

JNT METALS

DRAFT BASIC ASSESSMENT REPORT (BAR) AND ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

FOR

THE LISTED ACTIVITIES ASSOCIATED WITH THE RECLAMATION AND REHABILITATION OF THE MINE WASTE ROCK DEPOSITS IN RESPECT OF PORTION OF PORTION 3 OF THE FARM DEELKRAAL 142 IQ, WITHIN THE DISTRICT OF WEST RAND, GAUTENG CAPE PROVINCE.

FILE REFERENCE NUMBER SAMRAD: GP 30/5/1/1/2 (000095) BP/BAR NAME OF THE APPLICANT: JNT Metals (Pty) Ltd TEL NO: 011 423 0062 / 074 569 7312

POSTAL ADDRESS: 12A Deelkral Drive, Carletonville, Gauteng Province **PHYSICAL ADDRESS:** 12A Deelkral Drive, Carletonville, Gauteng Province **FILE REFERENCE NUMBER SAMRAD:** GP 30/5/1/1/2 (000095) BP/BAR



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This document has been prepared by:

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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 for applications for environmental authorization for listed activities triggered by an application for a right or a permit are submitted in the exact format of this template and provide all the information required in terms of this template. Furthermore, please be advised that failure to submit the required information 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.



OBJECTIVE OF THE BASIC ASSESSMENT

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 the 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



EXECUTIVE SUMMARY

JNT Metals (Pty) Ltd, hereafter referred to as 'the applicant' or 'JNT Metals', has applied for a waste rock License to reclaim the mine waste rock deposits resulting from previous mining activities. The proposed project will take place on Portion of Portion 3 of the Farm Deelkraal 142 IQ, in the District of West Rand, Gauteng Province. The project covers an area of approximately 24,26 ha. The applicant intends to utilise an excavator to remove the mine rock materials and load them into a truck to transport mine waste rocks to an off-site plant facility to extract the mineral.

Mitigation of the damaged environment caused by the previous mining activities will restore the land to its original capabilities before the accumulation of mine waste and make it available for other economic uses. Rehabilitation of the new topsoil will allow for vegetation and natural grasses to take effect in the contaminated areas.

The project area is in proximity to the residential and business areas, and the presence of any mineral in mine rock material affects people and the ambient water bodies. Lack of rehabilitation and closure of previous mining operations have become a source of environmental pollution that poses a health and safety risk to the surrounding communities and impedes spatial development. The waste management project will assist in managing illegal mining activities taking place in the proposed project location, furthermore, ensuring that the environmental conditions are improved.

Vahlengwe Mining Advisory and Consulting (Pty) Ltd, hereafter "Vahlengwe", has been appointed by JNT Metals (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to facilitate the Environmental Authorisation: Waste Management License application for its proposed reclamation and rehabilitation of mine rock deposits to comply with the requirements of the Environmental Impact Assessment Regulations, 2014 (as amended by GNR 326 in 2014).

Details of the Applicant

Name of Applicant:	JNT Metals (Pty) Ltd
Registration number (if any):	2022/350507/07
Trading name (if any):	JNT Metals (Pty) Ltd
Responsible person:	Juan Barnard Kruger
(E.g., CEO, Director, etc.)	

Table 1: Showing details of the Applicant



Contact person:	Juan Baı	rnard Kruger	
Physical address:	12A Deelkral Drive Carletonville, Gauteng Province		
Postal address:	РО ВОХ	X 172 Carletonvi	ille
Postal code:	2499	Cellphone:	+27 73 887 6947
Email:	juan@jn	tmetal.co.za	

Scope of Project

Mine rock dump covers an area of approximately 24,26 ha. The applicant intends to use an excavator to remove the mine rock deposits and load the material into trucks for off-site processing at a plant to extract the mineral. Subsequently, no material will be processed on-site. The required infrastructure includes the following:

- Administration mobile offices;
- Ablution facilities, and
- > Equipment such as the excavators, FEL, water takers, and dump trucks.

Project Location

The proposed project area is on the western side of Wedela and southwest of Controle Water Dam no.7. The area is in the historically richest gold mining area in the world, previous mining activities have negatively impacted the environment, and it is therefore important to rehabilitate the area to ensure that the environment returns to its original state and the community is safe from being invaded and terrorised by illegal miners.



Environmental Consultants

Vahlengwe Mining Advisory and Consulting (Pty) Ltd is the appointed independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment Process (BAR) for the Waste Management License in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

Table 2: Showing details of the EAP

Company name:	Vahlengwe Mining Advisory and Consulting (Pty) Ltd
Contact person:	Sunday Mabaso
Physical address:	238 Vorster Ave, Glenvista Extension 3, Johannesburg South, 2190
Telephone:	+2711 432 0062 / 074 569 7312
Email:	info@vahlengweadvisory.co.za

Public Participation Process Methodology

A Public Participation Process (PPP) will be undertaken as required in terms of Regulation 41 of NEMA: EIA Regulations, 2017 (as amended). During the undertakings of the PPP, the environmental and social impacts will be investigated, and all stakeholders affected by the project are allowed to comment, raise concerns, and contribute to the assessment to ensure that local knowledge, needs, and values are taken into consideration throughout the process.

The Final Basic Assessment Report will be made available for public review and comments for 30 days, and all comments or concerns raised will be recorded and responded to in the Comments and Responses Report (CRR).

The following processes will be followed to undertake the PPP:

- A Background Information Document (BID) including Interested and Affected Parties Registration Forms (IAPs) will be distributed to various stakeholders, including the I&APs, via email and hand delivery.
- A newspaper advertisement will be placed in the local newspaper.
- Site notices will be placed or posted at various places within the vicinity of the site;
- A public meeting with the local community and

An electronic copy could be accessed and downloaded from <u>www.vahlengweadvisory.co.za</u>.



Table of Contents

1. Introduction
2. Contact Person and correspondence address7
2.1. Details of the EAP7
2.2. Expertise of the EAP7
2.2.1. The qualifications of the EAP7
3. Location of the overall Activity
4. Description of the scope of the proposed overall activity10
4.1. Listed and Specified Activities11
4.2. Description of the activities to be undertaken12
5. Policy and Legislative Context
6. Need and desirability of the proposed activities19
7. Motivation for the overall preferred site, activities, and technology alternative20
8. Full description of the process followed to reach the proposed preferred alternatives within the site
8.1. Details of the development footprint alternatives considered
8.1.1. The property on which or location where it is proposed to undertake the activity;
8.2. Details of the Public Participation Process Followed
8.3. Summary of issues raised by I&Aps
8.4. The Environmental attributes associated with the alternatives
9. Description of the current land uses
10. Description of specific environmental features and infrastructure on the site
11. Environmental And Current Land Use Map40
11.1. Impacts and risks identified, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts41
12. Methodology used in determining and ranking the nature, significance, consequences, extent, duration, and probability of potential environmental impacts and risks;
12.1 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.
12.2 The possible mitigation measures that could be applied and the level of risk
12.3 Motivation where no alternative sites were considered72
13 Full description of the process undertaken to identify, assess, and rank the impacts and risks the activity will impose on the preferred site



14 Assessment of each identified potentially significant impact and risk91	1
15 Environmental Impact Statement9	1
15.1 Summary of the key findings of the environmental impact assessment9	1
15.2 Final Site Map92	2
15.4 Aspects for inclusion as conditions of Authorization96	6
16 Description of any assumptions, uncertainties, and gaps in knowledge96	6
17 Reasoned opinion as to whether the proposed activity should or should not be authorized96	6
17.1 Reasons why the activity should be authorized or not96	6
17.2 Conditions that must be included in the Authorization97	7
18 Impact on the socio-economic conditions of any directly affected person	8
18.1 Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act	s 8
19 Other matters required in terms of sections 24(4) (a) and (b) of the Act	9

Figure 1: Locality Map of the proposed area	10
Figure 2: Climatic conditions of Johannesburg(https://meteoblue.com/)	27
Figure 3: Wind Rose for Johannesburg (https://www.meteoblue.com)	28
Figure 4: Topographical map of Deelkraal	29
Figure 5: Geological Map	30
Figure 6: Hydrological Map	31
Figure 7: Biomes	32
Figure 8: bioregions	33
Figure 9: Vegetation Map	34
Figure 10: Conservation Plan map of the proposed site	36
Figure 11: Sex and Age Distribution of the CoJ (Source: Stats SA 2022 Census)	38
Figure 12: Education level at the CoJ (Source: Stats SA 2022 Census)	38
Figure 13: Sources of Water at the CoJ (Source: Stats SA 2022 Census)	39
Figure 14: The environmental and current land use of the proposed area is shown on the map	40
Figure 15: Risk Analysis Matrix	75
Table 1: Showing details of the Applicant	1
Table 2: Showing details of the EAP	3
Table 3 showing details of the EAP	7
Table 4 Expertise of the EAPs	8
Table 5 Details of the overall activity location	9
Table 6: Listed Activities	11
Table 7: Summary of the project activities	15
Table 8: Policy and Legislative Context	16
Table 9: Summary of issues raised by I&APs	24



Table 10: Summary of Fauna Biodiversity Findings (SLR, 2019)	35
Table 11: Population profile of CoJ (Source: Stats SA 2022 Census)	37
Table 12: During the site establishment phase, the following activities will take place on site:4	41
Table 13: Environmental impact assessment criteria	57
Table 14: Impacts and risks identified	59
Table 15: Summary of positive and negative impacts of the proposed activity	62
Table 16: Post-mitigation repercussions of the rehabilitation	64
Table 17: Significant Risks Rating System	73
Table 18: Severity of the consequence rating system	74
Table 19: Likelihood of the consequence rating system	74
Table 20: Description of risk classifications	74
Table 21: Identified and assessed the impacts and risks the activity will impose on the preferred	
site	76
Table 22: Summary of the PPP followed	83
Table 23: Assessment of the potentially significant impact and risk	85
Table 24: Environmental Sensitivity of the proposed area	91
Table 25: Summary of the positive and negative impacts and risks of the proposed activity and	
identified alternatives	93

LIST OF APPENDICES

Appendix 1: CV of the EAP

Appendix 2: Maps

Appendix 2A: Locality map and

Appendix 2B: Regulation 2 (2)

Appendix 3: Public Participation Process

Appendix 3A: Proof of Newspaper Advert

Appendix 3B: Site Notice

Appendix 3C: Background Information Document and Interested and Affected Parties

Registration Form

Appendix 4: Environmental Sensitivity Screening Report



SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. Introduction

JNT Metals (Pty) Ltd is applying for a Waste Management License for the reclamation of mine waste rock and the rehabilitation of land disturbed because of the previous mining activities to comply with the requirements of the EIA 2014 Regulations (as amended). The proposed reclamation and rehabilitation of existing mine waste rock will take place on Portion of Portion 3 of the Farm Deelkraal 142 IQ in the District of West Rand, covering an area of 24,26 ha.

The proposed area covered by mine rocks was previously a gold mine waste facility. The waste rock facility was constructed because of historical mining activities that took place for decades and were insufficiently rehabilitated. The applicant intends to reclaim the mine waste rocks and rehabilitate the environmental damages that resulted from the previous mining activities to reserve the land for other economic uses and eradicate illegal activities from the area, since they pose a safety and security threat to the surrounding communities and municipal infrastructure. The applicant intends to remove the mine waste rocks and mitigate the environmental damages that resulted from the previous mining activities to reserve the previous mining activities to the satisfaction of the landowner.

2. Contact Person and correspondence address.

2.1.Details of the EAP

Table 3 showing details of the EAP

Company name:	Vahlengwe Mining Advisory and Consulting (Pty) Ltd
Contact person:	Sunday Mabaso
Physical address:	238 Vorster Ave, Glenvista Extension 3, Johannesburg South, 2190
Telephone:	+27 11 432 0062 / 074 569 7312
Email:	info@vahlengweadvisory.co.za

2.2.Expertise of the EAP

2.2.1. The qualifications of the EAP (with evidence as Appendix)

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



Table 4 Expertise of the EAPs

NAME	Sunday Mabaso
QUALIFICATIONS	Graduate Diploma in Engineering (GDE): Mining, Certificate: Mine
	Closure and Rehabilitation. Postgrad Certificate: Climate Change and
	Energy Law.
RESPONSIBILITY	Project Leader and Reviewer
ON PROJECT	
PROFESSIONAL	EAPASA (Reg. No. 2022/4485)
REGISTRATION	IAIAsa (Reg. 7442)
EXPERIENCE	Sunday Mabaso has been the Principal Consultant at Vahlengwe since
	May 2021, with prior experience of 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 including
	Graduate Diploma in Engineering: Mining, Post Graduate Certificate in
	Climate Change and Energy Law from the University of the
	Witwatersrand and Certificate in Mine Closure and Rehabilitation with
	the University of Pretoria. His areas of expertise include Environmental
	Management, Mining Legislation, Mine Economics, and Social and
	Labour Plans. Sunday has published several academic papers, including
	"Legacy Gold Mine Sites & Dumps in the Witwatersrand: Challenges and
	Required Action" in the Journal of Natural Resources, Vol 14, 2023.
	https://doi.org/10.4236/nr.2023.145005.
	"Social and Environmental Challenges caused by Legacy Gold Mining in
	Johannesburg: Government's Action Plan". eBook: ISBN: 978-81-
	19491-53-7. DOI: 10.9734/bpi/npgees/v9/10672F
NAME	Lusizo Nqasha
QUALIFICATIONS	Bachelor of Arts in Environmental Management
	Bachelor of Arts Honours in Geography
	Master of Science Student in Geography
RESPONSIBILITY	Report compiler



FOR THE PROJECT	
PROFESSIONAL	EAPASA Candidate (Reg. No. 2024/9364)
REGISTRATION	
EXPERIENCE	Lusizo is a junior environmental consultant with 7 months of experience
	in Environmental Management and Remote Sensing, and a GIS specialist.
	He holds a bachelor's degree in environmental geography from Walter
	Sisulu University and an Honours degree in Geography from Wits
	University. He is doing his final year Master of Science in Geography at
	the University of the Witwatersrand.

3. Location of the overall Activity Table 5 Details of the overall activity location

Farm Name:	Portion of Portion 3 of the Farm Deelkraal 142 IQ	
Application area (Ha)	24,26 ha	
Magisterial district:	District Municipal of West Rand]	
Distance and direction from	The proposed project area is on the western side of Wedela	
the nearest town	and is approximately 7.36 km, using N12 and D92 roads for	
	access, in West Rand District Municipality, Gauteng	
	Province, South Africa	
21-digit Surveyor General Code	T010000000014200003	
for each farm portion	101200000017200003	





Figure 1: Locality Map of the proposed area

4. 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.

JNT Metals (Pty) Ltd is applying for a Waste Management License for the reclamation of mine waste and the rehabilitation of disturbed land resulting from previous mining activities to comply with the requirements of the EIA 2014 Regulations (as amended in 2017). The proposed reclamation and rehabilitation of existing mine waste rocks will take place on Portion of Portion 3 of the Farm Deekraal 142 IQ, in the District of West Rand, covering an area of 24,26 ha.

The proposed area was previously a big gold mine waste facility. The waste rock was produced, and the waste rock facility was constructed because of the previous mining activities that took place for decades and were inadequately rehabilitated or abandoned with no rehabilitation. The applicant intends to reclaim the mine waste rocks and rehabilitate the environmental damages that resulted from the previous mining activities to reserve the land for other land economic uses and lessen the



crime and illegal activities in the area, since they impose a safety and security threat to the surrounding communities and municipal infrastructure.

The mine waste rocks cover an area of 24,26 ha. The applicant intends to utilise an excavator to remove the mine waste material and load it into a truck for transportation to the plant. Consequently, no material will be processed on-site, and all the material will be taken to an off-site plant treatment facility. The applicant will conduct the following activities:

- Reclamation of the mine waste rocks; and
- Decommissioning and final Rehabilitation.

4.1.Listed and Specified Activities

The proposed reclamation of the waste management license application triggers activities listed in NEMA Listing Notice 1. Table 6 presents a summary of the NEMA-listed activities triggered by the proposed project.

NAME OF ACTIVITY	AERIAL	APPLICABLE LISTING		
	EXTENT OF	NOTICE		
	THE			
	ACTIVITY	GNR 983, GNR 984 or GNR 985		
	(HA OR M ²)			
Project Area	24,26]	GNR 983, activity 21F		
Operational Phase	24,26]	GNR 983, Activity 21F		
Site Establishment	24,26]	GNR 983, Activity 21F		
Reclamation and decommissioning of the mine waste residue	24,26]	GNR 983, Activity 21F		

Table 6: Listed Activities



4.2. 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 applicant intends to utilise an excavator to remove the mine waste rock and load into a dump truck, and no treatment of materials will be conducted on site; hence, it will be taken to an off-site treatment facility for processing and refining to get the mineral.

The project intended activities include:

- Site clearance,
- Establishment of infrastructure (temporary site offices and portable ablution facilities),
- Waste handling, sorting, and loading
- Vehicle and machinery movement.

Infrastructure associated with the operation

Infrastructure will be established on site for the duration of the project. The following infrastructure will be utilised on site:

- Temporary offices and portable ablution facilities;
- Stockpile;
- Waste area; and
- Operating equipment such as the TLB, tipper truck and other auxiliary equipment; and

Operating Method

JNT Metals intends to utilise the conventional loading into a big truck for transportation. An excavator will load the material into the tipper truck, which will then transport the material (waste rock) to the relevant sites for disposal. The waste rock material will not be processed on-site; hence, it will be taken to the off-site processing plant. Simultaneous rehabilitation will be undertaken wherein all aspects of the environment will be evaluated for waste rock and latent risks, and where possible, further rehabilitation processes will be implemented.

Power supply

The operational activities do not require the use of electricity since the equipment and machinery to be used on site are diesel-powered.



Water Supply

This is a small and short-term operation where the water usage mainly be for domestic and dust suppression. The applicant will supply portable water on site for consumption and domestic use. The applicant will also contract a water truck for dust suppression.

Waste management

The waste that will be generated because of the reclamation and rehabilitation operations may include the general, scrap, and hazardous waste, such as oils (hydrocarbons). The waste is intended to be handled, separated, stored, and disposed of accordingly.

The following waste types are anticipated to be generated at the operation:

General waste will include;

- Domestic Waste (food waste/residue);
- Paper;
- Plastic;
- Cardboard;
- Tins; and
- Glass.

Hazardous Waste will include oil storages and spillages from vehicles and equipment that will require a proper clean up and disposal. It is anticipated that all general waste will be disposed of at the local municipality landfill site. All hazardous waste will be removed offsite by a hazardous waste contractor who will issue a safe disposal certificate for the removal of hazardous waste as proof of safe disposal.

Waste disposal

It is anticipated that all general waste will be disposed of at the nearest licensed landfill site. All hazardous waste will be removed offsite by a hazardous waste contractor who will issue a safe disposal certificate for the removal and safe disposal of the hazardous waste. The scrap waste will also be removed and disposed at a certified scrap facility, and a certificate will be issued for safe disposal thereon.

Reclamation and Rehabilitation

Upon completion of the decommission process, the area will be assessed of any environmental damages and all disturbed areas by the current operation and the pre-existing disturbances will be



rehabilitated in a manner that will satisfy the landowner's requirements and allows for other land uses.

Operation Timeframe

The final clean-up and rehabilitation of the area will be conducted over a period of five (5) years.

Draft Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



4.3.PROJECT ACTIVITIES

Table 7: Summary of the project activities

Project Phase	Associated Activities
Site Establishment	Site clearing and establishment of the infrastructure and equipment (mobile site offices and portable ablution)
Operational Phase	Reclamation of the mine rock deposits material and taken to the off-site treatment facility for the extraction of the mineral.
Decommissioning and closure	Decommissioning and rehabilitation of the project infrastructure and final rehabilitation of the overall area.

Draft Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



5. Policy and Legislative Context

Table 8: Policy and Legislative Context

Applicable legislation and guidelines used to compile the report	Reference where applied
The Constitution of the Republic of South Africa, 1996	Vahlengwe is undertaking a BAR process to identify and
Under Section 24 of the Constitution of the Republic of South Africa, 1996	determine the potential impacts associated with the proposed
(the Constitution) it is clearly stated that: Everyone has the right to a) an	JNT Metals (Pty) Ltd, decommissioning and rehabilitation
environment that is not harmful to their health or well-being; and b) to have	operations. Mitigation measures recommended will aim to
the environment protected, for the benefit of present and future generations,	ensure that the potential impacts are managed to acceptable
through reasonable legislative and other measures that - (i) Prevent	levels to support the rights as enshrined in the Constitution.
pollution and ecological degradation; (ii) Promote conservation; and (iii)	
Secure ecologically sustainable development and use of natural resources	
while promoting justifiable economic and social development.	



National Environmental Management Act, 1998 (Act No 107 of 1998)	A new reclamation activity has been added to Listing Notice 1
and EIA Regulations (as amended in 2021)	as indicated on the GNR 517 of June 2021. According to Listed
The National Environmental Management Act, 1998 (Act No 107 of 1998)	Activity 21F of Listing Notice 1, "any activity, including the
(NEMA), as amended was set in place in accordance with Section 24 of the	operation of that required for the reclamation of a waste rock
Constitution. Certain environmental principles under NEMA must be	stockpile or residue deposit, as well as any other applicable
adhered to, to inform decision making for issues affecting the environment.	activity as contained in this Listing Notice or in Listing Notice
Section 24 (1)(a) and (b) of NEMA state that: The potential impact on the	3 of 2014, required for the reclamation of a residue stockpile
environment and socio-economic conditions of activities that require	or residue deposit," requires an environmental authorisation
authorisation or permission by law and which may significantly affect the	after a basic assessment procedure.
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. The EIA Regulations, 2017 was published under GN R 326 on 07	
April 2017 (EIA Regulations) and came into effect 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.	



National Environmental Management: Waste Act, 2008 (Act No. 59 of	This Project triggers a Category A:
<u>2008)</u>	• Activity 14 – the decommission of a facility for a waste
On the 29th of November 2013, the list of waste management activities	management activity listed in category A or B
published under GN R718 of 3 July 2009 (GN R718) was repealed and	
replaced with a new list of waste management activities under GN R921 of	
29 November 2013. Included in the new list are activities listed under	
Category A, B and C. These activities include inter alia the following:	
Category A describes waste management activities requiring a Basic	
Assessment process to be carried out in accordance with the EIA	
Regulations supporting an application for a waste management license.	
Category B describes waste management activities requiring an	
Environmental Impact Assessment process to be conducted in accordance	
with the EIA Regulations supporting a waste management license	
application; and	
Category C describes waste management activities that do not require a	
WML, but these activities will have to comply with the prescribed	
requirements and standards as prescribed by the Minister, which includes	
the Norms and Standards for Storage of Waste, 2013. These activities	
include the storage of general waste at a facility with a capacity to store	
more than 100 m3 and storage of hazardous waste more than 80 m3.	



6. 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

The surface of the area where the project is to be undertaken is covered by layers of rock stockpiles. The waste rock concentrates become a source of environmental pollution, which poses safety risks to the surrounding communities and hinders spatial development. These waste rocks are well-known to be the source of environmental pollution, such as soil contamination. However, these rock dumps also provide a source of gold for illegal miners known as Zama-Zamas, as they are accessible from the surface or at a shallow depth below the surface. The illegal miners endanger the safety and security of the local population in the Deelkraal community. The project site is situated in Deelkraal. Therefore, the reclamation of the mine rock deposit and the rehabilitation of disturbed land will be required to restore land to its environmental capabilities, restore safety and security for the communities, and preserve an opportunity for other economic land uses as per the landowners' and interested and affected parties' requirements. Appropriate rehabilitation and correctly matching mitigation measures will be implemented in a manner that will meet the desired rehabilitation objectives. However, the end point of the reclamation of the waste rock is to finally process the remaining gold products. Furthermore, this will contribute to the community employment opportunities for the surrounding areas.

• Desirability

The overall objective of this project is to undertake the reclamation of the mine rock deposit and the rehabilitate the disturbed land that resulted from the previous gold mining activities. The rehabilitation of land is extremely important and would benefit the communities in terms of the socio-economy and the environment, as the removal of the mine waste rocks would restore the land to its environmental capabilities and reserve the land for other uses. The eradication of illegal miners would restore safety and security in the Deelkraal community and other surrounding areas. The rehabilitation of the site will also help by limiting the spread of alien and invasive species in the area.

The project has been determined to have minimal cumulative impacts that can be mitigated to an acceptable level. Mitigation measures to be implemented throughout the rehabilitation process will serve as a method to prevent the project from having waste rock and latent impacts on the receiving environment.



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

The mine waste rock material on the proposed site has existed for several decades, which attracted illegal mining activities, and the land capabilities are being compromised in such a way that the land cannot be utilized for other purposes due to its current condition. The proposed project area is near both residential and commercial areas, and the presence of waste rock concentrations of the mine waste resulting from inadequate rehabilitation and closure of previous mining operations, thus has become a source of environmental pollution, which is posing an unsafe risk to the surrounding communities and impedes spatial development. Mine waste materials are known to be the source of environmental pollution, such as soil and underground water contamination.

No alternative sites were investigated for this project. The mine waste rock is in the area in question. Therefore, there is no alternative site for this project.

• Activities

The applicant intends to utilise an excavator to remove the waste rock material and load it into a dump truck to a processing plant. As a result, there will not be any treatment of the waste rock material on the site where the project will be undertaken, and the material will be taken to an off-site treatment facility. The areas where the rehabilitation activities are intended include:

- ✓ Site establishment, which involves the erection of mobile offices and portable ablution facilities
- ✓ Removal of mine waste rock
- ✓ Final Rehabilitation and landscaping

• Technology alternative

The removal of the mine waste rock will entail the removal of the pollution sources of soil and water pollution and will release the land to be used for other possible economic land developments. The layout plan of the infrastructure has been planned to avoid sensitive areas as far as possible (figure 14). The intended method of removal of the rock dumps is economically viable and has minimal environmental impacts.

8. 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.



8.1.Details of the development footprint alternatives considered.

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

8.1.1. The property on which or location where it is proposed to undertake the activity;

No alternative location has been evaluated in terms of this project. The mine waste rock deposits exist on the proposed site. Therefore, no other area has been identified in this regard.

8.1.2. The type of activity to be undertaken.

The applicant intends to reclaim the mine waste rock remnants and rehabilitate all disturbed areas resulting from previous mining activities. The proposed project will entail a conventional method of removing the mine rock deposit and transporting it to the processing plant, and materials from the abandoned infrastructure to the licensed landfill facility. New soil as well as overburden from adjacent areas will then be established in the cleaned-out areas, and this will allow for the vegetation and natural grasses to take effect in the contaminated areas.

8.1.3. The design or layout of the activity.

The layout plan is determined by the existing location of the mine waste rocks and the suitability of the area to place the associated infrastructure in the form of a mobile office and portable ablution facilities. There is an existing access road, which means there will be no need to establish a new road.

8.1.4. The technology to be used in the activity;

The applicant will utilise the conventional excavation method using the Excavator to remove the mine waste rocks and load them into a dump truck to a processing facility. All waste generated from the removal of the old infrastructure will be taken to the nearest licensed landfill site. The project location will be rehabilitated to ensure that the land is viable for other capable uses.

8.1.5. The operational aspects of the activity; and

The applicant will only be removing the rock material from the proposed site and transporting it to the relevant sites (processing plant and landfill). There will not be any processing of the material on-site. The applicant will conduct concurrent rehabilitation while removing the material from the site, and once all material is removed from the site, the final rehabilitation of the site will be undertaken.



8.1.6. The option of not implementing the activity.

The option of the project not proceeding would mean that all the environmental impacts that currently exist on the land and social status would remain the same. This implies that the negative environmental and social impacts would remain and that the positive impacts after the rehabilitation would not occur. The decision to implement the project was based on the extent of the environmental and social impacts in the area and the desire to achieve the rehabilitation objectives and to make this land suitable for other alternative land use developments rather than leaving it in its current state.

The expected benefits of the proposed project include:

- Removal of the mine waste as a source of environmental pollution and illegal mining activities in the area;
- ✓ Mitigating the social impacts resulting from criminal activities due to illegal mining; and
- ✓ Rehabilitation of the land to avail it for other alternative land uses and developments.

8.2. Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties, including public meetings and one-on-one consultations. 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 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, including the interested and affected parties. The various PPP materials that are used as part of the EIA processes are included as appendices to this report.

Background Information Document (BID):

The BID (Appendix 3B) aims to provide important information regarding the following:

• Project description of the proposed reclamation of the mine waste rock and the rehabilitation of the disturbed land resulting from the previous mining activities;

• The EIA and the PPP to be undertaken in support of the decommissioning and rehabilitation 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; and

• The public review and comment period for the draft Basic Assessment Report (BAR).

I&APs Registration Form:

A registration form was distributed to the community attached to the BID for the registration of the I&APs (attached as **Appendix 3B** for ease of reference).

Site notice:

An A3 sized site notices informing I&APs about the project information as per the published newspaper advert, are developed, laminated and erected at the boundary of the proposed site as required in terms of Section 24J of NEMA read with Regulation 41 EIA regulation notices were placed within the vicinity of the proposed project site at strategic locations where it is deemed to be visible to community.

Newspaper advertisements:

A newspaper advertisement, informing all I&APs residing in the surrounding communities near the proposed area within the West Rand District Municipality, was published Carletonville Herald newspaper on the 19th June 2025 and included the information about JNT Metals' intention to undertake a reclamation of a mine waste rocks and the rehabilitation of the disturbed land resulted from the previous mining activities in respect of Portion of Portion 3 of the Farm Deekraal 142 IQ in the District of West Rand, Gauteng Province.

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

Public meeting:

A public meeting will be held to facilitate discussions on the Draft Basic Assessment Report to obtain comments, issues, concerns, and inputs from the Interested and Affected Parties (I&APs). It will be held at a nearby location in June 2025, accessible to everyone.

Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



8.3.Summary of issues raised by I&Aps

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

Table 9: Summary of issues raised by I&APs

Interested and Affected Parties	Date Comn Receiv	nents ved	Issues raised	EAPs manda	response ited by the	to issues applicant	s as	Section and paragraph reference in this report where the issues and or response were incorporated.
Landowner/s Tiaan Venter								
Lawful occuier/s of the land Landowners or lawful occupiers on		-	TO BE C	OMPLET	ED AFTE	R THE DRAI	FT BA	AR REVIEW PERIOD
adjacent properties Municipal councillor Municipality								
Organs of state (Responsible for infrastructure that may be affected								
Roads Department, Eskom, Telkom, DWA e								
Dept. Land Affairs								

Draft Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



Dept. Environmental Affairs			
Other Competent Authorities			
affected			



8.4. The Environmental attributes associated with the alternatives.

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

8.4.1. Baseline Environment

8.4.1.1. Type of environment affected by the proposed activity.

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

Regional Setting

The proposed project area is located within the West Rand District Municipality in the Gauteng Province. The proposed project area is on the western side of Wedela and is approximately 7.36 km, using N12 and D92 roads for access, in the West Rand District Municipality, Gauteng Province, South Africa.

Climate

The project area falls within the range of the Johannesburg weather station, which is located in the southern hemisphere. The climatic conditions in Johannesburg are categorized as mild, and generally warm and temperate. In winter, there is much less rainfall in Johannesburg than in summer. The climate is classified as Subtropical highland climate or Monsoon-influenced temperate oceanic climate (Cwb) by the Köppen-Geiger system (Köppen & Geiger, 1936). The average annual temperature is 15.9 °C, whereas the annual precipitation is about 784 mm. The proposed project area is in the southern hemisphere, where summer begins at the end of January and ends in December. January is the warmest month of the year with an average temperature of 19.7 °C, whereas July is the coldest month with an average minimum temperature of 9.5 °C (see Figure 2). The month with the highest relative humidity is January (68.14 %), while the month with the lowest relative humidity is September (34.82 %). The month with the rainiest days is December (18.03 days), while the month with the least rainy days is July (0.90 days).

The mean daily maximum (solid red line) shows the maximum temperature of an average day for every month for Carletonville. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years. For vacation planning, you can expect the mean temperatures and be prepared for hotter and colder days. Wind speeds are not displayed by default but can be enabled at the bottom of the graph.

The precipitation chart is useful to plan for seasonal effects such as the wet season in Africa. Monthly precipitations above 150mm are mostly wet, below 30mm mostly dry. Note: Simulated precipitation amounts in tropical regions and complex terrain tend to be lower than local measurements.



Carletonville 26.36°S, 27.40°E (1529 m asl). Model: ERA5T.



Figure 2: Climatic conditions of Johannesburg(https://meteoblue.com/)

The occurrence of wind in Johannesburg is high, with strong winds blowing constantly from December to April and calm winds from June to October. The strong winds blow from a NNW, N, and NNE direction as shown in the wind rose below (Figure 3). Both the frequency and velocity of these winds are highest in these directions.

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Carletonville 26.36°S, 27.40°E (1529 m asl). Model: ERAST.



Figure 3: Wind Rose for Johannesburg (https://www.meteoblue.com)

• Topography

The project area is in the city of Johannesburg, which is situated in the Highveld, a grassy plateau that stretches across the interior of South Africa. The city is situated on the Witwatersrand or Rand, a series of low, rocky ridges that form the watershed between the outlets to the Indian and Atlantic Oceans. The city lies at an altitude of between 1,740 and 1,810 metres.

Apart from a few minor streams and artificial lakes, Johannesburg is devoid of water. The city's location is due to the presence of an even more valuable resource, gold. The city grew on the outskirts of the Witwatersrand Main Reef, a subsurface stratum of gold-bearing quartz-silica conglomerate those hundreds of kilometres beneath the Highveld.

The elevation of Laanglagte varies from approximately 1,343 m to 1,803 m. The average elevation on the site where the waste management license activities will be undertaken is 1.709 m, as shown in the Figure below.





Figure 4: Topographical map of Deelkraal

• Regional Geology

The project area's geological features are associated dominantly with the Transvaal, Roiberg, and Griqualand West (see Figure 5). The Transvaal and Roiberg Griqualand West Group is an important geological formation located in the southwestern part of Gauteng, South Africa. The formation is characterized by varying layers of iron-rich minerals, including hematite and magnetite, and silica-rich minerals like quartz. It is a part of the Archaean to Proterozoic basement era rocks and is significant in understanding the region's geological history. It provides valuable information on the early geological history of the Witwatersrand Supergroup, which includes the economically significant gold-bearing formations. The Transvaal Roiberg Griqualand West Group is a subdivision of the Witwatersrand Supergroup, which is also ancient, dating back to around 2.5 to 3.5 billion years ago. This subgroup is famous for its gold-bearing conglomerates, specifically the reefs that contain significant quantities of gold. Both the Transvaal and, Roiberg Griqualand West Group are crucial in the context of South

Draft Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



Africa's gold mining history. The Transvaal Roiberg Griqualand West Group, in particular, is renowned for its rich gold deposits, which have been extensively mined since the late 19th century.



Figure 5: Geological Map

• Hydrology

The proposed project site is located a considerable distance (approximately 0.80 km) from the nearest constructed surface water resources, namely Deelkral dam, and small dams which are approximately 0.28 km away from the WML area. Therefore, the proposed waste management activities will have a negative impact on the surface water resources. See Figure below.





Figure 6: Hydrological Map

 \triangleright

Biodiversity

Biomes

Figure 7 below shows that the proposed waste management license area is located within the Savanna biome. This is dominated by grasses and woody vegetation, frequently dominated by acacia trees. This is influenced by fluctuating climate change, where warm temperatures and different wet and dry seasons occur. The topography is mainly flat and rolling but includes the escarpment itself. Altitude varies from near sea level to 1,200 to 1,800 m above sea level. The savanna is dominated by scattered trees. The amount of cover depends on rainfall and the degree of grazing. Trees are absent, except in a few localized habitats. Geophytes are often abandoned. Forests, fire, and grazing maintain the grass dominance and prevent the establishment of trees.





Figure 7: Biomes

• Bioregions

The proposed waste management license area is in the central bushveld bioregion as depicted in Figure 8 below. Typically, this central bushveld bioregion is represented by mixed woody vegetation and a grass-dominated herbaceous layer including trees and shrubs. Prevailing species like acacia trees, bushwillow, and other thorny shrubs. Depending on local conditions, trees form semi-open to closed thickets or woodlands and can range from short deciduous bush cover to a medium-tall +5m tree cover of deciduous and evergreen trees. Warm temperatures are mostly prominent but have varying times with different wet and dry seasons.




Figure 8: bioregions

• Vegetation Map

The proposed project area is located within the Gauteng Shale Highveld (Figure 9). Gauteng Shale Highveld is mostly confined to the province of Gauteng. 51% of the area has been transformed, mainly by small agriculture, mining, and developing urbanisation. The vegetation in this area is not formally protected and is therefore considered an endangered species





Figure 9: Vegetation Map

The Gauteng Shale Highveld forms part of the broader Highveld region, which is known for its distinctive grassland ecosystems. The region experiences a temperate climate with a summer rainfall pattern. Summers are generally warm to hot, with afternoon thunderstorms, while winters are cooler and dry. Average temperatures range from mild in winter to warm in summer. The highveld climate is characterized by significant diurnal temperature variation. The Highveld has features typical of Highveld grassland vegetation, which includes a mix of perennial grasses and a variety of herbaceous plants. Dominant grasses include species like Themeda triandra (red grass) and Hyparrhenia and Animals include cattle, butterflies, beetles, and ants. In addition to grasses, the area supports a diverse array of flowering plants and shrubs adapted to the local climatic conditions.

Historically, the Highveld grasslands supported a range of wildlife, including antelope species like the springbok and blesbok. However, urbanization and land use changes have significantly altered the



wildlife populations in the Deelkral area. The grassland is also home to various bird species, such as larks and raptors, which are adapted to the open and grassy environment. The Highveld area has been significantly impacted by urbanization, with the development of residential and industrial areas. This has led to habitat fragmentation and loss of natural vegetation. Despite these pressures, there are efforts to conserve and rehabilitate remaining grassland areas. Conservation initiatives focus on protecting the native flora and fauna, as well as promoting sustainable land management practices.

Fauna Species	Finding
Mammals	Only signs (i.e., spoor and faeces) of common mammal species,
	e.g., Cryptomys hottentotus (Common Mole Rat), were observed
	during the field assessments. Common species, such as domestic
	dogs, cattle, etc. also occur in the project area.
Avifauna	Avifaunal diversity was intermediate and comprised mainly of
	common species adapted to high levels of anthropogenic
	activities/change. Species include Streptopelia capicola (Cape
	Turtle Dove), Ardea melanocephala (Blackheaded Heron).
Amphibians	No amphibians were observed during the field assessment. Species
	likely to inhabitat the riverine areas include Cacosternum boettgeri
	(Common Caco) and Schismaderma carens (Red Toad).
Reptiles	A low reptile diversity was observed during the field assessment.
	Only common species, e.g., Trachylepsis punctatissima (Montane
	Speckled Skink), were observed during the field assessments.
Insects	Overall, insect diversity is intermediate. This may be attributed to
	the anthropogenic activities such as alien and Invasive plant
	proliferation and uncontrolled veld fires. Only common insect
	species of the area were observed.
Arachnids	While very few arachnid species were observed, this is likely due
	to the secretive nature of many arachnid species. It is expected that
	the project area is likely to be inhabited by many common arachnid
	species, such as Olurunia ocellata (Grass Funnel web Spider).

Table 10: Summary of Fauna Biodiversity Findings (SLR, 2019)



• Conservation Plan

According to the Gauteng Provincial Biodiversity Conservation Plan (C-Plan), the proposed project site falls within an area of biodiversity importance as depicted on the map below (Figure 10). Notably, WML is within an endangered species area. Consequently, rehabilitation is necessary to bring the land to its natural state. The map is intended to inform land use planning, environmental impact assessment, authorizations, and natural resource management by a variety of sectors whose policies and decisions affect biodiversity.



Figure 10: Conservation Plan map of the proposed site

Socio-Economic Status

The project area is located in the Gauteng Province, under the West Rand District Municipality. It is located at an elevation of 1,300 m in South Africa's eastern plateau known as the Highveld. The former Central Business District is located on the south side of the Witwatersrand. The Witwatersrand River



forms the watershed between the Limpopo and Vaal Rivers, and the land slopes north and south. To the north and west, the city is hilly, while the east is flatter.

West Rand is the largest and most populous city in South Africa. It is the provincial capital of Gauteng, the wealthiest province in South Africa, with the highest GDP of any metropolitan region in Sub-Saharan Africa. Due to its location on the mineral-rich Witwatersrand range of hills, Deelkraal is on the western side of an extensive gold and trade.

• Demographics and Population Statistics

According to the 2022 census, the West Rand District Municipality has a total population of Total population 334 773 of which 84,4% are Black African, 8.5 % are white people, 6.5 % are coloured people, 0.4 % are Indian/Asian, and other 0.2 % (see Table 11 and Figure 11).

Name	Frequency	%
BLACK AFRICAN	282 457	84,4%
COLOURED	21 647	6,5%
INDIAN/ASIAN	1 285	0,4%
WHITE	28 370	8,5%
OTHER	834	0,2%

Table 11: Population profile of CoJ (Source: Stats SA 2022 Census)





Figure 11: Sex and Age Distribution of the CoJ (Source: Stats SA 2022 Census)



Figure 12: Education level at the CoJ (Source: Stats SA 2022 Census)





Figure 13: Sources of Water at the CoJ (Source: Stats SA 2022 Census)

9. Description of the current land uses

The applicant intends to clean and rehabilitate the area to a satisfactory standard to ensure that the land can be reserved for other socio-economic development activities in the area. There are various land uses on the surrounding areas of the proposed area.

• Residential

There are various residential areas in proximity to the proposed site. All the surrounding settlements will be notified of the proposed project. Written notices will also be given in accordance with section 47D of the Act, and expect to be completed I &AP forms returned, nor was the request for the registration of I &APs received from the public.

• Industries

There is no industrial area within the proposed project area but there is a small town.

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

The proposed project area is within the West Rand District Municipality in Gauteng Province. The proposed project area is on the western side of Wedela. It is approximately 7.36 km, using N12 and



D92 roads for access, in the West Rand District Municipality, Gauteng Province, South Africa. The area of interest is the richest gold mining area in the world, previous mining activities have negatively impacted the environment and can attract illegal mining activities. Therefore, it is important to rehabilitate the area to ensure the environment returns to its original state and the community is safe from being invaded by illegal miners.

11. ENVIRONMENTAL AND CURRENT LAND USE MAP.

(Show all environmental and current land use features)



Figure 14: The environmental and current land use of the proposed area is shown on the map



11.1. 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

Table 12: During the site establishment phase, the following activities will take place on site:

Project Phase	Associated Activities	Potential Impacts
Construction Phase	Pite clearance (for infrastructure);	Visual
	Establishment of infrastructure	• Air Quality/Dust
	(temporary site offices and portable	• Noise
	ablution facilities)	• Topography
	Removal of abandoned old	Vegetation
	infrastructure, except the	• Animal Life
Operational Phase	Vegetation clearance to access the mine	• Land use and
(Reclamation)	waste residue material.	capability
	Waste removal within the project area	• Surface water Quality
	Waste handling (transportation and	• Groundwater Quality
	stockpiling).	Socio-economic
	Material take-off and transportation to	• Health and safety
	the off-site treatment facility.	
	Close-up or infilling of trenches and	
	voids.	
Decommissioning and	Final rehabilitation of the overall area.	
final rehabilitation		

Various phases of the mining-related activities, from site establishment, decommissioning, and rehabilitation, are associated with environmental impacts that may be major positive, negative, and cumulative. The potential impacts are discussed per environmental feature/ aspect below.

• Visual

Visual disturbance due to the material stockpile and movement of vehicles and equipment.

Visual Impact



	Impact rating without	Impact rating with	
	mitigation	mitigation	
Impact Status: (positive or negative)	Negative	Negative	
Extent (Site, Neighbouring, Local, Regional,	Neighbouring	Neighbouring	
International)			
Duration (Short term, Medium term, Long	Short-term	Short-term	
term, Permanent)			
Magnitude (Major, Moderate, Minor)	Moderate	Minor	
Probability (Definite, Probable, Likely,	Probable	Probable	
Unlikely)			
Significance Rating (Negligible, Low,	Moderate	Low	
Moderate, High)			
Reversibility: (Reversible or Irreversible)	Reversible		
Irreplaceable loss of resources: (Yes or No)) No		
Mitigation Measures:			
• Implementation of the operating time schedule management measures.			

• Dust

Dust may be generated during the operational process on-site.

AIR QUALITY/DUST IMPACT		
	Impact rating	Impact rating
	without mitigation	with mitigation
Impact Status: (positive or negative)	Negative	Positive
Extent (Site, Neighbouring, Local, Regional,	Neighbouring	Neighbouring
International)		
Duration (Short term, Medium term, Long term,	Short-term	Short-term
Permanent)		
Magnitude (Major, Moderate, Minor)	Minor	Minor
Probability (Definite, Probable, Likely, Unlikely)	Likely	Likely
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low
Reversibility: (Reversible or Irreversible)	Reversible	



Irreplaceable loss of resources: (Yes or No)	No
Mitigation Measures:	
• Dust control measures such as dust suppression show	ald be implemented to reduce the impact of
dust generation during the construction phase.	

• Topography

The removal of the mine waste rocks will result in the re-establishment of the original topography of the area.

GRADIENT IMPACT		
	Impact rating	Impact rating
	without mitigation	with mitigation
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, Neighboring, Local, Regional,	Site	Site
International)		
Duration (Short term, Medium term, Long term,	Permanent	Permanent
Permanent)		
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate, High)	Medium	Medium
Reversibility: (Reversible or Irreversible)	No	
Irreplaceable loss of resources: (Yes or No)	No	

Mitigation Measures:

• Operation sites must be clearly demarcated to control the movement of personnel and vehicles, providing clear boundaries for construction sites to limit the spread of impacts.

• Temporary erosion control measures, such as the runoff berms must be implemented to reduce flow velocity should be implemented around the operation areas.

• Heritage Resources

The removal of mine waste rocks will result in the re-establishment of the original topography of the area.



IMPACTS ON HERITAGE RESOURCES			
	Impact rating	Impact rating	
	without mitigation	with mitigation	
Impact Status: (positive or negative)	Positive	Positive	
Extent (Site, Neighboring, Local, Regional, International)	Site	Site	
Duration (Short term, Medium term, Long term,	Permanent	Permanent	
Permanent)			
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +	
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable	
Significance Rating (Negligible, Low, Moderate, High)	Negligible	Negligible	
Reversibility: (Reversible or Irreversible)	No		
Irreplaceable loss of resources: (Yes or No)	No		
Mitigation Measures:			

- Relevant authorities will be notified should the heritage resources be discovered.
- Area must be clearly demarcated to control the movement of personnel.

• Noise

Noise may be generated from the operation.

NOISE IMPACTS			
	Impact rating	Impact rating	
	without mitigation	with mitigation	
Impact Status: (positive or negative)	Positive	Positive	
Extent (Site, Neighboring, Local, Regional, International)	Site	Site	
Duration (Short term, Medium term, Long term,	Short term	Short term	
Permanent)			
Magnitude (Major, Moderate, Minor)	Minor	Minor	
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable	
Significance Rating (Negligible, Low, Moderate, High)	Negligible	Negligible	
Reversibility: (Reversible or Irreversible)	Reversible		



Irreplaceable loss of resources: (Yes or No)	No
Mitigation Measures:	
• Schedule restrictions: Limit noisy activities during sensitive hours.	
• Noise monitoring: Regularly monitor noise levels.	

• Traffic

Project activities will generate very limited additional traffic. Vehicles and trucks will access the site via existing roads.

TRAFFIC IMPACTS		
	Impact rating	Impact rating
	without	with mitigation
	mitigation	
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, Neighbouring, Local, Regional, International)	Site	Site
Duration (Short term, Medium term, Long term, Permanent)	Short term	Short term
Magnitude (Major, Moderate, Minor)	Minor	Minor
Probability (Definite, Probable, Likely, Unlikely)	Likely	Likely
Significance Rating (Negligible, Low, Moderate, High)	Negligible	Negligible
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation Measures:	•	
• Implement the traffic control and management measures.		

• Flora and Fauna

The vegetation clearance due to the associated site establishment activities to access the mine waste rocks will allow for increased surface water runoff, which may lead to soil erosion and loss of topsoil. However, this is not envisaged to be a significant impact as the area is already disturbed.



IMPACTS ON FLORA AND FAUNA		
	Impact rating	Impact rating with
	without mitigation	mitigation
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, Neighboring, Local, Regional, International)	Site	Site
Duration (Short term, Medium term, Long term,	Medium term	Medium term
Permanent)		
Magnitude (Major, Moderate, Minor)	Moderate	Moderate
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation Measures:		
• Limit vegetation clearing to minimize habitat destruction.		

• Develop plans to manage and maintain habitats.

IMPACTS ON FLORA AND FAUNA (POSITIVE)			
	Impact rating	Impact rating with	
	without mitigation	mitigation	
Impact Status: (positive or negative)	Positive	Positive	
Extent (Site, Neighboring, Local, Regional,	Local	Local	
International)			
Duration (Short term, Medium term, Long term,	Medium term	Medium term	
Permanent)			
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +	
Probability (Definite, Probable, Likely, Unlikely)	Likely	Likely	
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low	
Reversibility: (Reversible or Irreversible)	Irreversible		
Irreplaceable loss of resources: (Yes or No)	No		
Mitigation Measures:	1		

• Regeneration of vegetation once the mine waste rocks are cleared up.



• Soils and Land Capability

The soil and land capability of the area has already been disturbed due to the mine waste rocks, which may illegal mining activities and impeding terrestrial expansion. A change in soil capability will consequently affect the end land use if not properly mitigated. The movement of heavy vehicles in the operational area will result in soil compaction, water runoff, and soil erosion, especially during the rainy season. Temporary storage of hazardous products may cause soil pollution through hydrocarbon spillages.

IMPACTS ON SOILS AND LAND CAPABILITY		
	Impact rating	Impact rating with
	without mitigation	mitigation
Impact Status: (positive or negative)	Negative	Negative
Extent (Site, Neighbouring, Local, Regional,	Site	Site
International)		
Duration (Short term, Medium term, Long term,	Medium term	Long term
Permanent)		
Magnitude (Major, Moderate, Minor)	Mojor	Moderate +
Probability (Definite, Probable, Likely, Unlikely)	Probable	Likely
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation Measures:		

- Proper management and clean-up of the hydrocarbon spills to minimize soil contamination.
- Implementation of proper management measures when removing the waste material to ensure that the soil quality is sustained for other land uses.
- Run on/run-off control by implementing measures to prevent stormwater contamination.

The current state of the land is not suitable for any socio-economic land uses due to the presence of the mine waste rock disturbance. Therefore, the proposed activity has a potential positive impact on the



land uses and land capability since this project intends to clean and rehabilitate the area to a state that will be suitable for the other land uses.

IMPACTS ON SOILS AND LAND CAPABILITY			
	Impact rating	Impact rating with	
	without mitigation	mitigation	
Impact Status: (positive or negative)	Positive	Positive	
Extent (Site, Neighbouring, Local, Regional,	Site	Site	
International)			
Duration (Short term, Medium term, Long term,	Permanent	Permanent	
Permanent)			
Magnitude (Major, Moderate, Minor)	Moderate +	Major	
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable	
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low	
Reversibility: (Reversible or Irreversible)	Reversible		
Irreplaceable loss of resources: (Yes or No)	No		
Mitigation Measures:			

• Implementation of proper management measures when removing the waste material to ensure that the soil quality is sustained for other land uses.

• Surface and Groundwater resources

There is a water resource within the project area; therefore, the activities that will be conducted will not have an impact on the water resource. The removal of the mine waste rocks may expose the toxic elements that may react with rainwater and create Acid Mine Drainage that may flow into nearby surface water resources.

IMPACTS ON SURFACE AND GROUNDWATER RESOURCES (NEGATIVE)		
	Impact rating without mitigation	Impact rating with mitigation
Impact Status: (positive or negative)	Negative	Positive
Extent (Site, Neighbouring, Local, Regional, International)	Local	Local
Duration (Short term, Medium term, Long term, Permanent)	Medium term	Permanent



Magnitude (Major, Moderate, Minor)	Moderate	Moderate
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate, High)	Medium	Medium
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	

Mitigation Measures:

• Implementation of hydrocarbons spillage management and clean-up to minimize soil contamination that could also lead to surface water pollution.

• Implementation of temporary erosion control measures such as the runoff berms to reduce flow velocity.

• Clearance of vegetation must be limited as far as possible.

The occurrence of the mine waste rocks results in contamination of groundwater through seepage during rainy seasons, containing high sulphates and metals. The rehabilitation activities will prevent further seepage of hazardous substances to the subsurface. The overall groundwater quality is expected to improve post the decommissioning operations as the source of contamination would have been removed.

IMPACTS ON SURFACE AND GROUNDWATER RESOURCES (POSITIVE)		
	Impact rating without	Impact rating with
	mitigation	mitigation
Impact Status: (positive or negative)	Negative	Negative
Extent (Site, Neighboring, Local, Regional,	Local	Local
International)		
Duration (Short term, Medium term, Long term,	Medium term	Permanent
Permanent)		
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate,	Medium	Low
High)		
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation Measures:		



• Management measures and removal of the source of toxic elements from the waste material into the water resources.

The effect of this project activity on employment and socio-economic regime would be positive but limited in extent and duration. Employment opportunities in the form of direct employment within a project and indirect employment will be through the procurement of local goods and services. The potential employment opportunities will, therefore, improve livelihoods and alleviate poverty within the host community.

SOCIO-ECONOMIC IMPACTS (POSITIVE IMPACTS)		
	Impact rating without	Impact rating
	mitigation	with mitigation
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, neighbouring, Local, Regional,	Site	Site
International)		
Duration (Short term, Medium term, Long term,	Medium term	Long term
Permanent)		
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	
Mitigation Measures:		
• The creation of employment and business opportunities and training.		

- Skills transfer and enhancement to workers.
- Improved economic development.

However, the project also has negative socio-economic impacts on the host community, wherein there might be an influx of people approaching the project site seeking employment opportunities. The community may have too many expectations of job creation by the proposed project, and if their expectations are not met, this may result in risks of violent marches and vandalism of project property.



This may cause conflict between the host community members and the employed personnel from areas outside the host community, as well as foreigners.

SOCIO-ECONOMIC IMPACTS (NEGATIVE IMPACTS)			
	Impact rating	Impact rating with	
	without mitigation	mitigation	
Impact Status: (positive or negative)	Negative	Negative	
Extent (Site, Neighboring, Local, Regional,	Site	Site	
International)			
Duration (Short term, Medium term, Long term,	Permanent	Permanent	
Permanent)			
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +	
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable	
Significance Rating (Negligible, Low, Moderate, High)	Medium	Medium	
Reversibility: (Reversible or Irreversible)	No		
Irreplaceable loss of resources: (Yes or No)	No		

Mitigation Measures:

- Prioritizing the sourcing of available skills from the host community.
- Transparency of the project manager with the community members about the employment opportunities and what the project can provide in terms of the community expectations.
- Community engagement for the community to understand the magnitude of the operation and the employment requirements of the project.

• Safety

The proposed project will have safety and security benefits for the adjacent communities since the removal of the mine waste rocks will ultimately eradicate the illegal mining activities and associated criminal activities.

SAFETY IMPACTS (POSITIVE IMPACTS)		
	Impact rating	Impact rating
	without mitigation	with mitigation
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, Neighboring, Local, Regional, International)	Local	Local



Duration (Short term, Medium term, Long term,	Short term	Short term
Permanent)		
Magnitude (Major, Moderate, Minor)	Minor	Moderate
Probability (Definite, Probable, Likely, Unlikely)	Likely	Probable
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low
Reversibility: (Reversible or Irreversible)	Reversible	
Irreplaceable loss of resources: (Yes or No)	No	

Mitigation Measures:

- The removal of the source of gold-bearing material attracts illegal miners and associated criminal activities.
- Removal of the safety threats posed by the waste dumps.

SAFETY IMPACTS (NEGATIVE IMPACTS)		
	Impact rating	Impact rating
	without mitigation	with mitigation
Impact Status: (positive or negative)	Positive	Positive
Extent (Site, Neighboring, Local, Regional, International)	Site	Site
Duration (Short term, Medium term, Long term,	Permanent	Permanent
Permanent)		
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable
Significance Rating (Negligible, Low, Moderate, High)	Low	Medium
Reversibility: (Reversible or Irreversible)	No	
Irreplaceable loss of resources: (Yes or No)	No	

Mitigation Measures:

- Safety signs and barricades must be placed around the operation site to ensure the safety of the workers and the public.
- Site security should be employed on site to control access to the operational site and ensure protection of the project parameters.



• All project infrastructure should be placed in a secure area to prevent unauthorized access and potential safety risks.

• Health

The proposed project is associated with the creation of dust that contains fine particulate matter with hazardous substances that can result in respiratory diseases for the workers. The presence of the mine waste rocks already has the same impact on the surrounding communities, especially during windy seasons. Exposure to hazardous particulate matter affects lung development in children, including reversible deficits in lung function as well as chronically reduced lung growth rate and a deficit in long-term lung function. Thus, the removal of the mine waste rocks would eliminate the health risk to the communities.

IMPACTS ON HEALTH (NEGATIVE)			
	Impact rating	Impact rating with	
	without mitigation	mitigation	
Impact Status: (positive or negative)	Positive	Positive	
Extent (Site, Neighboring, Local, Regional,	Local	Local	
International)			
Duration (Short term, Medium term, Long term,	Short term	Short term	
Permanent)			
Magnitude (Major, Moderate, Minor)	Minor	Moderate	
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable	
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low	
Reversibility: (Reversible or Irreversible)	Reversible		
Irreplaceable loss of resources: (Yes or No)	No		
Impact Status: (positive or negative)	Negative		

Mitigation Measures:

- Provision of appropriate PPE for workers to prevent and minimize impacts on their health.
- Dust suppression techniques should be used to limit the amount of dust created.
- Implementation of dust fallout monitoring.
- Make provision of the complaints register at an accessible point on site for the community.
- Regular medical check-ups for workers.



IMPACTS ON HEALTH (POSITIVE)								
	Impact rating without	Impact rating							
	mitigation	with mitigation							
Impact Status: (positive or negative)	Positive	Positive							
Extent (Site, Neighboring, Local, Regional,	Site	Site							
International)									
Duration (Short term, Medium term, Long term, Permanent Permanent									
Permanent)									
Magnitude (Major, Moderate, Minor)	Moderate +	Moderate +							
Probability (Definite, Probable, Likely, Unlikely)	Probable	Probable							
Significance Rating (Negligible, Low, Moderate, High)	Medium	Low							
Reversibility: (Reversible or Irreversible)	Reversible								
Irreplaceable loss of resources: (Yes or No)	No								
Mitigation Measures:									

- Removal of toxic dust particles from the waste dump material.
- Implementation of health mitigation measures to improve community health.

Decommissioning and Closure Phase

The project is the decommissioning of the waste rock as an operation. Therefore, this section will assess the potential rock impacts associated with the project activities on the key aspects of the environment.

• Waste rock Impacts

Waste rock impacts refer to the net impacts after practicable mitigation, considering the background environmental conditions and impacts from existing and near-future projects. Potential rock impacts exist for the proposed project, and these are discussed herewith.

• Topography

No significant waste rock impacts are envisaged.

• Soils, Land Use, Land Capability

No significant closure and decommissioning waste rock impacts are envisaged on the soils, land use, and land capability. Land will be restored and reserved for the residential development rehabilitation.



• Fauna and Flora

No significant rock impacts are envisaged. However, there is a risk of alien invasive vegetation encroaching on the cleared areas.

• Surface Water

Proper removal of the waste rocks, proper rehabilitation will have no significant rock impacts on the surface water drainage.

• Groundwater

The continuous groundwater pollution sources would be removed. Therefore, no significant waste rock impacts are envisaged.

• Safety

The community will remain with the perception of unsafety of the area. The illegal miners may move into the area in search of potential gold-bearing material, knowing the history of the area.

• Air Quality

No significant waste rock impacts are envisaged.

• Noise

No significant waste rock impacts are envisaged.

• Traffic

No significant waste rock impacts are envisaged.

• Waste

No significant waste rock impacts are envisaged.

• Visual

No significant waste rock impacts are envisaged

• Heritage

No significant waste rock impacts are envisaged.



• Socio-Economic

The waste rock impacts associated with the overall project have both positive and negative effects. The positive waste rock impacts include:

- ✓ Improved economic development,
- ✓ Portable skills transfer; and
- ✓ Increased capacity to develop and maintain livelihood strategies.

The negative waste rock impacts include:

- ✓ Job losses and insecurities.
- ✓ Increased poverty.

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

(Describe how the significance, probability, and duration of the aforesaid identified impacts were identified through the consultation process was used to decide the extent to which the initial site layout needs revision).

Criteria to Consider when Determining the Severity of Impacts:

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

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. The significance of an impact resulting from an aspect is expressed as a combination of the following:

• 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.

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



Table 13: Environmental impact assessment criteria

Extent of Impact:		
Site	The impacted area will only extend as far as the activity being	1
	conducted, e.g., the activity footprint.	
Neighbouring	Impact occurs within 5km radius of the site.	2
Local	Impact occurs within a 20km radius of the site.	3
Regional	Impact occurs within a 100km radius of the site.	4
National	Impact occurs within South Africa.	5
Duration of Impact	t:	
Short-term	The impact will either disappear with mitigation or will be mitigated through the natural processes in shorter time span.	2
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
Probability of the (Occurrence of the impact:	
Unlikely	The possibility of the impact materializing is exceptionally low either. because of design or historic experience.	1
Likely	The possibility of the impact materializing will occur to the extent that provision must be made thereof.	2
Probable	There is a distinct possibility that the impact will occur.	4
Definite	The impact will occur regardless of any prevention measures.	5
Magnitude of the in	npacts:	
Minor	The impact alters the affected environment in such a way that the natural processes are not affected.	2
Moderate	The affected environment is altered; however, the functions and processes continue in a modified way.	6
Major	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.	8
Significance of the	impact: Sum (Duration, Extent, Magnitude) x Probability	
Negligible	The impact is non-existent or unsubstantial, 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 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	> 60



the cost of management intervention will be a significant factor in mitigation

The proposed activities will have insignificant impacts and will occur for a short period of time. The probability of the impacts was also determined, and most of these activities can be controlled, and impacts can be reduced or avoided. The probability was determined by examining other activities of a similar nature. Since the negative effects of planned activities can be controlled, avoided, or minimized, the project activities' layout does not need to be revised. Project Activities The operational phase has different activities and objectives of the project and will have different impacts on the environmental attributes as compared to the construction phase. The activities to be undertaken on site during the operational phase include:

- Site clearance (for infrastructure);
- Establishment of infrastructure (temporary site offices, and portable ablution facilities);
- Removal of abandoned old infrastructure;
- Vegetation clearance to access the waste rocks;
- Waste removal within the project area;
- Waste handling (transportation and stockpiling).;
- Close-up or infilling of trenches and voids; and
- Final rehabilitation of the overall area.



Table 14: Impacts and risks identified

Element	Impacts	Pre-mitiga	tion						
		Extent	Duration	Magnitude	Probability	Significance	Rating	Reversibility	Replaceability
Soils and Land Capability	 Soil erosion Soil contamination due to the hydrocarbons Soil compaction due to the operating equipment. Degraded land due to the presence of waste rocks. 	Site (1)	Short term (2)	Major (8)	Probable (4)	Moderate	44 -	Reversible	Replaceable
Topography	• The removal of mine waste rocks may alter the man-made topography to its natural state.	Site (1)	Permanent (5)	Moderate (6)	Probable (4)	Moderate	48 +	Irreversible	Irreplaceable
Vegetation	 Loss of biodiversity Loss of Habitat Alien species invasion 	Site (1)	Short term (2)	Moderate (6)	Probable (4)	Low	36 -	Reversible	Replaceable
Animal life	 Loss of animal life and disruption to animal activities. Loss of habitat Animal migration 	Site (1)	Medium term (3)	Moderate (6)	Probable (4)	Moderate	40 -	Reversible	Replaceable
Surface Water	Generation of AMD and contaminating local surface water resources	Local (3)	Medium term (3)	Moderate (6)	Likely (2)	Low	24 -	Irreversible	Replaceable



Ground water	• No groundwater will be used or abstracted during the operations.	Local (3)	Medium term (3)	Moderate (6)	Probable (4)	Moderate	48 -	Irreversible	Replaceable
	• Groundwater contamination due to toxic elements from the waste dumps and possible seepage of hydrocarbons from the operation.								
Air Quality/ Dust	• Dust generation by vehicle movement during the operational phase	Neighbouri ng (2)	Short term (2)	Minor (2)	Probable (4)	Low	24 -	Irreversible	Replaceable
Noise	 Noise nuisance will be created by vehicle movement and during the excavation, loading, and haulage of materials 	Neighbouri ng (2)	Short term (2)	Minor (2)	Likely (2)	Negligible	12 -	Irreversible	Replaceable
Cultural Heritage	• Impacts on cultural and heritage resources, if any exist.	Site (1)	Short term (2)	Minor (2)	Unlikely (1)	Negligible	5 -	Reversible	Irreplaceable
Visual	 The operation activities may change the visual character of the property by the removal of mine waste rocks. There will be visual nuisance of the operating equipment and vehicles. 	Neighbouri ng (2)	Short term (2)	Moderate (6)	Probable (4)	Medium	40 -	Reversible	Irreplaceable
Socio- economic	 Influx of jobseekers. Over-expectations on job creation which may lead to violent marches. 	Local (3)	Medium term (3)	Moderate (6)	Likely (2)	Low	24 -	Reversible	Replaceable

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	• Conflict between the host community members and the employed personnel from areas outside the host community.								
Safety	Occupational injuries.Equipment theft and property vandalism.	Neighbouri ng (2)	Medium term (3)	Moderate (6)	Likely (2)	Low	22 -	Reversible	Replaceable
Health	• Health impact due to dust inhalation	Neighbouri ng (2)	Medium term (3)	Moderate (6)	Likely (2)	Low	22 -	Reversible	Replaceable
Waste Generation	 Waste nuisance and littering Generation of hazardous waste due to hydrocarbons storage 	Site (1)	Short term (2)	Minor (2)	Likely (2)	Low	10 -	Reversible	Replaceable
Traffic impacts	• Traffic due to moving vehicles and transportation trucks in and out of the site.	Site (1)	Short term (2)	Minor (2)	Likely (2)	Low	10 -	Reversible	Replaceable

12.1 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.

(Provide a discussion in terms of the advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

The impacts assessed have 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 ongoing impacts by undertaking a well-planned and effective decommissioning and rehabilitation of the waste rock operation. The project has associated positive and negative impacts, and such impacts are described in the table below:

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Table 15: Summary of positive and negative impacts of the proposed activity.

Impact	Pre- Mitigatio	Operation	Decommission	Post- Decommission	Post- Mitigatio	Operation	Decommission	Post-Decommission
	n				n			
Positive (+)	Medium	-Employment opportunities			Medium	-Improved health and safety for the locals -Improved topography	-Availability of land use -Improved groundwater quality -Improved health safety of the locals -Improved soil quality	 Improved soils and land capability Land reservation for other land uses Vegetation regeneration Improved biodiversity and ecological processes Improvised visibility and environmental beauty Improved soils and land capability Improved water quality on surface and groundwater resources Disturbance to the surface water drainage system
Positive (+)	Low	-Job security and skills development	-Job opportunities and skills development -Improved soils and land capability -Land reservation for other land uses		Low	-Improvised visibility and environmental beauty -Improved soils and land capability	-Improved surface water drainage and water quality -Improved health and safety	



						-Employment opportunities and socio-economic empowerment			
Negative (-)	Low	-Visualnuisance to moving equipment and vehicles.	-Visualnuisance to moving equipment and vehicles.	-Job insecurities	Low		-Alien vegetation species invasion -Soil erosion	-Habitat distur -Vegetation to vegetation	rbance disturbances due

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

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or

address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Draft Basic Assessment Report JNT Metals (Pty) Ltd GP 30/5/1/1/2 (000095) BP/BAR



Table 16: Post-mitigation repercussions of the rehabilitation

Aspects Pre mitigation impacts Mitigation Impact (post-mitigation)								Post-mitigation	
-			Scale	Duration	Magnitude	Probabilit	Significanc	Reversibility	impacts
						У	e		
Vegetation	-Disturbed sites and	-Removal of vegetation must be	Site	Medium	Moderate	Probable	Medium +	Reversible	-Regeneration of
	species of ecological	undertaken in a phased approach	(1)	term	(6)	(4)	(40)		vegetation post-
	importance.	to limit the number of plain areas		(3)					decommissioning.
		at a time.							
	-Loss of indigenous								-Remediated sites and
	vegetation and	-Implementing the alien invasive							re-establishment of
	biodiversity.	vegetation management plan.							species of ecological
	-Invasion of the alien								importance.
	vegetation species.								
Soil and	-The extraction of the	-Temporary erosion control	Site	Long	Moderate	Probable	Medium +	Reversible	-Improved land
land	waste rock material may	measures, such as runoff berms	(1)	term (4)	(6)	(4)	(44)		capability for other
capability	result in an increased	that reduce flow velocity, should							uses.
	surface water runoff,	be implemented around							-Improved soil
	which may lead to soil	operational areas.							properties and the
	erosion, generation of								potential for the host
	AMDs, loss of soil	-Roads must be maintained							communities to benefit
	nutrients, and changes in	regularly of eroded shoulders.							from shared land
	soil properties.								management
		-Vehicle movement should be							responsibilities
	- The movement of heavy	restricted to designated areas and							
	vehicles in the operation	access roads to minimise as much	1						
	area will result in	as possible the impact on soils.							
	compaction of the soil.								
		-A cleanup of any hydrocarbon							
		spills on soil must be undertaken		1					



	-The equipment and	by trained personnel using							
	vehicles may contaminate	commercially available							
	the soil due to oil	emergency clean-up kits and							
	spillages.	properly disposed of.							
	-Land is incapable of	-Implementation of the							
	other uses due to the	Bioremediation, where							
	existence of the waste	necessary, to improve soil							
	dump material.	capabilities.							
Visual	-Visual disturbance due to	-Use of barricade fence covers	Local	Long	Moderate	Probable	Medium +	Reversible	-Improved
	site operations.	where possible to minimise the	(2)	term (4)	(6)	(4)	(48)		environmental
	-	visual impact.							aesthetic due to the
	-Dust generation.	-Implementation of the dust							removal of the waste
	_	management measures.							material.
	-Disrupted environmental	-Removal of the mine waste							
	aesthetic due to the	rocks.							
	presence of the mine								
	waste rocks.								
Topography	-The removal of mine	-Temporary erosion control	Site	Long	Minor (2)	Likely (2)	Negligible	Reversible	Topography returned
	waste rocks may alter the	measures, such as the runoff	(1)	term (2)			_		to its natural state
	man-made topography to	berms, must be implemented to					(5)		
	its natural state.	reduce flow velocity should be							
		implemented around the							
		operation areas.							1



Animal life	-Disrupted the animal life	-Conduct environmental	Local	Medium	Moderate	Likely (2)	Low + (22)	Irreversible	-Re-establishment of
	and activities due to the	awareness and training for	(2)	term	(6)				new migration
	existence of mine waste	workers about the animal life on		(3)					corridors and access to
	rocks.	site.							nesting and refuge
									areas.
	-Disruption of animal life	-Killing of animals on site will be							
	due to the ongoing	strictly prohibited, and whenever							-Replaced animal
	operational activities.	an animal is found must be safely							habitat.
		removed from the operation.							
	-Displaced animal habitat	-Cautious implementation of the							
	by the existence of mine	waste material management							
	waste rocks.	measure.							
Surface	-Exposed toxic elements	-Implementation of temporary	Local	Long	Moderate	Likely (2)	Low + (24)	Irreversible	-Reduced generation of
Water	may react with rainwater	erosion control measures, such as	(2)	term (4)	(6)				AMD due to the
	and generate AMD that	the runoff berms, must be							removal of the waste
	may flow into nearby	implemented to reduce flow							material with toxic
	surface water resources.	velocity should be implemented.							elements.
									-Restored natural
	-Disrupted natural surface	-Remedy the possible effects of							surface water drainage.
	water drainage.	alteration to natural drainage							
		lines.							
	-Sedimentation and								
	siltation of water courses	-Implementing the hydrocarbon							
		spillages management plan,							
		-Management measures and							
		removal of the source of toxic							
		elements.							
		-Management measures and							
		removal of							



		the source of toxic elements from the waste material into the water resources.							
Groundwate r	-Degradation of groundwater quality due to contamination by the seepage of toxic elements from the waste material and hydrocarbon from the oil spills.	-Implement procedures to prevent and minimise hydrocarbon spills by cleaning after the oil spills on site, placing of a drip tray beneath the stationary equipment and placing or storing hydrocarbon (fuel) on concrete bunded area.	Local (2)	Long term (4)	Moderate (6)	Likely (2)	Low + (24)	Irreversible	-Improved groundwater quality post the decommission operations as the source of contamination will be removed
		servicing of equipment to prevent oil spillages from equipment.							
		-Management measures and removal of the source of toxic elements from the waste material into the water resources.							
Dust/Air Quality	-Dust generation by the movement of heavy vehicles during the material extraction activities. -Heavy dust deposition can have detrimental effects on plants if the	 Speed limits should be enforced to reduce dust created by moving vehicles. Roads in use will be subjected to dust suppression management measures. Implement concurrent rehabilitation activities to minimise the number of exposed 	Site (1)	Short term (2)	Minor (2)	Unlikely (1)	Negligible - (5)	Reversible	-No further generation of dust post the decommissioning activities

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	leaves are smothered to the extent where transpiration and photosynthesis are affected. -Health impacts on people in proximity to the project site due to fine particulate emissions during construction and operational phases.	surfaces that would result in dust generation. -Ensure that all the loaded trucks are covered with a sheet during transportation. - Ensure that none of the haul vehicles transporting material from the operation are visually overloaded.							
Noise	-Increase in ambient noise levels during the operational activities. -Disturbances to faunal species due to the noise from the operations.	 Silencers should be fitted on all engines. Develop effective complaints register that can be monitored regularly and accessible to the interested and affected party. Operation must be restricted to the following hours of operation: Monday to Friday – 07h00 to 17h00. Saturday – 07h00 to 16h00. No operation will be undertaken on Sundays (only maintenance) and public holidays. Implement noise monitoring. 	Site (1)	Short term (2)	Minor (2)	Unlikely (1)	Negligible – (5)	Reversible	-No further noise generation post the decommissioning activities


		-Ensure noise emissions are minimised by regularly servicing all vehicles and placing silencers on their engines.							
Cultural	There are no known	-Conduct Identification of all	Site	Short	Minor (2)	Unlikely	Negligible	Irreversible	-Not Applicable
Heritage	important heritage	possible sites of archaeological	(1)	term (2)		(1)	_		
	resources on the site.	value.					(5)		
		-Identified sites must be							
		clearly demarcated as no-							
		go areas.							
		-If any heritage resources,							
		including fossils, graves, or							
		human remains, are encountered							
		with, these must be reported							
~ ·		to the authorities.	- 1	~1		x 11 1 (a)		- 11.1	
Socio-	-Employment	-Establish targets for	Local	Short	Minor (2)	Likely (2)	Negligible	Irreversible	-The creation of
economic	opportunities for people	employment and training.	(2)	term (2)			+(12)		employment and
	from the local								business opportunities
	communities of which	-Effective implementation of							and training.
	will have the potential to	training and skills development							C1-:11- to a france 1
	considerably improve the	initiatives.							-Skills transfer and
	atability of amployees and	Drigritizing the coursing							
	their dependents	-rhohuzing the sourcing							workers.
	Knowledge and skills	available skills from the nost							Improved economic
	transfer	community.							development
		-Transparency with the							ue veropinent.
	Empowerment of the local	community members about the							
	businesses due to	employment opportunities and							



	procurement of goods and services	what the project can provide in terms of the community expectations.							
		-Community engagement for the community to understand the magnitude of the operation and the employment requirements of the project. -Ensure that goods and services are procured from within the local area as far as possible.							
Safety impacts	-Occupational injuries. -Illegal mining activities that are also associated with criminal activities may affect the project and the surrounding communities due to theft of equipment and the damage of infrastructure.	 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. Consult with the local police branch to establish standard operating procedures for the control and/or removal of loiterers. Safety signs and barricades must be placed around the operation site to ensure safety of the workers and the public. 	Local (2)	Long term (4)	Moderate (6)	Likely (4)	Low + (24)	Reversible	-The removal of the source of gold- bearing material attracting illegal miners and associated criminal activities. -Removal of the safety threats posed by the mine waste rocks.



	-All project infrastructure should be placed in a secured area to prevent unauthorized access and potential safety risks.				



12.3 Motivation where no alternative sites were considered.

The interest of this project is the removal of the waste rocks for the reclamation of the mineral. The applicant intends to clean and rehabilitate the area to a satisfactory standard to ensure that the land can be reserved for other socio-economic development activities within the area. Therefore, this project has no alternative site.

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

(Provide a statement motivating the final site layout that is proposed)

The site layout plan was determined with consideration of spatial information and the observations made during site visits. To determine the final site layout, security measures were considered concerning the illegal mining activities that are happening within the area. The EMPr will propose, among other things, the rehabilitation of mine waste rocks on the site, the restoration of the ecological status of the area of interest before mining operations, and the improvement of alternative land uses post the decommissioning and rehabilitation.

13 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. (Including (i) a description of all environmental issues and risks that are identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

The purpose of the EIA Phase was to investigate the potential negative and positive impacts of the proposed project activities on the environment. The potential impacts were quantified to assess the significance that an impact may pose on the receiving environment. The objectives of the EIA process were to:

- Ensure that the potential biophysical and socio-economic impacts of the proposed project are taken into consideration during the decision-making process;
- ✓ Ensure that the project activities undertaken do not have a substantial detrimental impact on the environment by presenting management and mitigation measures that will avoid and/or reduce those impacts;
- Ensure that I&APs are informed about the proposed project and the public participation process to be followed;



- ✓ Ensure that I&APs are given an opportunity to raise concerns; and
- Provide a process aimed at enabling authorities to make an informed decision, especially in respect of their obligation to take environmental and social considerations into account when making those decisions.

The EIA process assessed the overall aspects affected by the proposed project in relation to the activities to be conducted. An assessment has been conducted to determine the sensitivity of the proposed area to make a sound decision on the consideration and implementation of the mitigation measures of the impacts posed by the proposed activity. The ranking of risks is estimated using two criteria, namely consequence and significance. Using the significance criteria, impacts can be assigned a rating of a potential risk, an uncertain risk, or a significant risk.

Rating	Significant Risks	Description
3	Potential	• The extent is national to international,
		• The duration is long term to permanent,
		• The magnitude will be high and above the acceptable standard,
		• Requires extensive intervention to mitigate the impacts.
2	Uncertain	• The extent is local to regional,
		• The duration is medium to long term,
		• The magnitude is above the acceptable standard, and
		• The environmental impacts are uncertain and may require some
		interventions to limit the impacts in future.
1	Insignificant	• The extent is site specific,
		• The duration is temporary,
		• The magnitude is within the acceptable standard, and
		• The environmental is ecologically and physically stable and no
		further interventions will be required in future.

Table 17: Significant Risks Rating System

The probability of occurrence has been categorised within the context of reasonable timeframes and frequencies given the nature of the anticipated project life. The following table defines the levels of likelihood and severity for the types of consequences that comprise the risk rating determination:



_ •	-	
Rating	Severity	Description
5	Critical	• Risks significantly exceed the risk acceptance threshold and necessitate comprehensive control measures as well as additional urgent and immediate attention to the identification and implementation of risk-reduction measures
4	Major	• Risks that likely to exceed the risk acceptance threshold, and while proactive control measures have been planned or implemented, a very close monitoring regime and additional actions to reduce risk are required.
3	Significance	• Risks that are effectively positioned on the risk acceptance threshold, these risks are likely to necessitate active monitoring.
2	Moderate	Risks with relatively low likelihood and low to mid-level consequence scenarios.
1	Minor	• Risks unlikely to rare events with minor consequences and in essence, relate to situations around very low probabilities of relatively minor impacts occurring.

Table 18: Severity of the consequence rating system

Table 19: Likelihood of the consequence rating system

Rating	Likelihood	Definitions
5	Almost	The event is expected to occur in most circumstances (The event is likely
	certain	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).

Risks can therefore be classified in different ratings in terms of the severity of consequence and the likelihood of consequence as described below.

Table 20: Description of risk classifications

Risk rating	Description
Extreme	These are unacceptable risks that are primarily critical in nature in terms of the extent and long-term environmental harm, permanent sacred site damage, fatality, and massive economic impacts that are effectively regarded as a possibility to almost certain to occur.
High	Typically refer to significant to critical consequences, such as significant environmental or heritage damage, as well as significant safety, social, or economic



	consequences that are likely to cut across the possible to almost certain likelihood ratings.
Medium	As the classification suggests, medium level risks encompass a range of risk combinations ranging from relatively low consequence / high likelihood to mid-level consequence / low likelihood scenarios across environmental, social, and economic domains.
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.
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.

Risk Analysis Matrix

The risk controls are linked to the level of risk and the opportunity for risk reduction to meet the project rehabilitation objectives and goals, which are linked to an environmentally and socially responsible operation, and these requirements are part of the regulatory obligations and impact assessment guidelines. The table below summarizes the qualitative risk matrix used, as well as the risk levels for the various consequence and likelihood combinations.

	10	S	Severity of Co	onsequence		
		Critical (5)	Major (4)	Significant (3)	Moderate (2)	Minor (1)
of	Almost Certain (5)	Extreme	Extreme	High	High	Medium
poo	Likely (4)	Extreme	High	High	Medium	Medium
elih	Possible (3)	Extreme	High	Medium	Medium	Low
Con	Unlikely (2)	High	Medium	Medium	Low	Very Low
	Rare (1)	Medium	Medium	Low	Low	Very Low

Figure 15: Risk Analysis Matrix

The impact assessment will focus on the activities of the project since they will have the potential to impact the biophysical and social environment of the proposed area. The impact assessment is furthermore separated into three (3) distinct phases, namely: Construction Phase;

- ✓ Site clearance (for infrastructure);
- ✓ Establishment of infrastructure (temporary site offices, and portable ablution facilities);
 Operation phase (Reclamation); and
- ✓ Vegetation clearance to access the waste dump material.
- ✓ Waste removal from different points within the project sites.
- ✓ Waste handling (transportation and stockpiling).
- \checkmark Material take-off and transportation to the off-site treatment facility.
- ✓ Decommissioning and final rehabilitation.
- \checkmark Decommissioning and rehabilitation of the old infrastructure.
- ✓ Final rehabilitation of the overall area



Table 21: Identified and assessed the impacts and risks the activity will impose on the preferred site

Aspect	Impact	Mitigation Measures	*Si *L	*Se	*R
Vegetation	• Disturbed sites and species of ecological	• Removal of vegetation in a phased approach.	Pre – Mitigatio	n	
	importance.	• Implementation of the alien invasive vegetation	1 3	1	M (+)
	• Disturbed vegetation cover.	species management plan.	Post – Mitigati	on	
	• Disturbed sites and species of ecological importance.		2 3	3	L (-)
	• Loss of indigenous vegetation and				
	biodiversity.				
	• Invasion of the alien vegetation species.				
Animal Life	• Disrupted the animal life and activities due	• Conduct environmental awareness and training	Pre – Mitigatio	n	
	to the existence of the mine waste rocks.	about the animal life on site.	1 3	1	<mark>M (+)</mark>
	• Disruption of animal life due to the ongoing	• Restrictions on the killing of animals on site.	Post – Mitigati	on	
	operations.	• Cautious implementation of the waste material	2 3	3	L (-)
	Displaced animal habitat.	management measure.			
Soils and Land	• Soil erosion, generation of AMDs, loss of	• Temporary erosion control measures.	Pre – Mitigatio	n	
Capability	soil nutrients and changes in soil properties.	Regular road maintenance.	2 3	3	<mark>M (-)</mark>
	Soil compaction.	• Vehicle movement should be restricted to	Post – Mitigati	on	
	• Soil contamination due to oil spillages.	designated areas and access roads.	1 3	1	L (+)
	• Land incapable for other uses due to the	• A cleaned-up of any hydro-carbon spills.			
	existence of the waste material.	• Implementation of the Bioremediation.			
		• Fuel storage areas on concrete and bunded			
		surfaces.			
Surface water			Pre – Mitigatio	n	



	• Exposed toxic elements may react with	• Remedy the effects of alteration to natural	2	2	2	M (+)
	rainwater and generate AMD.	drainage lines.	$Post - M^2$	itigati	on	
	• Disrupted natural drainage and runoff.	 Implementing the hydrocarbon spillages 	2	3	1	L (-)
	• Sedimentation and siltation of water courses	management plan.				
	• Degradation of surface water quality	• Implement the erosion control measures.				
		• Management measures and removal of the				
		source of toxic elements.				
Groundwater	• Degradation of groundwater quality due to	Remediate using commercially available	Pre – Mit	igatio	n	
	contamination by the seepage of toxic	emergency cleanup kits.	2	2	2	M (+)
	elements from the waste material and	Regular maintenance and servicing of	Post–Mitigation			
	hydrocarbons from the oil spills.	equipment.	2	3	1	L (-)
		• Management measures and removal of the				
		source of toxic elements.				
Noise	• Increase in ambient noise levels during the	• Limiting the site establishment activities	Pre – Mitigation			
	operational phase;	working hours to daylight hours (07h00 to	1	2	2	L (-)
	• Disturbances to faunal species during the	17h00) and not undertaking such activities at al	Post – Mitigation			
	operational phase.	on Sundays and public holidays.	1	2	1	VL (-)
		 No operation will be undertaken on Sundays 				
		(only maintenance) and public holidays.				
		 Implement noise monitoring. 				
		• Ensure noise emissions are minimised by				
		regularly servicing all vehicles and placing				
		silencers on their engines.				
Air Quality/Dust	Possible dust generation because of vehicles	• Implementation of dust control measures such	Pre – Mit	igatio	<u>n</u>	
	movements during the operations	as dust suppression and dust fall-out	1	2	2	L (-)
	• Detrimental effects on plants.	monitoring.	Post - Mt	itigatio	on	
	• Health impacts on animals and people.	• Enforcing the speed limits to reduce dust	1	2	1	VL (-)
		created by moving vehicles;		<u> </u>		
Visual	• Visual disturbance due to site operations.	• Use of barricade fence covers where possible to	$\frac{\text{Pre} - \text{Mit}}{2}$	igatio	n	
	Dust generation.	minimise the visual impact.	2	3	3	M (-)



	• Disrupted environmental aesthetic due to the	• Implementation of the dust management	Post – Mitigatio	on
	presence of the waste material.	measures.	2 2	3 <mark>M (+)</mark>
		• Removal of the waste material.		
Socio-economic	• Employment opportunities.	• Establish targets for employment and training.	Pre – Mitigatior	1
	• Knowledge and skills transfer.	• Effective implementation of training and skills	2 3	1 L (+)
	• Empowerment of the local businesses.	development initiatives.	Post – Mitigatic	n n
		• Prioritizing the sourcing available skills from	$\frac{1031}{2}$ $1011111111111111111111111111111111111$	
		the host community.	2 2	1 VL(-)
		• Transparency with the community members		
		about the availability of employment opportunities.		
		• Community engagement.		
		• Ensure that goods and services are procured		
		from within the local area as far as possible.		
Cultural and	• There are no known important heritage	Conduct Identification of all possible sites of	Pre and post mit	tigation
Heritage Resources	resources on the site.	archaeological value.	1 1	1 VL
		• Identified sites must be clearly demarcated as		
		no-go areas.		
		• Reporting of any heritage resources		
		encountered to the relevant authorities.	<u> </u>	
Waste	• Generation of various types of waste.	• Classification and separation of the waste.	Pre – Mitigatior	1
	 Environmental pollution including soil and 	• Prohibition of uncontrolled disposal of waste on	1 3	1 L (-)
	water resources contamination.	site.	Post – Mitigatio	n
			1 2	1 VL (-)
Safety	 Occupational injuries. 	• Ensure that there is a controlled access to the	Pre – Mitigation	1
	• Illegal mining activities that are also	site.	2 3	2 <mark>M (-)</mark>
	associated with criminal activities.	• Consult with the local police branch to establish	Post – Mitigatic	n l
		standard operating procedures for the control	2 3	1 I (+)
		and/or removal of lotterers.	– – – – –	



Health	• The dust potentially containing hazardous substances and particulate matter, which can be inhaled, causing respiratory diseases.	 Safety signs and barricades must be placed around the operation site. All project infrastructure should be placed in a secured area. Operational sites must be clearly demarcated. Make available, maintain, and effectively implement a grievance/complaint register. Provision of appropriate personal protective equipment (PPE). Placing of safety signs around the operation 	Pre – Mitiga	tion	
	 area. Induction should be conducted to all employees or sub-contractors entering site to ensure the 	2 Post – Mitig	2 ation	<mark>M (-)</mark>	
	or aw pla • Da act • Al inv • Sa as	 or sub- contractors entering site to ensure the awareness of the developed health and safety plan; Daily inspections and observations of on-site activities shall be conducted; All incidents to be reported, recorded, investigated, and mitigated. Safety signs to be provided in areas considered as high-risk areas; Provided adequate first aid services on site; and Promote ongoing health and safety awareness campaigns. 	2 3	1	L (+)
Traffic	Addition of traffic to the existing local traffic	• Vehicles and trucks will access the site via existing roads	$\frac{\text{Pre} - \text{Mitigat}}{1}$	tion 1	L (-)
	 Impacts on the surface quality of the road 	 Management and maintenance of the sections of 		1	L (-)
impacted resulting from vehicle movement		existing road surfaces which have been impacted on by the vehicle movement.	Post – Mitiga	ation	



		•	Existing road surfaces must be utilised and maintained within baseline levels.	1	2	1	VL (-)
• The removal of the waste dumps may alter the man-made topography to its natural state.	• The removal of the waste dumps may alter	٠	Temporary erosion control measures such as	the P	ost – Mitiga	tion	τ ()
		flow velocity should be implemented around	the	3 Post – Mitig	gation	L (-)	
		operation areas.	1	2	1	VL (+)	
*Si – Significance							
*L – Likelihood of c	onsequences						
*R – Residual Risks							
*Se – Consequences							
VL – Very Low; L –	Low; M – Medium; H - High						



Method of assessing the environmental aspects:

• Surface Water

A site visit was undertaken to assess and verify the hydrological characteristics on site to proposed activities. The orientation of watercourses about the proposed activities and how this can influence surface water quality conditions within the resources in the vicinity of the area is also assessed. The site assessments help in recommendations of mitigation measures, which include stormwater management and water quality monitoring.

• Cultural and Heritage Resources

There are no known important heritage resources on the site. Relevant authorities will be informed should there be any discovered heritage resources be found.

Necessary measures will be taken to avoid impacts on such resources. Personnel will be educated and made aware of the consequences of the unlawful removal of cultural and historical remains and artefacts associated with heritage sites. It will be emphasised that archaeological artefacts such as potsherds, stone tools, grinding stones, etc., must be left in situ and undisturbed until such time as the relevant authorities act upon the discovery.

A barricade fence or tape will be put around the discovered heritage resource and maintain a safe distance of at least 50 metres between the identified heritage resource and the activities being undertaken. If any heritage resources are discovered because of the set-up activities, such activities will cease with immediate effect, and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures.

• Noise

Considering the size and magnitude of the proposed project and the type of equipment to be used, the noise impact is assessed as being "LOW". However, the mitigation measures have been put in place to sustain the low significance of the impact by limiting the site activities to daylight hours (06h00 to 18h00) and not undertaking such activities at all on Sundays and public holidays. The vehicles on site will be limited to an excavator/ FEL and load truck.



• Visual

The visual impact of the decommission activities is assessed as being of medium significance before mitigation. The impact can be reduced to low significance to the locations of visual receptors on the project areas and adjacent properties.

• Dust fall

A dust fallout monitoring programme will be implemented during the operation of the project to ensure that the dust generated on the site is within the standard rates as contemplated in the National Dust Control Regulations (GN R. 827 of 1 November 2013), the implementation of dust control measures and continuous ambient air quality monitoring for PM10. The impact of dust generation by vehicles moving over unpaved areas is assessed as being of medium significance before mitigation. The impact can be reduced to one of low significance by subjecting the routes to dust suppression and enforcement of low vehicle speeds (20 Km/h).

• Soil and vegetation disturbance

The scope of the proposed focuses on the removal of the waste rocks and rehabilitation of all disturbed areas, therefore there will not be any disturbance on fresh soil. The vegetation disturbance will result from the site establishment. The impact in the proposed area is assessed as being of medium significance before mitigation. The impact can be reduced to one of low significance by limiting the activities and clearance to the smallest area possible, that is necessary and concurrent rehabilitation be implemented to avoid any major environmental degradation or a delay in the rehabilitation activities. Furthermore, that no clear scraping be carried out unless necessary.

• Soil and groundwater contamination

The proposed project activities could have the impact of soil contamination and possibly groundwater with hydrocarbons of a medium significance before mitigation. The impact can be reduced to one of low significance by placing the fuel storages on bunded areas, placing drip trays under stationary vehicles, necessary vehicle maintenance and cleaning up after any oil spill incident. Therefore, proper training on oil spills clean-up must be provided to the personnel and there must always be a spill kit on site.



• Health and Safety

The waste rocks are near the residential and business area, and therefore, the community might be subjected to health risks from inhaling the particulate matter from the mine waste rocks. Furthermore, the presence of the waste rock has no impact on the health and safety aspects on the surrounding communities. The riffs contain gold-bearing material which attract the influx of the illegal miners and that also increases the criminal activities associated with the illegal mining activities which also place a burden on the law enforcement. The communities are subjected to these activities and pose danger to their livelihoods. The removal of the waste rocks will eradicate the illegal mining activities and its associated criminal activities, therefore restoring the safety on the communities.

• Socio-economic conditions Positive impacts

The proposed project is expected to be operational for approximately five years depending on the need to continue with the activities to achieve the rehabilitation objectives and meet the landowner's requirements. The positive impacts relate to the creation of jobs, business opportunities and skills development.

Negative impacts

The negative impacts are associated with population influx as job seekers move into the area which may result in conflict between residents and job seekers, increase in crime and other social issues.

• 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 of the EIA Regulations, 2014 (as amended). Below is the summarised public participation process.

Activity	Details				
Distribution of the BID and the I&AP registration form	A Background Information Document (BID), including an I&AP registration form, will be distributed to various stakeholders, including the I&APs, via email.				
Placing of a newspaper advertisement	Newspaper advertisement will be placed in the Carletonville Herald newspaper.				
Putting up of site notices	Site notices will be placed around the site and;				
Announcement of Draft BAR	An electronic copy could be accessed and downloaded from the www.vahlengweadvisory.co.za website.				
Public meeting	A public meeting with the Interested and Affected parties will be held to discuss the draft Basic Assessment Report.				

Table 22: Summary of the PPP followed.



Announcement of Final	The final report will be made available through the Vahlengwe Mining and
Basic	Advisory Consulting website (<u>www.vahlengweadvisory.co.za).</u>
Assessment Report	



Table 23: Assessment of the potentially significant impact and risk.

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFIC ANCE	MITIGATION TYPE	SIGNIFIC ANCE
 -Vegetation clearance to access the mine waste rocks. -Waste removal from within the project sites. -Waste handling (Stockpiling, haulage, and transportation). 	 -Disturbed sites and species of ecological importance. -Disturbed vegetation cover. -Disturbed sites and species of ecological importance. -Loss of indigenous vegetation and biodiversity. 	Vegetation (flora)	Operational and decommissi oning	Low (-)	 -Removal of vegetation in a phased approach. -Implementation of the alien invasive vegetation species management plan. 	Medium(+)
-Material take-off and transportation to the offsite treatment facility. -Decommissioning and	 -Invasion of the alien vegetation species. -Disrupted the animal life and activities due to the existence of the mine waste rocks. 	Animal life (fauna)	Operational and decommissi oning	Medium (-)	-Conduct environmental awareness and training about animal life on site. -Restrictions on the killing of animals on-site.	Low (+)
the overall area.	-Disruption of animal life due to the ongoing operations. -Displaced animal habitat. -Soil erosion, generation of AMDs, loss of soil nutrients and changes in soil properties.	Soil and land capability	Operational and decommissi oning	Medium (-)	-Cautious implementation of the waste material management measure. -Temporary erosion control measures.	Medium (+)



	 -Soil compaction. -Soil contamination due to oil spillages. -Land incapable for other uses due to the existence of the mine waste material. 				 -Vehicle movement should be restricted to designated areas and access roads. -A cleanup of any hydrocarbon spills. -Implementation of the Bioremediation. 	
					-Fuel storage areas on concrete and bunded surfaces.	
-	-Exposed toxic elements may react with rainwater and generate AMD.-Disrupted natural drainage and runoff.	Surface water resources	Operational and Decommissi oning	Low (-)	 -Implementation of temporary erosion control measures. -Management measures and removal of the source of toxic elements. 	Low (+)
	-Increase in ambient noise levels during the project activities.-Disturbances to faunal species during the project activities.	Noise pollution	Operational and Decommissi oning	Negligible	 -Limiting the site activities working hours to daylight hours (07h00 to 17h00) and not undertaking such activities at all on Sundays and public holidays. -No operation will be undertaken on Sundays (only maintenance) and public holidays. -Implement noise monitoring. 	Negligible



					-Ensure noise emissions are minimised	
					by regularly servicing all vehicles and	
					placing silencers on their engines.	
-	-The removal of the mine waste	Topography	Operational,	Low (-)	-Temporary erosion control measures	Negligible
	rocks may alter the man-made		and		such as the runoff berms must be	
	topography to its natural state.		Decommissi		implemented to reduce flow velocity	
			oning		around the operation areas.	
			e		1	
					-Conducting concurrent rehabilitation	
					in all disturbed areas.	
	Possible dust generation in some	Air	Operational	Negligible	-Implementation of dust control	Negligible
	areas during the operational	Ouality/Dust	and	00	measures such as dust suppression and	00
	phase	generation	Decommissi		dust fall-out monitoring.	
	-Detrimental effects on plants.	0	oning		-Enforcing the speed limits to reduce	
	-Health impacts on animals and		0		dust created by moving vehicles	
	people.				, 6	
	-Visual disturbance due to site	Visual and	Operational	Medium (-)	-Use of barricade fence covers where	Medium (+)
	operations.	Environmental	and		possible to minimise the visual impact.	
	-Dust generation.	Aesthetics	Decommissi		-Implementation of the dust	
	-Disrupted environmental		oning		management measures.	
	aesthetic due to the presence of				Removal of the waste material.	
	the waste material.					
	-Degradation of groundwater	Groundwater	Operational	Low (-)	-Remediate using commercially	Low (+)
	quality due to contamination by	quality	and		available emergency cleanup kits.	
	the seepage of toxic elements		Decommissi			
	from the waste material and		oning		-Regular maintenance and servicing of	
	hydrocarbons from the oil spills.				equipment.	
	-					
					-Management measures and removal of	
					the source of toxic elements.	



	-Sedimentation and siltation of water courses -Alteration of natural drainage patterns -Contamination of water resources -Degradation of surface water quality	Surface water quality	Operational, and Decommissi oning	Low (-)	 Remedy the possible effects of alteration to natural drainage lines. Implementing the hydrocarbon spillages management plan, Implement the erosion control measures. Management measures and removal of the source of toxic elements. 	Low (+)
	-Occupational injuries. -Illegal mining activities that are also associated with criminal activities.	Safety	Operational, and Decommissi oning	Low (-)	 Ensure that there is a controlled access to the site. Consult with the local police branch to establish standard operating procedures for the control and/or removal of loiterers. Safety signs and barricades must be placed around the operation site. All project infrastructure should be placed in a secured area. Operational sites must be clearly demarcated. 	Low (+)
 -Vegetation clearance to access the mine waste residues. -Waste removal from different points within the project sites. -Waste handling (transportation and stockpiling). -Material primary processing. 	-The dust potentially containing hazardous substances and particulate matter, which can be inhaled, causing respiratory diseases.	Health	Operational, and Decommissi oning	Low (-)	 -Make available, maintain, and effectively implement a grievance/complaint register. -Provision of appropriate personal protective equipment (PPE). -Placing of safety signs around the operation area. -Induction should be conducted to all employees or sub-contractors entering site to ensure the awareness of the developed health and safety plan. 	Low (+)



 -Material take-off and transportation to the offsite treatment facility. -Decommissioning and rehabilitation of the previous mining infrastructure. -Final rehabilitation of the overall area. 	-Employment opportunities.	Socio-	Operational,	Low (+)	 -Daily inspections and observations of on-site activities shall be conducted. -All incidents to be reported, recorded, investigated, and mitigated. -Safety signs to be provided in areas considered as high-risk areas. -Provided adequate first aid services on site; and -Promote ongoing health and safety awareness campaigns. -Establish targets for employment and 	Negligible +
	-Knowledge and skills transfer.	economic	and Decommissi		training. -Effective implementation of training	
			oning		and skills development initiatives.	
	-Empowerment of the local businesses.				skills from the host community.	
					-Transparency with the community	
					members about the availability of	
					Community engagement.	
					-Ensure that goods and services are	
					far as possible.	
-Vegetation clearance to	-Degradation of cultural	Heritage	Operational,	Negligible	-Conduct Identification of all possible	Negligible
access the mine waste rocks.	significance heritage resources.	resources	and		sites of archaeological value.	



			Decommissi		-Identified sites must be clearly	
-Waste removal from			oning		demarcated as no-go areas.	
different points within	- Addition of traffic to the	Traffic	Operational,	Negligible	-Vehicles and trucks will access the site	Negligible
the project sites.	existing local traffic.		and		via existing roads.	
			Decommissi		-Existing road surfaces must be utilised	
-Waste handling	-Impacts on surface quality of the		oning		and maintained within baseline levels.	
(transportation and	road impacted resulting from					
stockpiling).	vehicle movement					
	-Soil contamination	Waste	Operational,	Negligible	-Promoting the reduction, re-use, or	Negligible
-Material take-off and		generation	and		recycle of waste where prevention is	
transportation to the	-Contamination of water	-	Decommissi		not possible;	
offsite treatment	resources		oning		-Disposal of waste to local waste	
facility.			_		disposal sites;	
	-Impacts on human health				-Littering should be strictly prohibited;	
-Decommissioning and	_				and	
final rehabilitation of					-Implement waste classification and	
the overall area.					separation system.	



14 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).

A Screening Report for an Environmental Authorization was generated from the DFFE Web-based Environmental Screening Tool (Appendix). The following is a summary of the environmental sensitivities at the site where the proposed activities are to be undertaken. Consequently, the decommissioning and rehabilitation, and all the associated activities, will be undertaken in an area where there are no sensitivities.

Table 24: Environmental Sensitivity of the proposed area

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		Х		
Animal Species Theme			Х	
Aquatic Biodiversity Theme				Х
Archaeological and Cultural				Х
Heritage Theme				
Civil Aviation Theme			Х	
Defence Theme				X
Paleontology Theme		Х		
Plant Species Theme			Х	
Terrestrial Biodiversity Theme	Х			

15 Environmental Impact Statement

15.1 Summary of the key findings of the environmental impact assessment.

The proposed project involves the reclamation of waste rock and the rehabilitation of the overall footprint to restore the land to how it was before the mining activities. This proposed project will take place on land that was previously mined and abandoned years ago, resulting in significant disturbance. Depending on the type of physical environment, the magnitude of the activity, and the perceptions and values of each affected party, the nature of the impacts can vary substantially.

The method of assessment employed was to identify all potential impacts in a reasonable and practicable manner. As a basis for assessing potential impacts, the proposed project, similar projects, and all the associated activities and infrastructure were used as a reference. The reclamation, decommissioning, and rehabilitation undertakings are likely to have a positive impact on the biophysical and socio-economic environment of the community, as the impacted aspects of the environment will be remediated to an acceptable level.



The storage of materials and equipment on-site, the movement of machines and vehicles, and the removal of vegetation and basal cover will certainly alter the general topography and visual environment of the proposed area. To manage these impacts, all proposed and other reasonable measures should be implemented. The on-site decommissioning and rehabilitation would result in soil erosion. If appropriate management strategies are not implemented, soil erosion and dust are likely to have negligible impacts.

Due to the machinery, equipment, and vehicles that will be utilised on the site during operations, there will be noise pollution. These impacts are likely to affect the nearby local communities. To effectively manage these types of impacts, all proposed and other reasonable mitigating measures must be implemented.

It is expected that environmental impacts on groundwater will result from the presence of potential contaminants on the site. On a local scale, the significance is expected to be low, posing a low risk of groundwater contamination; however, this impact may become moderate on a regional scale. Since the proposed activities will take place above groundwater levels, dewatering of groundwater is expected to be of a very low risk. Monitoring and implementation of the recommended mitigation measures can ameliorate the potential hydrogeological impacts on the environment.

In conclusion, it must be acknowledged that all activities have environmental and socioeconomic impacts. In this case, rehabilitation of the waste rock will curb the generation of environmental effects. Consequently, the destruction of natural environmental features in the proposed area is inevitable. However, the significance of the impacts will be influenced by the effectiveness of the implemented mitigation measures and the rehabilitation and closure programme for the area of interest.

15.2 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.



Table 25:Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

Activity	Positive Impact	Negative Impact
Removal of the mine waste rocks.	 The topology of the area will be re-altered to its natural topology before the accumulation of the mine waste rocks. Visual disturbance of obstruction due to the presence of the mine waste rocks will be removed, and the beauty of the environment will be restored. Safety of the community may with the removal of the gold-bearing waste material as a cause of illegal mining activities. Community health may improve as the source of toxic dust will be removed from the community. 	 Noise generated from the working machinery, such as the excavator, TLB, and haul trucks, during the removal of the mine waste rock activities. Biodiversity distraction due to vegetation clearance to access the mine waste rocks. Soil compaction and soil erosion due to the movement of heavy vehicles in the operational area. Soil contamination due to hydrocarbon spillages from the fuel storage and vehicle leakages. Visual disturbance may occur due to the movement of vehicles and equipment, and the material handling operations. Dust generation due to the material handling operations and movement of vehicles. The health of the communities and workforce may be impacted due to the inhalation of the dust particles that may cause respiratory diseases. Activation of the toxic elements on the waste material that may result in surface and groundwater contamination.
• Infrastructure establishment with the installation of mobile offices and portable ablutions.	 Provision of security and storage for general contractors and other employees to secure their belongings, as well as locker rooms to keep documents, tools, technology, clothes, and other important materials safe. Provision of a safe space to conduct the administration 	 Safety may be compromised with the risk of theft and vandalism, for the possible stealing of valuable items. Waste generation.



	required to continue with the operation	
• Stockpiling of the waste rocks before being taken to an off-site processing plant		 Dust generation due to the material handling operations and movement of vehicles. Noise generation due to moving vehicles The health of the communities and workforce may be impacted due to the inhalation of the dust particles that may cause respiratory diseases. Soil contamination due to waste material.
Operation and administration	 The socio-economic empowerment due to the improved value of the land and its capabilities. Direct and/or indirect employment of individuals from local communities Procurement of the available goods and services from the local SMMEs. Proper implementation of waste management practices. 	 Waste generation that may lead to environmental pollution and degradation. Safety and security of the equipment may be compromised due to opportunists intending to steal and sell of equipment.
• Decommissioning and rehabilitation of the waste rock footprint	 The topography of the area will be restored to its original state. Improved Land capability and reserved the land for other land use activities, which would bring socio-economic development within the area. Vegetation regeneration improved biodiversity and ecological processes. Soils and land capabilities will be improved with the potential for the host communities to benefit from shared land management responsibilities. 	 Noise generated from the working machinery, such as the excavator, TLB, and haul trucks, during the removal of the rock dump. Soil compaction due to the movement of heavy vehicles in the operational area. Soil contamination due to hydrocarbon spillages from the fuel vehicles. Visual disturbance may occur due to the movement of vehicles and equipment, and the material handling operations. Dust creation due to the material handling operations.



15.3 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 waste management activities to avoid unnecessary social and environmental impacts.
- Ensure that the waste management 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 avoiding known resources and through consultation with landowners/stakeholders. Contractor personnel will also be briefed on these sensitivities and the consequences of any damage/removal of such features.
- Noise generation can be managed through consultation 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 and by use of shades (natural vegetation or shade cloth, etc.).
- Dust generation can be managed by limiting as far as possible the exposure of surfaces, application of dust suppression methods on exposed surfaces, and use of water during the removal of mine waste rocks.
- Soil disturbance and clearance of vegetation will be limited to the absolute minimum required, and disturbed areas will be re-vegetated with locally indigenous species as soon as possible.
- Protecting biodiversity through environmental training and awareness.
- Manage as far as possible the soil, surface water, and groundwater contamination by hydrocarbons by conducting proper vehicle maintenance, refuelling with care to minimize the chance of spillages, and by having a spill kit available on each site where the activities are in progress.



• Conduct an appropriate public consultation and conflict resolution during stakeholder consultation phases. All project personnel will be made aware of the local conditions and sensitivities in the project area, and they will always treat residents with respect and courtesy.

15.4 Aspects for inclusion as conditions of Authorization.

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

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

- Maintain a buffer of 100m from sensitive areas.
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure.
- Landowners and land occupiers should be engaged (reconsulted) at least 1 month before any site activities being undertaken.
- Comply with the principles of the NEMA.
- Conduct waste management activities in a sustainable manner to protect the natural environmental resources.
- Implement concurrent rehabilitation to minimize the impact of the project activities and the period required to complete the rehabilitation process.

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

(Which relate to the assessment and mitigation measures proposed)

There is a gap in knowledge of the existence of any heritage resources. The area is known to have been previously mined for gold, however, the realistic extent of the impact of the previous mining activities that took place over the proposed area is uncertain. The specific focus will be given to ecological and heritage assessment to ensure that valued ecological components, threatened species, and Heritage artefacts are not inadvertently damaged. In addition, landowners will be informed about the progress of the operation.

17 Reasoned opinion as to whether the proposed activity should or should not be authorized.

17.1 Reasons why the activity should be authorized or not.

The applicant is committed to conducting the waste management activities in a sustainable manner and to complying 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 project activities are minimal, provided that the proposed mitigation is implemented.
- With appropriate care and consideration, the impacts resulting from the project activities can be suitably avoided, minimized, or mitigated.
- By implementing the appropriate rehabilitation activities, the impacts associated with the project activities can be reversed; and

• The decommissioning and rehabilitation of the mine waste rocks would revive the ecological capabilities of the area and enhance its capacity for other land uses.

17.2 Conditions that must be included in the Authorization.

The following conditions could form part of the Authorization:

- Maintain a buffer of 100m from sensitive areas.
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure.
- Landowners and land occupiers should be engaged (reconsulted) at least 1 month before any site activities are undertaken.
- Comply with the principles of the NEMA.
- Conduct waste management activities sustainably to protect the natural environmental resources.
- Implement concurrent rehabilitation to minimize the impact of the project activities and the period required to complete the rehabilitation process.

17.3 Period for which Environmental Authorization is required.

Authorization is required for the duration of waste management activities for up to five years.

17.4 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.

17.5 Financial Provision:

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



Not Applicable since the project entails the reclamation and decommissioning of the mine waste rocks, and the rehabilitation of the waste dump footprint.

17.6 Explain how the aforesaid amount was derived.17.6.1 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). Not Applicable.

17.6.2 Specific Information required by the Competent Authority.

17.6.3 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: -

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

(Provide the results of the Investigation, assessment, and evaluation of the impact of the reclamation of waste management license of 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.

The purpose of the consultation is to provide the interested and affected people with the opportunity to raise any potential concerns. A public participation process was initiated with the intent to consult with the I&APs, including the landowners and the nearby communities. A public participation report will be attached to the final BAR and EMPr to be submitted to the DMRE for decision-making.

18.1 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 waste rehabilitation on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) except 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 identified on site. An Environmental Screening Tool was used to determine the necessity to conduct heritage studies. Although the screening report indicates a very high sensitivity on the Archaeological and Cultural Heritage Theme, the area is extremely disturbed because of anthropogenic activities. Mitigation measures are proposed in case there could be any



heritage resources are encountered during the waste management activities. But no project activities will be conducted within 50m of any identified heritage site during the reclamation of the mine waste rocks and rehabilitation of the disturbed land.

19 Other matters required in terms of sections 24(4) (a) and (b) of the Act.

(The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub- regulation 22(2)(h), exist. The EAP must attach such motivation as an Appendix).

The proposed project area has been mined out and left without being properly rehabilitated. The goldbearing concentrates of the waste rocks are environmental pollution sources, health and safety risks to the surrounding communities, and a limitation to spatial improvement because of the uranium content. These rocks contain iron sulphide minerals, which react with oxygen at some stage in rainy seasons to form sulphuric acid, posing a major water resources pollution on the immediate environment and downstream areas due to AMD. Furthermore, the toxic elements in these rocks may additionally seep into the floor and contaminate groundwater. These aggregates grant a supply of gold for illegal miners acknowledged as Zama-Zamas, as they are reachable from the surface or at a shallow depth from the surface.

The main aim of this initiative is to rectify the biophysical environmental damage caused by past mining operations by reclaiming and decommissioning the waste rocks and rehabilitating the whole footprint. It is crucial to rehabilitate the disturbed land as it would have a positive impact on the socioeconomic and biophysical environmental aspects of the communities. The removal of aggregates would restore the land's environmental abilities and expand its potential for other purposes.

20 Undertakings

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.



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Signature of the environmental assessment practitioner: Company: Vahlengwe Mining Advisory and Consulting Date: 18 June 2025