation but will be mitigated by direct human action or by natural processes thereafter.	4
	Permanent	Intervention will not occur in such a way or in such a time span that the impact can be considered transient.	5
	Frequency of the Occurrence of the Impact:		
	Annually or less	Impact occurs at least once in a year or less frequently.	1
	6 months	Impact occurs at least once in 6 months.	2
	Monthly	Impact occurs at least once a month.	3
	Weekly	Impact occurs at least once a week.	4
Daily	Impact occurs daily.	5	
PROBABILITY	Probability of the Occurrence of the impact:		
	Improbable	The possibility of the impact materializing is very low either because of design or historic experience.	1
	Probable	The possibility of the impact materializing will occur to the extent that provision must be made thereof.	2
	Highly Probable	It is most	4
	Definite	The impact will occur regardless of any prevention measures.	5
	Magnitude of the impacts:		
	Low	The impact alters the affected environment in such a way that the natural processes are not affected.	2
	Medium	The affected environment is altered; however, the functions and processes continue in a modified way.	6
	High	Function or process of the affected environment is disturbed to the	8

		extent where it temporarily or permanently ceases.	
SIGNIFICANCE	Significance of the impact: Sum (Duration, Extent, Magnitude) x Probability		
	Negligible	The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.	< 20
	Low	The impact is limited in extent, with low to medium intensity and whatever the probability of the occurrence may be, the impact will not have a material effect on the decision and is likely to require the management intervention with increased costs.	< 40
	Moderate	The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.	< 60
	High	The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation	> 60

This rating system is weighted in such a way as to set impacts that are very likely to occur, but have very little consequence, as Low significance. Similarly, impacts with serious consequences but that are unlikely to occur are rated lower, than impacts with serious consequences that are likely to occur.

Table 10: Impacts and their significance.

Aspect	Impacts	Extent	Duration	Magnitude	Probability	Significance	Reversibility	Replaceability
Soils and Land Capability	There will be disturbance on the soil and erosion at the proposed mining area due to the vegetation clearance and the removal of the topsoil.	Local	Medium - term	Medium	Probable	Moderate	Irreversible	Irreplaceable
Vegetation	The potential impact of the proposed mining on the vegetation would occur at the mining area which result in loss of diversity, habitat, and indigenous vegetation.	Local	Medium - term	Low	Probable	Low	Irreversible	Replaceable
Animal life	<ul style="list-style-type: none"> Animal life will be affected in the immediate vicinity of the operation. It is anticipated that the noise and general activity will keep the animal life away from the site while the mining is ongoing. 	Site	Short term	Low	Probable	Low	Irreversible	Irreplaceable
Surface Water	Impact on the water quality and quantity due to siltation and contamination.	Local	Short term	Medium	Probable	Low	Reversible	Irreplaceable
Ground water	Groundwater contamination due to hydrocarbons seepages, and ground water quantity due to unregulated extraction of groundwater.	Site	Short term	Low	Probable	Low	Irreversible	irreplaceable
Air Quality/ Dust	Dust generation by vehicle movement on dust roads, excavations during the mining activities and material handling.	Site	Short term	Medium	Probable	Low	Reversible	Replaceable
Noise	Noise nuisance will be created by the vehicle movement during the mining activities.	Site	Short term	Low	Probable	Low	Reversible	Replaceable
Cultural Heritage	Impacts on cultural and heritage resources, if encountered.	Local	Short term	Low	Improbable	Low	Reversible	Replaceable
Visual	The mining activities will change the visual character of the property.	Site	Short term	High	Probable	Low	Reversible	Replaceable
Socio-economic	The employment of the effect of this mining activity for employment and socio-economic regime would be positive.	Regional	Short term	Medium	Probable	Low (positive)	Reversible	Replaceable
Safety	Equipment theft and property vandalism	Local	Short term	Medium	Probable	Low	Reversible	Replaceable
Health	Health impact due to dust inhalation, occupational injuries.	Local	Short term	Medium	Probable	Low	Reversible	Replaceable



Waste Generation	Waste nuisance and littering	Site	Short term -	Medium	Probable	Low	Reversible	Replaceable
Traffic and access	Mining activities generates additional traffic on the existing number of the moving vehicle going in and out of the mining site using the existing regional roads.	Regional	Short term -	Low	Probable	Low	Reversible	Replaceable

9.4.4. The positive and negative impacts that the proposed activity and alternatives will have on the environment and the community that may be affected

The impacts assessed has highlighted potential risks, important management strategies and control measures associated with the Project. It is considered that there are opportunities to substantially enhance and improve the current and on-going impacts by undertaking a well-planned and effective mining operation. The project has associated positive and negative impacts. Such impacts are described in Table 12-3

Table 11: Positive and negative impacts of the proposed activity.

Proposed Activity	Aspects
Positive	
Consultation, employment, and procurement	Potential for neighbouring communities to benefit from assistance with shared land management responsibilities.
	The opportunity of implementing processes around feral animal control.
	<ul style="list-style-type: none"> • Opportunities for employment and economic development; • Requirement for the supply of the goods and services from the local businesses; and • Requirement for short-term accommodation and thus benefiting the house rental and accommodation sector.
	<ul style="list-style-type: none"> • Supporting local recycling centre and local scrap metal merchant. Metals such as steel and copper wire will be collected in designated areas prior to removal from site for recycling.
Negative	
Excavations, material handling and decommissioning	<ul style="list-style-type: none"> • Soil compaction and soil erosion due to the movement of heavy vehicles in the on-site; and • Soil contamination due to hydrocarbon spillages from the fuel storages and vehicles.
	<ul style="list-style-type: none"> • Introduction of alien vegetation; and • Loss of flora and fauna and habitat destruction.
	Erosion and sedimentation leading to soil scouring and increased turbidity of water courses and drainage lines downstream.
	Contamination of groundwater due to chemicals and hydrocarbons seepage.
	Noise nuisance due to moving vehicles and equipment.
	Dust creation during clearance and excavations during the mining operations.
	Increased visual intrusion due to operation infrastructure and the movement of the operating equipment and vehicles.
	Project is unsustainable in terms of job security due to the life of project.
	Indigenous resources, values, and aspirational impacts.
	Waste generation including the domestic, scrap and hazardous waste.
	Inheritance of occupational health problems and exposure to occupational hazards.
	Addition to the existing traffic of the movement of vehicles

9.4.5. The possible mitigation measures that could be applied and the level of risk.

As part of the EIA process, all potential mitigation measures for risks related to site layout will be discussed and considered. This will also consider the comments made by I&APs during the public participation process. During the EIA process, the proposed mitigation measures for the assumed risks will be confirmed.

9.4.6. Motivation where no alternative sites were considered.

The mining activities are intended to extract mineral resources from the subsurface which will be then processed to produce sand that can be sold to the market. This is an existing mining operation with existing servitudes that will be utilized as far as possible through the operation of the mining project and minimal or no infrastructure will be established due the site location.

9.5.7. Statement motivating the alternative development location within the overall site.

The area has the potential availability of the mineral of interest at a considerable quantity based on the previous mining operations, and therefore, there has not been alternative development locations identified within the overall site.

9.5. Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site

Environmental Impact Assessment (EIA):

The purpose of the EIA Phase is to investigate the potential negative and positive impacts of a proposed project activities on the environment. The potential impacts will then be quantified to assess the significance that an impact may pose on the receiving environment. The objectives of the EIA process are to:

- The EIA Phase investigates the potential negative and positive environmental impacts of proposed project activities. The potential impacts will then be quantified to determine the significance of an impact on the receiving environment. The goals of the EIA process are to:
- Ensure that the potential biophysical and socioeconomic impacts of the proposed Project are considered during the decision-making process;
- Ensure that the project activities will not have a significant negative impact on the environment by presenting management and mitigation measures that will avoid and/or reduce those impacts;
- Ensure that I&APs, including the landowner, are informed about the project;
- Ensure that I&APs are given an opportunity to raise concerns, and make input to understand their needs and expectations; and

- Establish a process to enable authorities to make informed decisions, particularly considering their obligation to consider environmental and social factors when making those decisions.

The EIA process will evaluate the overall aspects of the proposed project in relation to the activities to be carried out. A sensitivity report was created to determine the sensitivity of the proposed area to make informed decisions about the consideration and implementation of mitigation measures for the impacts posed by the proposed activity.

- **Extreme**

These are unacceptable risks primarily critical in nature in terms of consequences in terms of the extensiveness and long-term environmental harm, permanent sacred site damage, fatality, and massive economic impacts that are effectively considered a possibility to almost certain to occur. Such risks significantly exceed the risk acceptance threshold and require comprehensive control measures, and additional urgent and immediate attention towards the identification and implementation of measures necessary to reduce the level of risk.

- **High**

Typically relate to significant to critical consequences including a major amount of environmental or heritage damage, and considerable safety, social or economic impacts that are inclined to cut across the possible to almost certain likelihood ratings. These are also likely to exceed the risk acceptance threshold and although proactive control measures have been planned or implemented, a very close monitoring regime and additional actions towards achieving further risk reduction is required.

- **Medium**

As suggested by the classification, medium level risks span a group of risk combinations varying from relatively low consequence / high likelihood to mid-level consequence / likelihood to relatively high consequence / low likelihood scenarios across environmental, social, and economic areas. These risks are likely to require active monitoring as they are effectively positioned on the risk acceptance threshold.

- **Low**

These risks are below the risk acceptance threshold and although they may require additional monitoring in certain cases are not considered to require active management. In general, such risks represent relatively low likelihood and low to mid-level consequence scenarios.

- **Very Low**

Impacts risks that are below the risk acceptance threshold and would at the most require additional monitoring and in many cases would not require active management. These risks can include unlikely to rare events with minor consequences and in essence relate to situations around very low probabilities of relatively minor impacts occurring.

Likelihoods have been categorised around the probability of occurrence, within the context of reasonable timeframes and frequencies given the nature of the anticipated project life. Levels of likelihood and the severity for the types of consequences that make up the risk rating determination are defined in the Table below:

Table 12: Likelihood rating system.

Rating	Likelihood	Definitions
5	Almost Certain	The event is expected to occur in most circumstances (The event is likely to occur once per year).
4	Likely	The event will probably occur in most circumstances (The event is likely to occur once every 1 – 2 years).
3	Possible	The event might occur at some time (The event is likely to occur once every 2 – 5 years).
2	Unlikely	The event could occur at some time (The event is likely to occur once every 5 – 10 years).
1	Rare	The event may occur only in exceptional circumstances (The event is unlikely to occur in any 10-year period).

Risk Analysis Matrix

The risk controls are linked to the level of risk and opportunity for reduction to meet the project rehabilitation objectives and goals linked to an environmentally and socially responsible operation, and those requirements are part of the regulatory obligations and impact assessment guidelines. The table below provides a summary of the qualitative risk matrix adopted and the levels of risk for the various consequence and likelihood combinations.

Table 12-5: Risk Analysis Matrix.

		Severity of Consequence				
		Critical (5)	Major (4)	Significant (3)	Moderate (2)	Minor (1)
Likelihood of Consequence	Almost Certain (5)	Extreme	Extreme	High	High	Medium
	Likely (4)	Extreme	High	High	Medium	Medium
	Possible (3)	Extreme	High	Medium	Medium	Low
	Unlikely (2)	High	Medium	Medium	Low	Very Low
	Rare (1)	Medium	Medium	Low	Low	Very Low

The impact assessment will focus on the invasive activities of the project since they will have the potential to impact on the biophysical and the social environment of the proposed area.

These activities include:

- Vegetation clearance;
- Topsoil and overburden removal, and stockpiling;
- Excavation, loading and hauling of the material; and
- Rehabilitation.

Table 14: Identified and assessed impacts and risks the activity will impose on the preferred site

Aspect	Impact	Mitigation Measures	*C	*L	*R
Vegetation	<ul style="list-style-type: none"> Disturbance of sites and species of ecological importance; Loss of migration corridors, and access to nesting and refuge areas; and Displacement of animal habitat by clearing the vegetation. 	<ul style="list-style-type: none"> excavated areas must be clearly demarcated to control movement of personnel and vehicles, providing clear boundaries for the operational sites to limit the spread of impacts. Removal of vegetation must be undertaken in a phased approach to limit the number of plain areas at a time. Temporary erosion control measures such as runoff berms that reduce flow velocity should be implemented around construction areas. 	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			1	3	L
Animal Life	<ul style="list-style-type: none"> Animal life will be affected in the immediate vicinity of the operation. It is anticipated that the noise and general activity will keep the animal life away from the site while the operation is ongoing. 	<ul style="list-style-type: none"> Environmental awareness and training for workers about the animal life on site. Killing of animals on site will be strictly prohibited and animal is found must be safely removed from the operation. 	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			1	3	L
Soils and Land Capability	<ul style="list-style-type: none"> The removal of vegetation associated with the mining activities will allow for increased surface water runoff, which may lead to change in topographical characteristics of the area. Land clearance during the mining operations the natural sequence of soil layers thereby changing the soil and land capability. The movement of heavy vehicles in the operation area will result in compaction of soil, water runoff and soil erosion especially during the rainy season. The equipment and vehicles may contaminate the soil due to oil spillages. 	Removal of vegetation must be undertaken in a phased approach to limit the number of exposed areas at a time. Regular roads maintenance of eroded shoulders. A cleaned-up of any hydro-carbon spills on soil must be undertaken by trained personnel using commercially available emergency clean-up kits.	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
Surface water resources	<ul style="list-style-type: none"> Contamination of water resources and deterioration of water quality; and Disturbance of free drainage and runoff. 	<ul style="list-style-type: none"> Remediate using commercially available emergency clean up kits; and Re-profiling and rehabilitation of the disturbed landscapes. 	Pre – Mitigation		
			2	2	L
			Post – Mitigation		
			1	2	VL

Groundwater resources	<ul style="list-style-type: none"> Groundwater contamination due to chemicals and hydrocarbons seepage. 	<ul style="list-style-type: none"> Remediate using commercially available emergency clean up kits. 	2	2	L
Noise	<ul style="list-style-type: none"> Increase in ambient noise levels during the operational phase; Disturbances to faunal species during the operational phase. 	<ul style="list-style-type: none"> Limiting the operation activities working hours to daylight hours (07h00 to 17h00) and not undertaking such activities at all on Sundays and public holidays. Applying an operating buffer of a minimum 500m, but preferably 1000m between mining operation and any dwellings. It must be noted that the speed limit for driving within a community and mining permit site shall be limited to 40Km/h on exposed surfaces. 	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			2	3	M
Air Quality/Dust	<ul style="list-style-type: none"> Possible dust generation in some areas including the during the mining operations; Heavy dust deposition can have detrimental effects on plants if the leaves are smothered to the extent where transpiration and photosynthesis are affected. Health impacts on livestock and people in proximity to the project site due to fine particulate emissions during construction and operational phases. 	<ul style="list-style-type: none"> Conduct dust fall-out monitoring Enforcing the speed limits to reduce dust created by moving vehicles; Haul roads in use will be subjected to dust suppression management measures; and Implement concurrent rehabilitation activities to minimise the number of exposed surfaces that would result in dust generation. 	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
Visual	<ul style="list-style-type: none"> Visual disturbance due to site clearance. Dust generated during the mining operations. View disturbance due to the placement of the equipment and offices used on site. 	<ul style="list-style-type: none"> Ensure that all exposed surfaces are subjected to dust suppression. Clearing of vegetation must be undertaken within the demarcated boundaries of the designated area only. 	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			2	2	M
Socio-economic	The effect of this mining activity for employment and socio-economic regime would be positive, but very limited in extent and duration.	<ul style="list-style-type: none"> Skill development and transfer. Maximise procurement of goods and services from local providers. 	1	3	L
Cultural and Heritage Resources	There are no known important heritage resources on the site.	If any heritage resources, including fossils, graves, or human remains, are encountered these must be reported to the authorities.	2	1	VL
Waste	<ul style="list-style-type: none"> Waste Generation including general, scrap and hazardous waste If this waste is not stored correctly, can lead to environmental pollution including soil and water resources. 	<ul style="list-style-type: none"> Classification and separation of the waste into general or hazardous must be implemented onsite into different coloured and labelled bins. Uncontrolled disposal of waste must strictly be prohibited on site 	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
Safety	Theft of equipment and the damage of infrastructure.		Pre – Mitigation		

	Injuries to workers that may occur during the mining operations.	<ul style="list-style-type: none"> Ensure that there is a controlled access to the site by deploying security personnel who would also conduct security patrols to monitor the perimeters of the project site thereby providing an increased security presence. Consult with the local police branch to establish standard operating procedures for the control and/or removal of loiterers All project infrastructure should be contained in a fenced and secured area to prevent unauthorized access and potential health and safety risks. 	2	3	M
			Post – Mitigation		
			1	3	L
Health	The dust generation with potentially particulate matter, which can be inhaled, causing respiratory diseases.	<ul style="list-style-type: none"> All area that are sources of dust must be subjected to dust suppression. Continuous dust monitoring should be carried out throughout the project undertakings. All employees will be issued with and instructed to wear the appropriated personal protective equipment (PPE). 	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
<p>*C – Consequences *L – Likelihood of consequences *R – Residual Risks VL – Very Low L – Low M – Medium H – High</p>					

- **Public Participation Process followed:**

The public participation process will be undertaken in accordance with the NEMA and aligned with the regulatory requirements in terms of Chapter 6, Regulation 40 - 43 of the EIA Regulations, 2014 (as amended). Below is the summarised public participation process.

Table 15: Summary of the PPP followed

Activity	Details
Identification of stakeholders	Lodgment of the stakeholder database which represents various sectors of society, including directly affected and adjacent landowners, in and around the proposed project area.
Distribution of BID and the I&AP registration form	Handing of BID with the I&AP registration and some emailed to stakeholders on 27 October 2022.
Placing of newspaper advertisement	A newspaper advertisement in the Streeknuus on the 03 rd November 2022.
Putting up of site notices	Placing of site notices at the proposed project site on 27 October 2022. A site notice placement report and map were developed to indicate the locations of site notices in and around the project area.
Announcement of Draft BAR	The Draft Basic Assessment Report will be released electronically, and copies are available to stakeholders on the Vahlangwe Mining Advisory and Consulting website (www.vahlangweadvisory.co.za) on 27 October 2022.
Consultation with Stakeholders	Group meeting which included all the relevant I&APs will be undertaken on the as part of the public review period dependent on the number of registered I&APs.
Obtaining comments from stakeholders	Comments, issues of concern and suggestions received from stakeholders will be captured in the Comment and Response Report (CRR). The CRR will be included in the updated Basic Assessment Report, which will be submitted to the DMRE and simultaneously made available to I&APs.
Announcement of Final Basic Assessment Report	The final BAR will be made available (www.vahlangweadvisory.co.za).

10. Assessment of each identified potentially significant impact and risk

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASES	SIGNIFICANCE	MITIGATION TYPE	SIGNIFICANCE
Vegetation Clearance	Vegetation Destruction if natural vegetation Invasion of alien and invasive vegetation Exposure to erosion	Vegetation (flora) Animal life (fauna) Soil and land capability	Operational and decommissioning	Low	Minimise site clearance to areas as per the approved site layout plan; Avoid and protect sensitive or protected flora; Implementation of the alien species eradication plan; and Avoid loss of Fauna through conservation.	Low
Excavations, material handling and rehabilitation	Noise Noise Generation	Noise pollution	Operational and decommissioning	Low	Conducting regular equipment maintenance to minimise noise generated by the operating equipment; Limiting the operation times to daylight hours (07h00 to 17h00) on Mondays to Fridays, Saturdays (07h00 to 14h00) and no activities to be conducted on Sundays and public holidays; and Maintaining a buffer of 500m between the operation area and dwellings.	Low
Excavations, material handling and rehabilitation	Visual Visual impact of project activities Visual impact on observers travelling along the roads and residents	Topography and Visual Environment	Operational and decommissioning	Low	Minimise unvegetated areas as far as possible; Conduct concurrent rehabilitation of all disturbed areas.	Low
Excavations, material handling and rehabilitation	Air Quality Dust generation	Dust fall & nuisance from activities	Operational and decommissioning	Low	Implementation of the dust suppression system; Dust monitoring should be implemented;	Low

					<p>Low vehicle speeds enforcement on unpaved surfaces; and</p> <p>Maintain a buffer of 500m- 1000m between operational site and dwellings.</p>	
Excavations, material handling and rehabilitation	<p><u>Soils and land Capability</u> Soil Compaction leading to erosion and sedimentation</p>	Soil and vegetation disturbance	Operational and decommissioning	Moderate	<p>No informal soil, additional or random routes should be developed in vicinity of the mining area;</p> <p>Overburden material may not be dumped in a random manner. Specific sites must be agreed upon and adhered to allow the use of the overburden in landscaping or fill where required;</p> <p>All vehicles should be inspected for leaks to prevent unnecessary spillages of diesel and oil on site that may lead to soil contamination.</p> <p>Provide adequate erosion control measures where required;</p> <p>No mixing of fertile soils with sub soils during the operation; and</p> <p>Implement concurrent and re-vegetate all disturbed with locally indigenous species as soon as possible.</p>	Low
Excavations and concurrent rehabilitation	<p><u>Surface water and groundwater resources</u> Sedimentation and siltation of water courses</p> <p>Alteration of natural drainage patterns</p>	Surface water quality Groundwater quality	Operational and decommissioning	Low	<p>Remedy the possible effects of alteration to natural drainage lines;</p> <p>Implementing the hydrocarbon spillages management plan;</p> <p>Ensure that wastewater is appropriately managed; and</p> <p>Implement the erosion control measures.</p>	Low



	Contamination of water resources Degradation of surface and groundwater quality					
Excavations, material handling and rehabilitation	Health and Safety Health and safety of employees and surrounding communities	Human health and safe working environment	Operational and decommissioning	Low	<p>All employees or sub-contractors entering site must be inducted to ensure the awareness of the developed health and safety plan;</p> <p>Appoint a health and safety representatives to be appointed during operations;</p> <p>Conduct daily inspections and observations of on-site activities shall take place;</p> <p>All incidents to be reported, recorded, investigated, and mitigated.</p> <p>Employees or sub-contractors must be informed as to what required PPE is applicable in working sections, and must always be equipped with appropriate PPE;</p> <p>Safety signs to be provided in areas considered as high-risk areas;</p> <p>Provided adequate first aid services on site; and</p> <p>Promote ongoing health and safety awareness campaigns.</p>	Low

Employment and procurement	Socio-economic Employment opportunities Local economic development	Socio-economic conditions		Moderate	Conduct consultation with local communities through the appropriate channels to ensure the use of local skills and businesses where possible; Ensure local employment and local services providers are appointed where possible from the local area; and ensure that goods and services are procured from within the local area as far as possible.	Medium
Excavation	Heritage Degradation of cultural significance heritage site	Loss of heritage & palaeontological resources		Low	Conduct Identification of all possible sites of archaeological value prior to the commencement of authorised work; and Identified sites must be clearly demarcated as no-go areas.	Low
Transportation of the material	Traffic Management Operating vehicles and access roads	Pressure on public transport infrastructure Socio-economic conditions		Low	The surface quality of the road is not negatively impacted resulting from vehicle movement; Sections of existing road surfaces which have been impacted on by the vehicle movement and Existing road surfaces must be utilised and maintained within baseline levels.	Low
Vehicle and equipment maintenance	Waste Management General waste generation and hazardous waste generation	Soil contamination Contamination of water resources Impacts on human health		Moderate	Waste skips should be provided on site and must be removed from the site once their full capacity has been reached. The waste skips will typically contain domestic waste. No liquid waste will be placed in these skips; Promoting the reduction, re-use, or recycle of waste where prevention is not possible; Disposal of waste to local waste disposal sites. There must be a service agreement for	Low



					disposal of waste from the municipality for disposal of domestic waste; Littering should be strictly prohibited, and waste generated by the workers that reside on site must be properly stored awaiting collection and proper disposal; and Implement waste classification and separation system.	
--	--	--	--	--	--	--

11. Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):

- There are intended specialists’ studies to be conducted in this regard.

Table 16: Summary of specialist reports.

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	

Attach copies of Specialist Reports as **Appendices**

12. Environmental impact statement

12.1. Summary of the key findings of the environmental impact assessment;

The assessed impact ratings after implementation of the mitigation measures described above are as follows:

Table 17: Summary of the Environmental Impact Assessment

Impacts	Activity Phases	Significance	
		Pre – Mitigation	Post – Mitigation
Flora and Fauna	Operational, and Decommission	Low	Low
Noise	Operational, and Decommission	Low	Low
Visual	Operational, and Decommission	Low	Low
Air Quality/Dust	Operational, and Decommission	Moderate	Low
Soils and Land Capability	Operational, and Decommission	Moderate	Low
Surface	Operational, and Decommission	Moderate	Low
Groundwater Resources	Operational, and Decommission	Low	Low
Health and Safety	Operational, and Decommission	Moderate	Low
Socio – Economic	Operational, and Decommission	Low	Low
Cultural and Heritage Resources	Operational, and Decommission	Low	Low
Traffic	Operational, and Decommission	Low	Low
Waste	Operational, and Decommission	Moderate	Low

Most of the identified impacts will occur for a limited period and the extent of the impacts will be localised. All the identified impacts can be suitably mitigated with the residual impact ratings being of **low** significance. After the mining activities have been completed and the land will be rehabilitated with an intent to returned to its pre-mining impacts state.

12.2. Final Site Map

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. Attach as **Appendix 3**.



Figure : Final site plan

12.3. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

Table 18: Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Impact	Rating Pre-Mitigation	Operation	Decommission	Rating Post-Mitigation
Positive (+)	Low	<ul style="list-style-type: none"> • Employment opportunities and job security • Support to local businesses and SMME's • Income generation for accommodation business sector • Supporting local recycling centre and local scrap metal merchant. 	<ul style="list-style-type: none"> • Employment opportunities • Land and soils capability restoration • Re-vegetation and regeneration of the indigenous vegetation • Shared land management responsibilities. 	Low
Negative (-)	Low	<ul style="list-style-type: none"> • Habitat disturbance • Vegetation disturbances due to vegetation clearance • Alien vegetation species invasion • Soil erosion • Impacts on groundwater quality • Waste generation • Visual nuisance to moving equipment and vehicles 	<ul style="list-style-type: none"> • Visual nuisance • Health and Safety impacts • Surface and groundwater contamination • Impacts on traffic • Unsustainable employment and Job losses 	Low

12.4. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr; Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the mining activities as to avoid unnecessary social and environmental impacts;
- Ensure that the mining activities are conducted in a sustainable manner;
- Develop an approach that will ensure compliance with relevant legislations; and
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures it is anticipated that the identified environmental impacts can be managed and mitigated effectively.

- Heritage/cultural resources can be managed by avoidance of known resources and through consultation with landowners/stakeholders;
- Noise generation can be managed through consultation with the neighbouring landowners and restriction of operating hours and by maintaining equipment and applying noise abatement equipment if necessary;
- Visual intrusion can be managed through consultation with landowners/stakeholders;
- Dust generation can be managed by limiting as far as possible the exposure of surfaces, application of dust suppression methods on exposed surfaces;
- Soil disturbance and clearance of vegetation can be managed by limiting to the absolute minimum disturbance required and re-vegetation with the locally indigenous species as soon as possible;
- Manage as far as possible the soil, surface water and groundwater contamination by hydrocarbons by conducting proper vehicle maintenance, refuelling with care to minimise the chance of spillages and by having a spill kit available on each site;
- Conduct an appropriate public consultation and conflict resolution during stakeholder consultation phases. All working personnel will be made aware of the local conditions and sensitivities in the mining area and that they always treat residents with respect and courtesy

12.5. Aspects for inclusion as conditions of Authorisation.

(Any aspects which must be made conditions of the Environmental Authorisation)

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a minimum 100m buffer from any infrastructure or dwelling; and
- I&APs should be engaged on a regular basis to address any complaints brought about the mining activities.

12.6. Description of any assumptions, uncertainties, and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed)

The specific focus will be given to wetlands on the mining site to ensure that valued surface water resources are not threatened or inadvertently damaged. In addition, landowners will be engaged with to address their concerns, if any exists, regarding the impacts of dust generation and noise nuisance.

12.7. Reasoned opinion as to whether the proposed activity should or should not be authorised

12.7.1. Reasons why the activity should be authorized or not.

The applicant is committed to conduct the mining activities in a sustainable manner and to comply with the prescribed environmental legislations to protect the environment and manage as far as possible the impacts associated with the project. Therefore, the applicant will ensure that:

- the environmental impacts associated with the mining activities are deemed to be minimal provided that the proposed mitigation is implemented;
- the availability of the financial provision for the final rehabilitation and any other unforeseen impacts during the decommissioning phase of the projects;
- with appropriate care and consideration, the impacts resulting from the mining activities can be suitably avoided, minimised, or mitigated;
- with implementing the appropriate rehabilitation activities, the impacts associated with the mining activities can be reversed; and
- Without the implementation of the mining project jobs will not be created and no contribution to the GDP.

12.7.2. Conditions that must be included in the authorisation

The following conditions could form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a minimum 100m buffer from any infrastructure or dwelling; and
- I&APs should be engaged on a regular basis to address any complaints brought about the mining activities.

12.8. Period for which the Environmental Authorisation is required.

The authorisation is required for the duration of the mining permit which is an initial two (2) years plus a potential to extend the by an additional three (3) years, renewal for each year. Therefore, a total period of five (5) years is required.

12.9. Undertaking:

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic Assessment Report and the Environmental Management Programme Report.

- The undertaking is provided at the end of the EMPr.

12.10. Financial Provision:

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

A financial provision of approximately **R 743 636.00** has been budgeted for the mining activities over 5 years, for the rehabilitation activities.

12.10.1. Explain how the aforesaid amount was derived.

The financial provision calculations were undertaken in terms of the guidelines provided within the "DMR Guideline Document for The Evaluation of The Quantum of Closure-Related Financial Provision Provided by a Mine" (DMR, 2005). The closure components for the mining activities are summarised on the table below:

Table 19: Closure components to the mining activities

Components	Extent	Description
1. Dismantling of processing plant and related structures	20m ³	The processing plant that would require removal include: <ul style="list-style-type: none"> • Primary Crusher/feeder • Conveyor belts • Secondary crushers and screeners
2(A). Demolition of steel buildings and structures	0m ²	There are no steel structures
2(B). Demolition of reinforced concrete buildings and structures	0m ²	No concrete buildings will be required to be demolished
3. Rehabilitation of access roads	60m ²	There are temporary haul roads that will require rehabilitation
4(A). Demolition and rehabilitation of electrified railway lines	0m	There are no electrified railway lines
4(B). Demolition and rehabilitation of non-electrified railway lines	0m	There are no non-electrified railway lines
5. Demolition of housing and/or administration facilities	120m ²	There is damaged housing that will require demolition
6. Opencast rehabilitation including final voids and ramps	6ha	The excavated area will be required to be backfilled with the overburden
7. Sealing of shafts adits and inclines	0m ³	There are no adits
8(A). Rehabilitation of overburden and spoils	0	The overburden will be used to backfill the pits.
8(B). Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	0ha	There are no processing waste deposits and evaporation ponds
8(C). Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	0ha	There is no wastewater being generated on site
9. Rehabilitation of subsided areas	0ha	The mining activities are not associated with subsidence

10. General surface rehabilitation	0.05ha	The area that will require rehabilitation will include the stockpile area, processing area and haul roads.
11. River diversions	0m	The mining area is not associated with river diversions
12. Fencing	0m	No fencing would be required to be removed or demolished.
13. Water management	0.4ha	There are water circulation dams that needs to be rehabilitated
14. 2 to 3 years of maintenance and aftercare	0.09ha	All disturbances will be subjected to rehabilitation

12.10.2. Confirm that this amount can be provided for from operating expenditure.

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

- The above-mentioned amount has been provided.

12.11. Specific Information required by the competent Authority

12.11.1. Compliance with the provisions of sections 24(4) (a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the:-

12.11.1.1. Impact on the socio-economic conditions of any directly affected person.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling, or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix..**

A full consultation process with the I&APs will be implemented during the environmental authorisation process. The purpose of the consultation will provide affected persons the opportunity to raise any potential concerns. Concerns raised has been captured and addressed within the public participation section of this report to inform the decision-making process.

12.11.1.2. Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

There are no known heritage resources on the proposed site, hence, mitigation measures are proposed in this report in case when any heritage resources are discovered during the mining operations.

13. Undertaking

The EAP herewith confirms

- 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; and
- that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein .



Signature of the environmental assessment practitioner:

Vahlegwe Mining Advisory and Consulting

Name of company:

27 October 2022

Date: