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BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

THE PROPOSED MINING PERMIT APPLICATION, COMBINED WITH A WASTE LICENCE APPLICATION FOR A MINING PERMIT FOR THE PROPOSED MINING PERMIT COMBINED WITH WASTE LICENCE APPLICATION FOR THE MINING OF CHROME ORE (LG & MG SEAMS) AND PLATINUM GROUP METALS (PGM) INCLUDING ASSOCIATED INFRASTRUCTURE, STRUCTURE AND EARTHWORK ON A PORTION OF PORTION 2 OF THE FARM UITVALGROND 105, REGISTRATION DIVISION JQ, NORTH-WEST PROVINCE.

NAME OF APPLICANT	**First Run Trading (Pty) Ltd**
PREPARED BY	**Milnex CC Environmental Consultants**
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PROJECT INFORMATION

Project Name:	Application for an Environmental Authorisation for the Mining Permit Application, combined with a Waste Licence Application for mining of Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province.
Report Title:	Basic Assessment Report
Prepared By:	Milnex CC Environmental Consultants
Date:	October 2022

QUALITY CONTROL:

	Report Author:	**Report Reviewer:**
Name:	Mr. Andile Grant Nxumalo EAPASA (#2022/5545)	N/A
Signature:	A.g.N	

DISCLAIMER:

The DEA screening tool was used in compiling this document

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 taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

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

BASIC ASSESSMENT REPORT PROCESS

1) The environmental outcomes, impacts and residual risks of the proposed activity must be set out in the basic assessment report.

OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
b) identify the alternatives considered, including the activity, location, and technology alternatives;
c) describe the need and desirability of the proposed alternatives**[,]**;
d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage**[ ]**, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on **[the]** 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 avoided, managed or mitigated; and
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 avoid, manage or mitigate identified impacts; and
    iii) identify residual risks that need to be managed and monitored.

SCOPING OF ASSESSMENT AND CONTENT OF BASIC ASSESSMENT REPORT

1) Contact Person and correspondence address

A) DETAILS OF:

i) THE EAP WHO PREPARED THE REPORT

ii) EXPERTISE OF THE EAP

NAME OF PRACTITIONER	QUALIFICATIONS	CONTACT DETAILS
Mr. Andile Grant Nxumalo EAPASA (#2022/5545)	Hons. Degree in Environmental Science (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: andile.grant@milnex-sa.co.za

iii) OTHER CONTACT PERSONS

NAME OF PRACTITIONER	QUALIFICATIONS	CONTACT DETAILS
Ms. Percy Sehaole	Master's Degree in Environmental Science Master's Degree in Environmental Management (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: percy@milnex-sa.co.za

Summary of the EAP's past experience. (Attach the EAP's curriculum vitae as **Appendix 2**)

Milnex CC was contracted by **First Run Trading (Pty) Ltd** as the independent environmental consultant to undertake the BAR and EMPr process for a Mining Permit Application, combined with a Waste Licence Application for mining of Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province. The property is located approximately 18km north west of Rustenburg.

Milnex CC does not have any interest in secondary developments that may arise out of the authorisation of the proposed project.

Milnex CC is a specialist environmental consultancy with extensive experience in the mining industry which provides a holistic environmental management service, including environmental assessment and planning to ensure compliance with relevant environmental legislation. Milnex CC benefits from the pooled resources, diverse skills and experience in the environmental and mining field held by its team that has been actively involved in undertaking environmental studies for a wide variety of mining related projects throughout South Africa. The Milnex CC team has considerable experience in environmental impact assessment and environmental management, especially in the mining industry.

Andile Grant Nxumalo has experience within consulting in the environmental field. His key focus is on environmental assessment, advice and management and ensuring compliance to legislation and guidelines. He is currently involved in undertaking EIAs for several projects across the country (refer to **Appendix 2** for CV)

B) DESCRIPTION OF THE PROPERTY.

Farm Name:	1. Portion of portion 2 of the farm Uitvalgrond 105
Application area (Ha)	5 hectares
Magisterial district:	Bojanala District Municipality Rustenburg Local Municipality
Registration Division	JQ
Distance and direction from nearest town	The property is located approximately 18km north west of Rustenburg.
21 digit Surveyor General Code for each farm portion	1. T0JQ00000000010500002
Minerals Applied for	Chrome Ore (LG & MG seams) Platinum Group Metals (PGM)

III. FARM CO-ORDINATES

FARM	LONGITUDE	LATITUDE
1. Portion of portion 2 of the farm Uitvalgrond 105	27° 7' 26,976"" E	25° 29' 26,988"" S
	27° 7' 35,112"" E	25° 29' 23,316"" S
	27° 7' 37,848"" E	25° 29' 29,148"" S
	27° 7' 30,072"" E	25° 29' 33,036"" S

C) LOCALITY MAP (show nearest town, scale not smaller than 1:250000 attached as **Appendix 3).**

A Locality map is attached in **Appendix 3** and on figure 1 below.

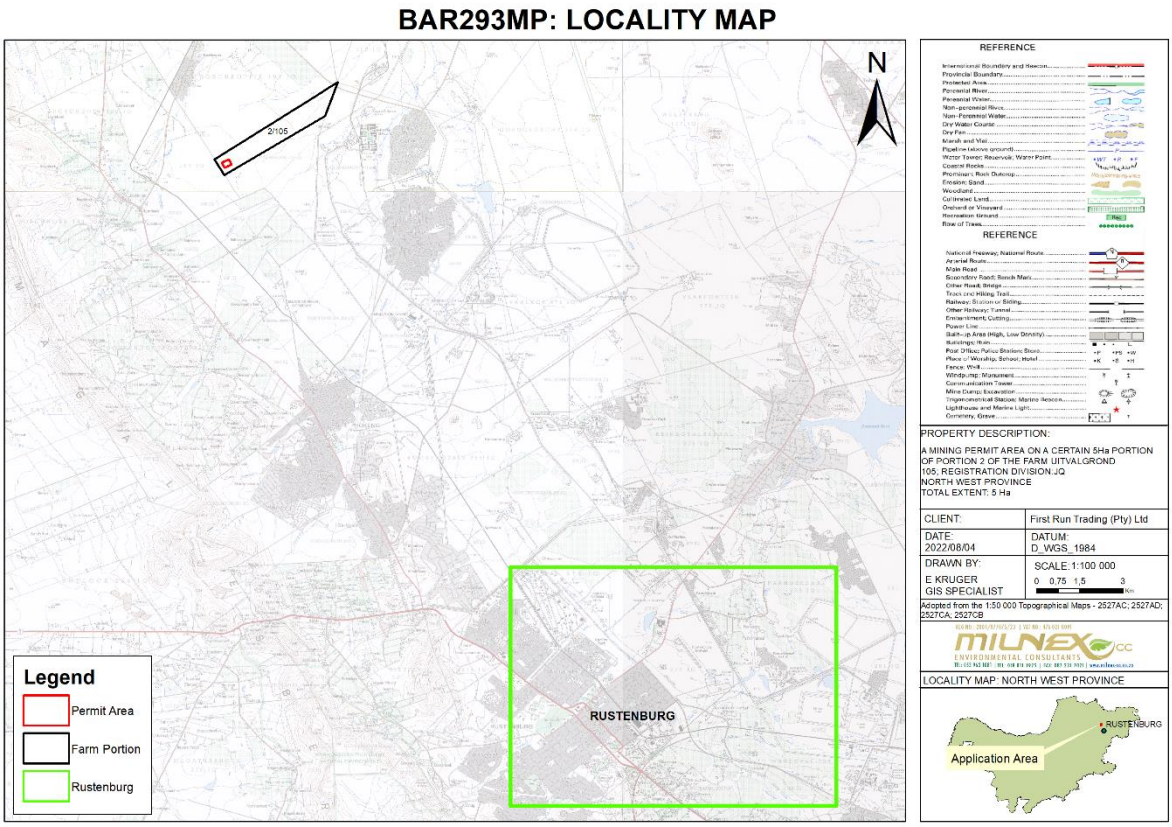

Figure 1: Locality Map

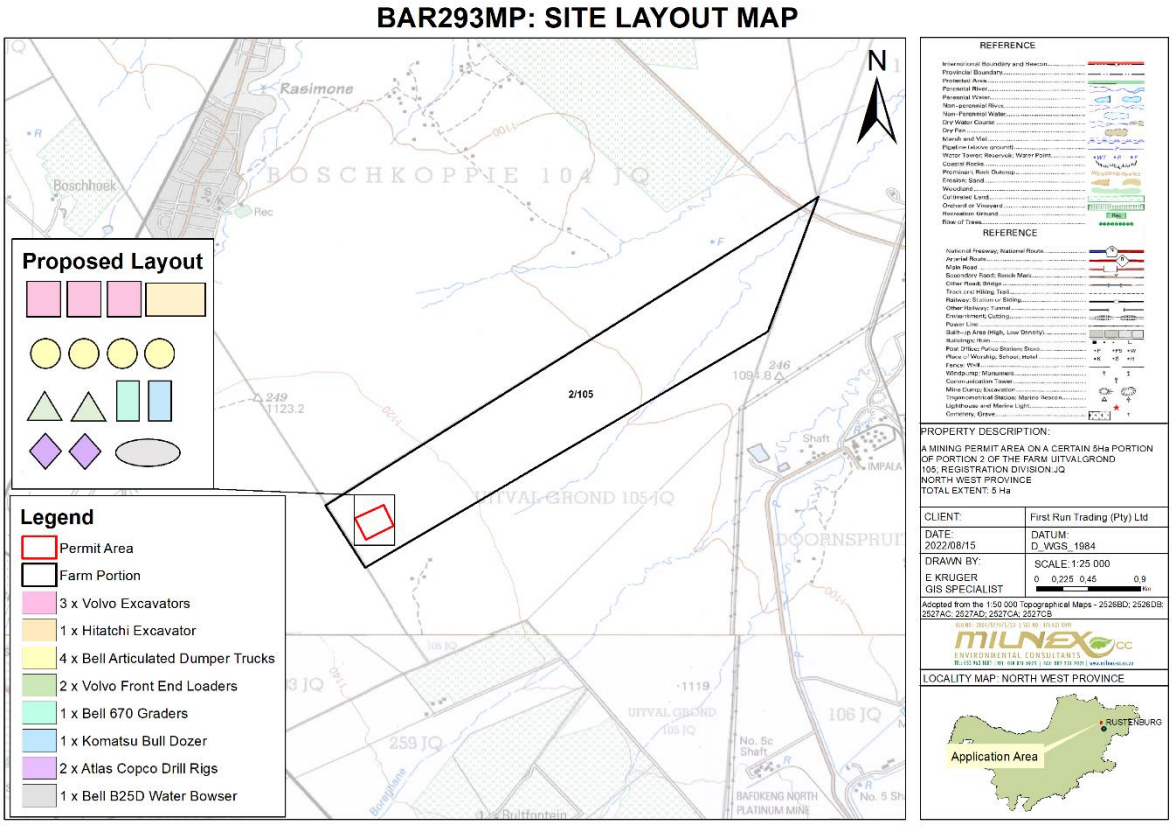

Figure 2: Site Plan Map

D) DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

i) LISTED AND SPECIFIED ACTIVITIES

NAME OF ACTIVITY **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc...etc...etc** **E.g. for mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY** (Mark with an **X** where applicable or affected).	**APPLICABLE LISTING NOTICE** **(*GNR 544, GNR 545 or GNR 546)***	**WASTE MANAGEMENT AUTHORISATION** (Indicate whether an authorisation is required in terms of the Waste Management Act). **(Mark with an X)**
Mining permit: Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21: "Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit"	**The application area is 5ha**	**X**	**Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21**	**-**
Clearance of indigenous vegetation: Listing Notice 1 (GNR 327), Activity 27: "The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."	**The application area is 5ha**	**X**	**Listing Notice 1 (GNR 327), Activity 27**	**-**
Residue stockpiles or residue deposits				**X**

Listed activities

Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)	1. **Listing Notice 1 (GNR 327) as amended (GNR 517), Activity 21:** *"Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice on in Listing Notice 3 of 2014, required to exercise the mining permit"* 2. **Listing Notice 1 (GNR 327), Activity 27***:* "*The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."* Mining Permit for the mining of **Chrome Ore (Chr) (LG & MG seams) & Platinum Group Metals (PGM)** including associated infrastructure, structure and earthworks. 3. **NEM:WA 59 of 2008: Residue stockpiles or residue deposits, Category A: (15):** The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

ii) DESCRIPTION OF THE ASSOCIATED STRUCTURES AND INFRASTRUCTURE RELATED TO THE DEVELOPMENT

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity

First Run Trading (Pty) Ltd has embarked on a process for applying for a Mining Permit Application, combined with a Waste Licence Application for the Mining of Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province. The portion is preferred due to the sites expected mineral resources. **First Run Trading (Pty) Ltd** requires a Mining Permit in terms of NEMA and the Mineral and Petroleum Resources Development Act to prospect for minerals mentioned above within the Bojanala District Municipality, North West Province (refer to a locality map attached in **Appendix 3**).

FENCING AND ACCESS CONTROL

The application area will need to be fenced off properly and have an access control which is monitored by securities. Since the area is close to the community dwellings, this will assist with only permitting authorised entries to the site.

ACCESS ROADS

Access will be obtained from a gravel road off the R565

WATER SUPPLY

Minimal water will be used during the mining operation.

The following options will be used by the applicant:

2. A water will be sourced from the municipality and trucked in. This water will be used to water down haul roads for dust control. Water consumption for the mining operation will be low (for dust suppression purposes).
3. Seepage water from the mining cuts may be used for dust suppression
4. The use of underground water will be investigated by drilling boreholes and a general authorisation (GA) will be lodged (refer to **Appendix 6** for proof of consultation with the Department of Water Sanitation regarding the lodged application).

DUST SUPPRESSION

It was the intention of the applicant to implement dust management on site to determine if unacceptable levels of dust fallout occur. Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance.

The National Framework for Air Quality Management in the Republic of South Africa (the National Framework), as published under Government Notice No. 1144 of 26 October 2018, underpins NEM:AQA by providing national norms and standards for air quality management to ensure compliance with legislation. The National Framework serves as the country's AQMP.

Section 32 of the NEM:AQA makes provision for the Minister or the MEC to prescribe measures for the control of dust in specific places or areas, or by specified machinery or in specific instances. While dust generally does not pose a health risk, it may be regarded as a nuisance. It is the responsibility of the owner of the dust generating activity to take reasonable measures to limit the nuisance factor.

With respect to this, the Minister has published in the gazette the regulations for the control of dust in 2013 (Notice 827, Government Gazette No. 36974). These regulations provide requirements for measures for the control of dust, which includes the requirements for monitoring, dust management plan development and implementation and reporting.

According to dust levels set out by the National Dust Control Regulations 2013 (GNR. 827). The limits have the following threshold

Section 3. Dustfall standard

Table 1. Acceptable dust fall rates

Restriction Areas	***Dustfall rate (D) (mg/m²/day, 30-day average)***	***Permitted frequency of exceeding dust fall rate***
Residential Area	*D < 600*	*Two within a year, not sequential months*
Non-residential Area	*600 < D < 1200*	*Two within a year, not sequential months*

ABLUTION

Chemical toilets shall be used, no french drains and pits shall be permitted.

STORAGE OF DANGEROUS GOODS

During the Mining activities, limited quantities of diesel and fuel, oil and lubricants if any will be stored on site. These goods should be placed in a bunded area one and a half times the volume of the total amount of goods to be stored.

EQUIPMENT PLAN

	Size / Type	Cubes/month	Calc	85%	Production Machines	Swing Units	Total
Excavator	290				2	0	2
Excavator	670	177095.01	3.12	3.67	4	1	5
ADT	B40D	177095.01	7.21	8.48	9	1	10
Dozer	155	177095.01	2.81	3.31	4	1	5
Drill Rig	L6	177095.01	2.3	2.76	3	1	4
Drill Rig	D7				2	0	2
Grader	770D				1	0	1
Water Bowser	20 000lt				1	0	1
Loader	1806				1	1	2
Diesel Bowser	20 000lt				1	0	1
Service Truck					1	0	1
Lighting Plant	Battery				4	1	5
Water Pump	4 Cylinder				2	0	2
Generator	Diesel				1	0	1
Personnel Bus					1	0	1
LDV's					15	0	15
Total							**58**

REHABILITATION METHODOLOGY

a. Haul Roads:
Haul roads would be developed as mining progresses, and rehabilitated in line with concurrent backfilling and rehabilitation of the open pit.

b. Opencast Pit:
Concurrent backfilling and surface rehabilitation of the open pit (total area of 5 ha) will occur throughout the operational period, with only the final void remaining at closure, thus no operational rehabilitation backlogs will be present at scheduled closure.

Adequate rehabilitation performance monitoring and care and maintenance will be conducted on concurrently rehabilitated areas to demonstrate the rehabilitation outcomes and the potential to support the envisaged final land uses.

c. Waste Dump:
One overburden dump will be present, of which the remaining overburden material will be backfilled into the open pit at closure, and prior to final pit footprint rehabilitation. The full volume of overburden material will therefore be utilised to backfill the open pit final void. Final rehabilitation of the remaining footprint area after all rock material has been backfilled will be undertaken according to the agreed objectives and measures, including:

i. Consolidation of nominal volumes of ad hoc overburden and backfilling in the pit

ii. Final shaping/profiling of the resultant footprint
iii. Ripping to alleviate compaction
iv. Topsoil stockpiles will have been rundown during operational period / final rehabilitation, with only footprint areas to be rehabilitated.

(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES: (These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc.).

An open-pit mine will be developed from the first month of the mining operation. The pit will be excavated by predominately free digging operations to an estimated depth of twenty meters followed by loading and hauling blasted rock. There after drilling and blasting using explosives. A fleet of dump trucks will haul the ore to the ROM pad.

In open-pit mining, the rock material covering the ore body normally requires drilling and blasting to break it up for removal. A typical mining cycle consists of drilling holes into the rock in a pattern, loading the holes with explosives, or blasting agents, and blasting the rock in order to break it into a size suitable for loading and hauling to the ROM pad.

The ore body is traced deeper and deeper into the ground using a series of benches for both access and safety. The excavation usually has stepped or benched side slopes and can reach depths exceeding 300m. The rock surrounding the ore may have to be removed so that the sides of the pit do not become dangerously steep. The waste rock and waste that is separated from the ore during processing, is dumped away from the pit onto a surface waste dump.

The top soil/rock layer that was removed will be stored as material for future use to rehabilitate and surface the waste rock dumps and tailings storage facility.

Mining will be carried out on a continuous shift basis, seven days a week. A contractor will be appointed to conduct direct mining activities and fleet maintenance. A contractor will also take care of the surveying, geology and mine planning.

MINERAL PROCESSING

Minerals extracted from the permit areas will be sold as ROM (Run of Mine) and will not be processed on site. Thus, no crushing, screening or a wash plant will be established on site during this period.

Depth which will be mined is outlined on table below:

GeoActiv Report (Uitvalgronde 24 July 2022)	
MG1 Seam Width(Page 3)	0.74
Density	4.1
MG2 Seam Width(Page 3)	0.35
Density	4.1
Geoloss %	15%

0-27m

Permit Area 27m Hw 65 deg Leanback(5m Standoff) M3 Only		
Description	**5 ha Area**	**Total**
Total M3	624,190	624,190
Total Waste	587,091	587,091
Topsoil	47,775	47,775
Overburden	539,316	539,316
MG2	2,657	2,657
Interburden	-	-
MG1	34,442	34,442

Permit Area 27m Hw 65 deg Leanback(5m Standoff) M3 Only		
Description	**5 ha Area**	**Total**
MG1 m3	34,442	34,442
MG1 Tonnes(No Geoloss)	141,213	141,213
MG1 Tonnes(Inc Geoloss)	120,031	120,031
MG2 M3	2,657	2,657
MG2 Tonnes(No Geoloss)	10,892	10,892
MG2 Tonnes(Inc Geoloss)	9,259	9,259
Total Tonnes(No Geoloss)	152,105	152,105
Total Tonnes(Inc Geoloss)	129,290	129,290

S/R	4.54	4.54

LABOUR PLAN

	Qty	**Skilled / Unskilled**
Admin Co-ordinator	1	Skilled
ADT Operator	18	Skilled
Auto Electrician	1	Skilled
AWB Operator	2	Skilled
Blaster	1	Skilled
Blasting Assistant	3	Unskilled
Bus Driver	2	Skilled
Cleaner	2	Unskilled
Diesel Bowser	2	Skilled
Diesel Mechanic	6	Skilled
Dozer Operator	8	Skilled
Drill Rig Assistant	6	Unskilled
Drill Rig Operator	6	Skilled
Drilling Foreman	2	Skilled
Drilling Mechanic	2	Skilled
Drilling Mechanic Assistant	2	Unskilled
Engineering General Worker	2	Unskilled
Excavator Operator	10	Skilled
Grader Operator	2	Skilled
Loader Operator	1	Skilled

Mechanic Assistant	6	Unskilled
Multi Skilled Operator	2	Skilled
Plant Manager	1	Skilled
Pump Attendant	4	Unskilled
Safety Officer	1	Skilled
Senior Foreman	1	Skilled
Service Truck Assistant	4	Unskilled
Service Truck Operator	2	Skilled
Site Foreman	2	Skilled
Site Manager	0	Skilled
Mine Manager	1	Skilled
Total Labour	**103**	

E) POLICY AND LEGISLATIVE CONTEXT

TITLE OF LEGISLATION, POLICY OR GUIDELINE:	ADMINISTERING AUTHORITY:	PROMULGATION DATE:
National Environmental Management Act No. 107 of 1998 as amended.	Department of Environmental Affairs	27 November 1998
Constitution of South Africa Act 108 of 1996	National	18 December 1996
The National Heritage Resources Act (Act No. 25 of 1999)	SAHRA	1999
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Department of Mineral Resources & Energy (DMRE)	2002
National Infrastructure Plan	National	
National Environmental Management: Biodiversity Act No. 10 of 2004	Department of Environmental Affairs	7 June 2004
National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)	National & Provincial	1 July 2009
EIA regulations under NEMA	Department of Environmental Affairs	14 December 2014
Conservation of Agricultural Resources Act,1983 (Act No. 43 of 1983)	Department of Agriculture Forestry and Fisheries	1 June 1984
National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004).	National and Provincial	11 September 2004
National Water Act, 1998 (Act No. 36 of 1998).	National	20 August 1998
North West Province Growth and Development Strategy	Provincial	11 August 2013
Bojanala District Municipality Integrated Development Plan (IDP)	Municipal	
Rustenburg Local Municipality Integrated Development Plan (IDP)	Municipal	
National Forest Act (Act 84 of 1998) (NFA)	National	30 October 1998
National Veld & Forest Fires Act (Act 101 of 1998)	National	27 November 1998

POLICY AND LEGISLATIVE CONTEXT

LEGISLATION/POLICY	DESCRIPTION
The Convention of Biological Diversity (Rio de Janeiro, 1992).	The purpose of the Convention on Biological Diversity is to conserve the variability among living organisms, at all levels (including diversity between species, within species and of ecosystems). Primary objectives include (i) conserving biological diversity, (ii) using biological diversity in a sustainable manner and (iii) sharing the benefits of biological diversity fairly and equitably.
South African Constitution 108 of 1996	The Constitution is the supreme law of the land and includes the Bill of rights which is the cornerstone of democracy in South Africa and enshrines the rights of people in the country. It includes the right to an environment which is not harmful to human health or well-being and to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures.
Strategic Framework for Sustainable Development in South Africa	The development of a broad framework for sustainable development was initiated to provide an overarching and guiding National Sustainable Development Strategy. The Draft Strategic Framework for Sustainable Development (SFSD) in South Africa (September 2006) is a goal orientated policy framework aimed at meeting the Millennium Development Goals. Biodiversity has been identified as one of the key crosscutting trends in the SFSD. The lack of sustainable practices in managing natural resources, climate change effects, loss of habitat and poor land management practices were raised as the main threats to biodiversity.
National Environmental Management Act 107 of 1998	This is a fundamentally important piece of legislation and effectively promotes sustainable development and entrenches principles such as the 'precautionary approach', 'polluter pays' principle, and requires responsibility for impacts to be taken throughout the life cycle of a project NEMA provides the legislative backing (Including Impact Assessment Regulations) for regulating development and ensuring that a risk-averse and cautious approach is taken when making decisions about activities.
Environmental Impact Assessment (EIA) regulations	New regulations have been promulgated in terms of Chapter 5 of NEMA and were published on 08 December 2014 in Government Notice No. R. 985. Development and land use activities which require Environmental Authorisation in terms of the NEMA EIA Regulations, 2014, are in Listing Notice 3 (GG No. R.983, LN3) identified via geographic areas with the intention being that activities only require Environmental Authorisation when located within designated sensitive areas. These sensitive/geographic areas were identified and published for each of the nine (9) Provinces.

National Environmental Management: Biodiversity Act No 10 of 2004	The Biodiversity Act provides listing threatened or protected ecosystems, in one of four categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Protected (Government Gazette, 2011). The main purpose of listing threatened ecosystems is to reduce the rate of ecosystem and species extinction and includes the prevention of further degradation and loss of structure, function and composition of threatened ecosystems.
Conservation of Agricultural Resources Act 43 of 1967	The intention of this Act is to control the over-utilization of South Africa's natural agricultural resources, and to promote the conservation of soil and water resources and natural vegetation. The CARA has categorised a large number of invasive plants together with associated obligations of the land owner, including the requirement to remove categorised invasive plants and taking measures to prevent further spread of alien plants.
National Forest Act 84 of 1998	The protection, sustainable management and use of forests and trees within South Africa are provided for under the National Forests Act (Act 84 of 1998). **Prohibition on destruction of trees in natural forests** (1) No person may - (a) cut, disturb, damage or destroy any indigenous tree in a natural forest; or (b) possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree contemplated in paragraph (a), except in terms of- (i) a licence issued under subsection (4) or section 23; or (ii) an exemption from the provisions of this subsection published by the Minister in the *Gazette* on the advice of the Council.
National Environmental Management: Protected Areas Act 57 of 2003	This Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. It also seeks to provide for the sustainable utilization of protected areas and to promote participation of local communities in the management of protected areas.

Mine, Health and Safety Act 29 of 1996	The Mine Health and Safety Inspectorate was established in terms of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996), as amended, for the purpose of executing the statutory mandate of the Department of Mineral Resources to safeguard the health and safety of mine employees and communities affected by mining operations.
National Environmental Management: Waste Act 59 of 2008	The Act reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.
National Environmental Management: Biodiversity Act 10 of 2004	This Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith

F) 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).

The Minerals Council estimates that the sector contributed 7.3% to the gross domestic product (GDP) in 2018 (2017: 6.8%). The sector grew by 1.2% in 2018 representing a growth rate slightly faster than in the overall economy. The sector is estimated to have contributed R356 billion to GDP in 2018 (2017: R335 billion) (in nominal terms). Mining sector employment declined by 56,366 over the last five years, from 509,909 in 2013 to 453, 543 in 2018. Net jobs lost in the sector amounted to 11,217 in 2018. Mining employment represents 6.4% of private non-agricultural employment and 4.7% of total non-agricultural employment. (Chamber of Mines, South Africa, 8:2018)

Chrome is known for its high corrosion resistance and hardness. It is essential in the production of stainless steel, which accounts for 85% of its commercial use. Around 70% of the world's chrome resources can be found in South Africa, which is also the largest producer of chrome globally. According to the Chamber of mines: Facts and Figures, 2018: Employment figures for chrome mining was 18,397 in 2018 (Chamber of Mines, South Africa, 26-27:2018)

PGMs consist of six noble metals, all silvery-white in appearance – platinum, palladium, rhodium, ruthenium, osmium and iridium. Platinum, palladium and rhodium are the primary metals of significant economic value. They are used largely for jewellery and in the automotive industry for their excellent catalytic properties. Other uses include investment (coins and bars), fuel cells, and many other industrial purposes. According to the Chamber of mines: Facts and Figures, 2018: Employment figures for PGM mining was 167,835 in 2018 (Chamber of Mines, South Africa, 16-17:2018)

Gold remains one of the world's most coveted metals, revered for its beauty and symbolism, and held as a store of value. This versatile metal is malleable, conductive and does not tarnish, making it ideal for use in jewellery and many industrial applications. Employment figures for PGM mining was 101,085 in 2018 (Chamber of Mines, South Africa, 19-21:2018)

Prospecting and mining activities for chrome ore and PGM takes place in the facility of the proposed area which suggest the possibility of encountering further deposits.

The North West Province is an important supplier of chrome ore and PGM to the international market and is a large corner stone of the South African economy.

The mining activities will contribute to the socio-economic state of the town & create jobs.

G) MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED SITE INCLUDING A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED 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.

Location of the site

Access will be obtained from a gravel road off the R565

Preferred activity

The Mining of the below mentioned minerals is one of the optimum preferred activities for the site and the other is livestock grazing.

The Mining of Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) is the optimum preferred activity for the site. The Chrome Ore deposits makes the site ideal for Chrome Ore mining. The mine will provide significantly more job opportunities than what is providing currently.

The technology to be used in the activity

In terms of the technologies proposed, these have been chosen based on the long term success of their Mining history.

An open-pit mine will be developed from the first month of the mining operation. The pit will be excavated by predominately free digging operations to an estimated depth of twenty meters followed by loading and hauling blasted rock. There after drilling and blasting using explosives. A fleet of dump trucks will haul the ore to the ROM pad.

In open-pit mining, the rock material covering the ore body normally requires drilling and blasting to break it up for removal. A typical mining cycle consists of drilling holes into the rock in a pattern, loading the holes with explosives, or blasting agents, and blasting the rock in order to break it into a size suitable for loading and hauling to the ROM pad.

The ore body is traced deeper and deeper into the ground using a series of benches for both access and safety. The excavation usually has stepped or benched side slopes and can reach depths exceeding 300m.The rock surrounding the ore may have to be removed so that the sides of the pit do not become dangerously steep. The waste rock and waste that is separated from the ore during processing, is dumped away from the pit onto a surface waste dump.

The top soil/rock layer that was removed will be stored as material for future use to rehabilitate and surface the waste rock dumps and tailings storage facility.

Mining will be carried out on a continuous shift basis, seven days a week. A contractor will be appointed to conduct direct mining activities and fleet maintenance. A contractor will also take care of the surveying, geology and mine planning.

When it comes to dust suppression two main methods were considered, namely molasses stillage and the wetting (water) of roads. The table below provides a short summary of the advantages and disadvantages of each.

Water	Molasses stillage
More cost effective	Much more expensive
Could lead to the depleting of water resources	Requires less water

No damage (only if used excessively)	The product may be toxic to aquatic organisms. (As this product could have physical effects on aquatic organisms for e.g. floating, osmotic damage)
No harm to humans or animals (Only a high quantity will have harm to humans or animals)	Not Hazardous or toxic. Could cause irritation to eyes, skin or when ingested and inhaled.
Non-flammable	Non-flammable
Eye-wash fountains not needed	Eye-wash fountains in the work place are strongly recommended
	Working procedures should be designed to minimize worker exposure to this product.
Basic storing methods	Storing methods are a bit more complicated. Should be stored in a plastic, plastic lined or stainless steel, tight closed containers between 5 and 40 degrees Centigrade.

Considering the above-mentioned information, water will be used for dust suppression purposes.

H) A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT WITHIN THE APPROVED SITE, INCLUDING:

i) DETAILS OF THE DEVELOPMENT FOOTPRINT ALTERNATIVES CONSIDERED;

- **Consideration of alternatives**

The DEAT 2006 guidelines on 'assessment of alternatives and impacts' proposes the consideration of four types of alternatives namely, the no-go, site, activity, and technology alternatives. It is however, important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the developer, the EAP and Interested and affected parties, which in some instances culminates in a single preferred project proposal. The following sections explore each type of alternative in relation to the proposed activity.

- **Location alternatives**

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. Also, it is expected that the applied for minerals have been deposited on this farm and therefore the applicant would like to commence with their Mining activities.

Land capability is the combination of soil suitability and climate factors. The proposed development falls within Land in Class 3 (refer to Land capability map on **figure 3** and attached as **Appendix 5).**

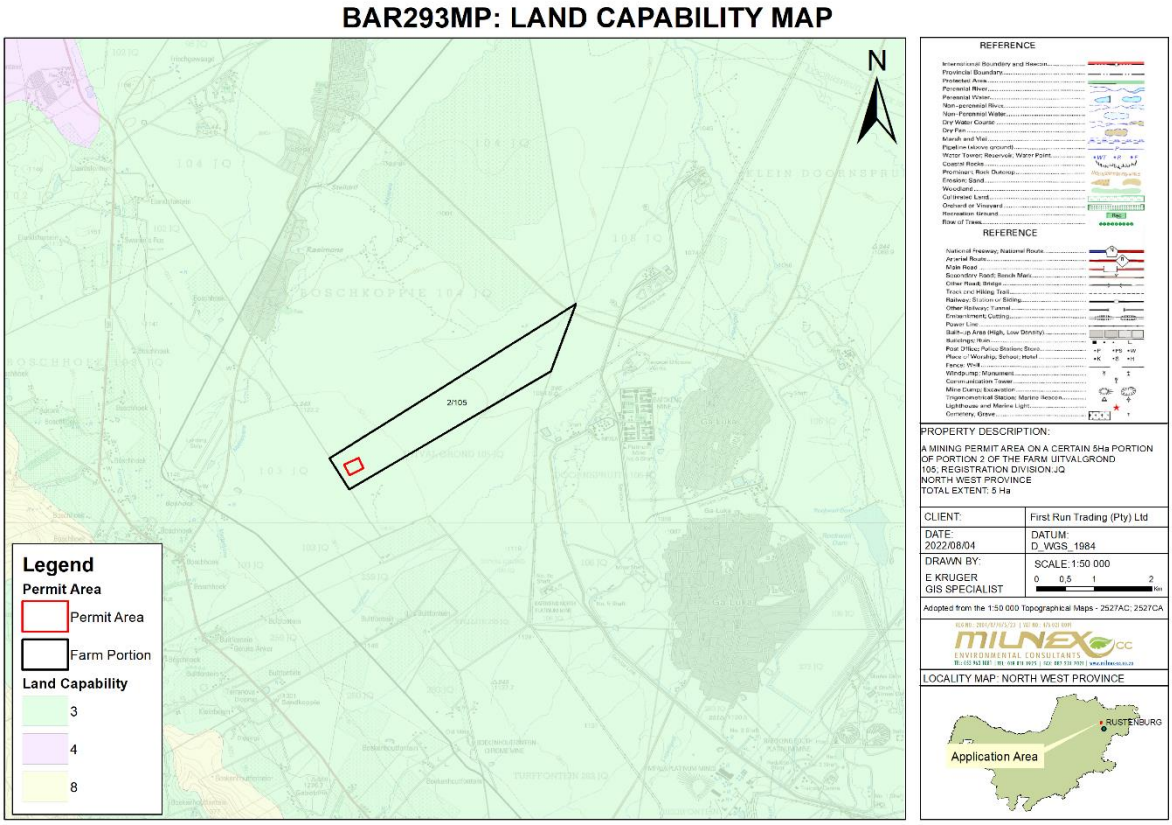

Figure 3: Land Capability Map

- **Activity alternatives**

The environmental impact assessment process also needs to consider if the development of Chrome ore mine would be the most appropriate land use for the particular site.

- **Design and layout alternatives**

Design alternatives were considered throughout the planning and design phase (i.e. where is the rock bed located?). In this regard discussions on the design were held between the EAP and the developer. The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area as well as fencing– refer **Appendix 4**.

- **Operational alternatives**

The lifetime of the project is approximately 3 years. Workers will be present on site 2 x 9 Hour Shifts daily, Average of 24 – 26 Days a month. Sources of general waste will be waste food, packaging, paper, etc. General waste will be stored on the site and removed on a weekly basis.

- **No-go alternative**

This alternative considers the option of 'do nothing' and maintaining the status quo. The description provided in section H of this report could be considered the baseline conditions (status quo) to persist should the no-go alternative be preferred. Should the proposed activity not proceed, the site will remain unchanged.

ii) DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of

whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

ADVERTISEMENT AND NOTICES

NEWSPAPER ADVERTISEMENT

An advertisement will be placed in English in the local newspaper (**Rustenburg Herald**) on **05 August 2022** (see **Appendix 6**) notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement.

PAGE 2 RUSTENBURG HERALD 5 AUGUST 2022

Lesers hang aan 'Die Siener' se lippe

RUSTENBURG HERALD - RUSTENBURG - Eers was daar die televisiereeks wat mense aan Gerald Burger voorgestel het.

Hy het kykers gefassineer met die akkuraatheid van die waarnemings wat hy gemaak het. Die Afrikaanse werklikheidskrywer, Yolanda Barnard-Lemmer het daarna die groot taak aangepak om Gerald se interessante lewe in 'n boek saam te vat. Die boek, met die baie gepaste titel 'Die Siener' het onlangs die lig gesien en die afgelope naweek was Gerald en Yolanda, saam met mede-werklikheidskrywer Carla van der Spuy by die boekwinkel by Platinum Square hier in Rustenburg. Carla het met Yolanda en Gerald gesels oor Die Siener en lesers het die geleentheid gekry om vir Gerald met vrae te peper. Misdaadskrywer Christelle van Rooyen-Wessels, wat ook die mediabestuurder van die Rustenburg Herald is, het saamgekuier.

REC03/2020NW: GRANTING OF ENVIRONMENTAL AUTHORISATION FOR THE CLEARANCE OF INDIGENOUS VEGETATION AND ESTABLISHMENT OF GUEST HOUSES ON PORTION 34 OF THE FARM WAGENPADSPRUIT 354JQ WITHIN RUSTENBURG LOCAL MUNICIPALITY, NORTH WEST PROVINCE

All stakeholders are hereby notified that the North West Department of Economic Development, Environment, Conservation and Tourism (NW DEDECT) has, on the 25th of July 2022, granted environmental authorization to Mr Alan J. Mosley in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) as amended and the associated Environmental Impact Assessment (EIA) Regulations of 2014 as amended, for the clearance of indigenous vegetation and establishment of guest houses on Portion 34 of the farm Wagenpadspruit 354JQ within Rustenburg Local Municipality, North West Province. A copy of the environmental authorization can be requested from HydroScience (see details below).

Formal appeals regarding this environmental authorisation can be directed to the Appeals Administrator for NW DEDECT in terms of the National Appeal Regulations (GNR 993, 8 December 2014) by no later than 25 August 2022 (20 days from newspaper notification on 5 August 2022).

Contact details for Appeals Administrator: Ms Carene Nieuwoudt
North West Department of Economic Development, Environment, Conservation and Tourism
Tel: 018 389 5986 / 083 385 9486
Email: cnieuwoudt@nwpg.gov.za
Physical: Room E30, AgriCentre Building, Corner Dr James Moroka & Stadium Road, Mmabatho

Paulette Jacobs Pr.Sci.Nat
Cell: + (27) 082 850 5482 Fax: + (27) 086 692 8820
Email: paulette@hydroscience.co.za
Postal address: P.O. Box 1322, Ruimsig, 1732, South Africa
Web address: www.hydroscience.co.za

Vrouedag Huismark

Vrouedag Huismark op Dinsdag 9 Augustus.

RUSTENBURG HERALD - RUSTENBURG - Uiteindelik kan daar weer mark gehou word! Na twee jaar se afstel as gevolg van Covid is almal weer opgewonde oor die Vrouedag Huismark op Dinsdag 9 Augustus by Boshoffstraat 34.

Daar is reeds oor die 50 stalletjies met unieke items. Die teetuin is gereed met heerlike koeke, quiches, kerrie en rys, poedingtafels en pannekoek om maar net 'n paar te noem. Daar is tot tomboa vir die kinders. Bring jou familie en kom kuier onder die bome, kom geniet die Vrouedag Huismark op 9 Augustus vanaf 09:00 - 13:00. Kontak Annie by 072 1404 777 vir meer inligting.

NOTICE OF APPLICATION: MINING PERMIT COMBINED WITH WASTE LICENCE APPLICATION AND SUBSEQUENT ENVIRONMENTAL IMPACT ASSESSMENT

Notice is given in terms of Section 27 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002) and Regulations 3, 14 and 51 of the Regulations published in Government Notice GN R527, & Notice is given in terms of the EIA regulations published in Government Notice No. R326 under Section 39-44 of the National Environmental Management Act (Act No. 107 of 1998) of the intent to carry out an Environmental Impact Assessment (i.t.o Listing Notice 1 (GNR 327) as amended (GNR 517) (Activity 21) and Listing Notice 1 (GNR 327), (Activity 27), and NEM:WA 59 of 2008: Category A: (15) of the intent to carry out the above mentioned activities.

PROJECT TITLE

Proposed Environmental Authorisation Application combined with Waste License Application of **National Treasure Minerals (Pty) Ltd** for the proposed mining permit combined with waste licence application for the mining of **Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM)** including associated infrastructure, structure and earthwork.

PROJECT DESCRIPTION

Proposed Environmental Authorisation Application combined with Waste License Application for the mining of **Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM)** on the following properties:

APPLICATION AREA

A certain portion on a portion of remaining extent & Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province.

PROPERTY'S LOCATION:	The property is located approximately 18km north west of Rustenburg.
APPLICANT:	National Treasure Minerals (Pty) Ltd
SIZE OF SITE:	5 ha
DMRE REF:	NW30/5/1/3/2/11091MP

CO-ORDINATES OF APPLICATION AREA

Latitude	Longitude
25°29'39.22"S	27° 7'32.82"E
25°29'35.26"S	27° 7'40.59"E
25°29'29.20"S	27° 7'37.82"E
25°29'33.03"S	27° 7'29.95"E

Any inquiries/objections must be lodged in writing or verbally if unable to write to the below mentioned consultants:

CONSULTANTS	**Milnex CC Environmental Consultants**
	Ms. Percy Sehaole/ Mr Andile Nxumalo
	Tel: (018) 011 1925
	Fax: 087 231 7021
	E-mail: percy@milnex-sa.co.za /andile.grant@milnex-sa.co.za
	Postal Address: P.O Box 1086, Schweizer-Reneke, 2780

Any meetings will be conducted virtually via **Zoom or Microsoft Teams** upon request by the I&APs.
The **Environmental Impact Assessment** application was submitted to the Department of Mineral Resources and Energy (DMRE). In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing or verbally to the contact persons given above **within 30 days of this advertisement.**

NOTICE OF APPLICATION: MINING PERMIT COMBINED WITH WASTE LICENCE APPLICATION AND SUBSEQUENT ENVIRONMENTAL IMPACT ASSESSMENT

Notice is given in terms of Section 27 of the Mineral and Petroleum Resources Development Act (Act 28 of 2002) and Regulations 3, 14 and 51 of the Regulations published in Government Notice GN R527, & Notice is given in terms of the EIA regulations published in Government Notice No. R326 under Section 39-44 of the National Environmental Management Act (Act No. 107 of 1998) of the intent to carry out an Environmental Impact Assessment (i.t.o Listing Notice 1 (GNR 327) as amended (GNR 517) (Activity 21) and Listing Notice 1 (GNR 327), (Activity 27), and NEM:WA 59 of 2008: Category A: (15) of the intent to carry out the above mentioned activities.

PROJECT TITLE

Proposed Environmental Authorisation Application combined with Waste License Application of **First Run Trading (Pty) Ltd** for the proposed mining permit combined with waste licence application for the mining of **Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM)** including associated infrastructure, structure and earthwork.

PROJECT DESCRIPTION

Proposed Environmental Authorisation Application combined with Waste License Application for the mining of **Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM)** on the following properties:

APPLICATION AREA

An area of 5 ha on a portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province.

PROPERTY'S LOCATION:	The property is located approximately 18km north west of Rustenburg.
APPLICANT:	First Run Trading (Pty) Ltd
SIZE OF SITE:	5 ha
DMRE REF:	NW30/5/1/3/2/11094MP

CO-ORDINATES OF APPLICATION AREA

Latitude	Longitude
25°29'33.04"S	27° 7'30.09"E
25°29'29.17"S	27° 7'37.82"E
25°29'23.39"S	27° 7'35.09"E
25°29'27.01"S	27° 7'27.00"E

Any inquiries/objections must be lodged in writing or verbally if unable to write to the below mentioned consultants:

CONSULTANTS	**Milnex CC Environmental Consultants**
	Ms. Percy Sehaole/ Mr Andile Nxumalo
	Tel: (018) 011 1925
	Fax: 087 231 7021
	E-mail: percy@milnex-sa.co.za /andile.grant@milnex-sa.co.za
	Postal Address: P.O Box 1086, Schweizer-Reneke, 2780

Any meetings will be conducted virtually via **Zoom or Microsoft Teams** upon request by the I&APs.
The **Environmental Impact Assessment** application was submitted to the Department of Mineral Resources and Energy (DMRE). In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter, in writing or verbally to the contact persons given above **within 30 days of this advertisement.**

Rustenburg Herald
Contact us:
Tel: 014 592 8329 Fax: 014 592 1869
E-mail: mailbag@rustenburgherald.co.za
Address: 13 Coetzer Street, Rustenburg, 0299

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This newspaper subscribes to the Code of Ethics and Conduct for South African Print and Online Media that prescribes news that is truthful, accurate, fair and balanced. If we don't live up to the Code, within 20 days of the date of publication of the material, please contact the Public Advocate at 011 484 3612, fax: 011 484 3619. You can also contact our Case Officer on khanyim@ombudsman.org.za or lodge a complaint on our website: www.presscouncil.org.za
Press Council

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Newspapers

SITE NOTICES

Site notices were placed on site and different places in English to inform surrounding communities and immediately adjacent landowners of the proposed development. I&APs will be given the opportunity to raise comments.

Figure 4: Site notice

DIRECT NOTIFICATION AND CIRCULATION OF BASIC ASSESSMENT REPORT TO IDENTIFIED I&APS, SURROUNDING LANDOWNERS AND OCCUPIERS

Identified I&APs, including key stakeholders representing various sectors, are directly informed of the proposed development and the availability of the **Basic Assessment Report** via registered post on **04 August 2022** and were requested to submit comments by **04 September 2022,** a second round of notification letters were distributed via registered post on **02 September 2022** and were requested to submit comments by **03 October 2022**. A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. For a complete list of stakeholder details and for proof of registered post see **Appendix 6**. The consultees included:

TABLE: LIST OF STAKEHOLDERS, LANDOWNERS, & SURROUNDING LANDOWNERS

STAKEHOLDERS	LANDOWNERS	SURROUNDING LANDOWNERS
Department of Mineral Resources & Energy – North West (DMRE)	**Phore Trust** A B Huma M E Matlou	Republic of Bophuthatswana: Royal Bafokeng Nation

STAKEHOLDERS	LANDOWNERS	SURROUNDING LANDOWNERS
	H Von Zwietring	
Department: Agriculture and Rural Development (DARD)	**Aaron Tampo Mokgoko Trust** Dieter Werner Wenhold	Department of Rural Development & Land Reform Mr. Moduku Kween Ms. Nomfundo Ntloko-Gobodo
Department: Community Safety and Transport Management (DCSTM)	**Madute Trust** A B Huma C P Mokgoko S L Molotsane	Rakgokong Edbaal
Department: Cooperative Governance and Traditional Affairs (DCGTA)	**Bethuel Molotsane Trust** P M N Molotsane	Merafe Ferrochrome and Mining (Pty) Ltd Z J Matlala M A Mngomezulu M J Vuso S D Chocho J P Mclaughlan K Tlale N Mabusela-Aikhuere D A Mc Gluwa D Green
Department: Economic Development, Environment, Conservation and Tourism (DEDECT)	**TSB Mokgoko Props (Pty) Ltd** N S Koosaletse D G Mokgoko M E Mokgoko M A Mokgoko J K Motlhamme	**Struthio (Pty) Ltd** B L Makgale Kenneth Modisaotsile Mokate
Department: Public Works and Roads (DPWR)	**Nkgadimeng Trust** A B Huma C Mokgoko S L Molotsane D W Wenhold	**Ilitha Mining (Pty) Ltd** D Koncar G Konsbruck
Department: Human Settlements	Engelina Molatsane Joseph Mosime Ntubi Felitsa Mokgatle Mosole Mary Kgamphe Ruben Mokgatle Christopher Serutle Kgamphe Maseate Lillian Mokgatle Boy Mokwena Nancy Kgamphe Mmanchala Lizzie Mahlangu Maggie Nqatjelwa Sekopi Mokgatle Sonny Victor Mngadi Justinus Kgamphe	

STAKEHOLDERS	LANDOWNERS	SURROUNDING LANDOWNERS
	Alfred Mokgatle Salome Kgamphe Dina Kgamphe Sheila Kgamphe Philemon Kgamphe Leah Damaria Mathube Herstia Kelebogile Mathuloe Elnorah Kgamphe	
Provincial Heritage Resources Authority (PHRA)	**R A Mokgatle Prop CC** S M Makoe B Mohapi B Mokgatle B T Mokgatle K H Mokgatle H Semoko	
Department: Water and Sanitation (DWS)	Emmah Kgamphe	
	Mokgatle Trust	

OTHER
Bojanala Platinum District Municipality
WESSA
Eskom Holdings SOC Ltd
Bafokeng North Mines
Impala Platinum Holdings Limited
Royal Bafokeng Platinum

It is expected from I&APs to provide their inputs and comments within 30 days after receipt of the notification or Basic Assessment Report. When the comment period ends, all comments received will be included in the final Basic Assessment Report & EMP Report.

MEETINGS

A landowner consultation meeting was held with the directors of TSB Mokgoko Properties on the **31st of August 2022** at Rusternburg at 10:00 am. Please kindly find minutes of the meeting attached as **Appendix 6** and the attendance register of meeting below.

THE PROPOSED PROSPECTING RIGHT COMBINED WITH A WASTE LICENCE APPLICATION TO PROSPECT FOR CHROME ORE (CR), LG & MG SEAMS TOGETHER WITH PLATINUM GROUP METALS (PGM) NEAR RUSTENBURG ON A CERTAIN PORTION OF THE REMAINING EXTENT, A CERTAIN PORTION OF PORTION 1 & A CERTAIN PORTION OF PORTION 2 OF THE FARM UITVALGROND 105, REGISTRATION DIVISION JQ, NORTH WEST PROVINCE: DMRE REF: NW30/5/1/1/2/13418PR.

PROPOSED 5HA MINING PERMIT APPLICATION COMBINED WITH A WASTE LICENSE APPLICATION FOR THE MINING OF CHROME ORE (LG & MG SEAMS) AND PLATINUM GROUP METALS (PGM) ON PORTION OF PORTION 2 OF THE FARM UITVALGROND 105, REGISTRATION DIVISION JQ, NORTH-WEST PROVINCE. DMRE REFEFERENCE: NW30/5/1/3/3/2/1/11094MP.

PROPOSED 5HA MINING PERMIT APPLICATION COMBINED WITH A WASTE LICENSE APPLICATION FOR THE MINING OF CHROME ORE (LG & MG SEAMS) AND PLATINUM GROUP METALS (PGM) ON A CERTAIN PORTION ON A PORTION OF REMAINING EXTENT OF THE FARM UITVALGROND 105 AND PORTION OF PORTION 2 OF THE FARM UITVALGROND 105, REGISTRATION DIVISION JQ, NORTH-WEST PROVINCE. DMRE REFEFERENCE: NW30/5/1/3/3/2/1/11091MP.

ATTENDANCE REGISTER:
Site Visit: Rustenburg
Date: 31 August 2022
Time: 10:00am

KINDLY PRINT YOUR NAME IN FULL AND WRITE CLEARLY.

NAME & SURNAME	ORGANISATION	ADDRESS	CONTACT DETAILS		SIGNATURE
Neo Koosaletse	TSB Properties	Pretoria East	Tel:		[signature]
			Cell:	0727368988	
			Email:	neo.koosaletse@gmail.com	
ALBERTINA Mokgoko	TSB Properties	1392 SARON SECTION Phokeng	Tel:		[signature]
			Cell:	0782087454	
			Email:		
JK Motlhamme	TSB Properties	Phokeng 92 Wind	Tel:		[signature]
			Cell:	0764298789	
			Email:		
Chiistiaan Baron	Milnex CC	Potchefstoom	Tel:		[signature]
			Cell:	076 514 9860	
			Email:		
			Tell		

Andile Nxumalo	Milnex CC	Potchefstroom	Cell:	082 7464283	[signature]
			Email:	andile.grant@milnex	
PERCY SEHAOLE	MILNEX CC	POTCHEFSTROOM	Tel:	018 011 1925	[signature]
			Cell:		
			Email:	percy@milnex-sa.co.za	
Julian Cambrink	Milnex CC	Potch	Tel:		[signature]
			Cell:	066 219 5659	
			Email:	julian@milnex-sa.co.za	
			Tel:		
			Cell:		
			Email:		
			Tel:		
			Cell:		
			Email:		
			Tell		
			Cell:		
			Email:		

EIA592PR – Acacia Resources (Pty) Ltd, EIA293MP – First Run Trading (Pty) Ltd & BAR294MP – National Treasure Minerals (Pty) Ltd – Landowner consultation attendance register

LANDOWNER CONSULTATION

ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

When the comment period ends, comments received will be included in the comments and response table/form (See **Appendix 6** for comments and response form).

iii) SUMMARY OF ISSUES RAISED BY I&APS

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

Interested and Affected Parties **List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.**		**Issues raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph reference in this report where the issue and or response where incorporated**
Organisation	**Contact person**			
LANDOWNER				
RE of Uitvalgrond 105	**Phore Trust** A B Huma M E Matlou H Von Zwietring	No comments received.		
	Aaron Tampo Mokgoko Trust Dieter Werner Wenhold	No comments received.		
	Madute Trust A B Huma C P Mokgoko S L Molotsane	No comments received.	Landowner consultation email sent to **Mr Spank Molotsane** on the **10th of October 2022** stating the following: *Dear Spank* *We refer to our telephone conversation of 7 October 2022, during which we informed you about the prospecting right application of Acacia Resources (Pty) Ltd, as well as the respective mining permit applications of First Run Trading (Pty) Ltd and National Treasure Minerals (Pty) Ltd on the farm Uitvalgrond 105.* *We also refer to the letters dated 13 June 2022 and 4 August 2022, a request for comments on the application- which we attach hereto for your easy reference.*	

			During aforementioned conversation, we informed you that the respective applications were accepted by the Department of Mineral Resources and Energy on 2 June 2022 and 16 August 2022. *Subsequently, Milnex CC (in our capacity independent environmental consultants) started the environmental authorisation application process as is required by law.* *A part of this process involves the consultation of the landowners of the property on which the application falls.* *Furthermore, we explained to you that along with the applications above, simultaneously, an application for an environmental authorisation ('EA' from here on) must be submitted as well; and that if said EA is rejected- the mineral the approval for the application is withdrawn.* *- For clarity, these applications are separate. In other words, when applying for the EA, three separate applications are submitted.* *During the conversation, you mentioned that you were aware of the application and that you did not have any provisional objections with regards to the respective applications.* *Further, you mentioned that you are a Trustee of the following Trusts:* ***a) Phore Trust,*** ***b) Madute Trust,*** ***c) Nkgadimeng Trust;*** *We informed you that as a result of the Trusts being the registered landowners of the property in question, they qualify to be registered as interested and affected parties in this matter.* *We would like to grant the Trustees (in their capacities as Trustees of the mentioned Trusts) the opportunity to give*	

			written comments with regards to the respective applications. *If there are any comments about the application, feel free to share them with us in attached Comments and Response form (13 June 2022 and 4 August 2022 attachments).* *Herewith, a Dropbox link for copies on the appendices to the report:* *https://www.dropbox.com/s/e6cghiakn4f1a91/Acknowledgement%20Letter.pdf?dl=0* . *We would like to organize a meeting (on Zoom or in person) and would appreciate it if you could also arrange with some of the other Trustees to attend this meeting as well.* *We kindly ask for 3 dates which would suit you as well as the other Directors for such a meeting.* *We trust you to find the above in order.* *Kind Regards, Julian Combrink*	
	Bethuel Molotsane Trust P M N Molotsane	No comments received.		
	TSB Mokgoko Props (Pty) Ltd N S Koosaletse D G Mokgoko M E Mokgoko M A Mokgoko J K Motlhamme	No comments received.	Landowner consultation email sent to Mrs Koosaletse on the **19h of August 2022** stating the following; *Dear Mrs Koosaletse* *I refer to our telephone conversation earlier today during which we informed you about the respective prospecting right applications of National Treasure Minerals (Pty) Ltd and Acacia Resources (Pty) Ltd, as well as the mining permit application of First Run Trading (Pty) Ltd on the farm Uitvalgrond 105.*	

			We also refer to the letter dated 13 June, a request for comments on the application. *The respective applications were accepted by the Department of Mineral Resources and Energy in the letter dated 2 June as well as the letters dated 16 June 2022, which we attach said acceptance letters for your convenience.* *Subsequently, we (Milnex CC) started the environmental authorisation application process as is required by law.* *A part of this process involves the consultation of the landowners of the property on which the application falls.* *TSB Mokgoko Props (Pty) Ltd (TSB from here on) is an owner of the remaining extent of farm Uitvalgrond 105, accordingly we registered TSB as an interested and affected party in this matter.* *It would be appreciated if you could share the following details of the other Directors of TSB:* - *Email addresses and phone numbers.* *We would like to inquire about TSB's position regarding the application.* *If there are any comments about the application, feel free to share them with us in attached Comments and Response form (13 June 2022 attachment).* *We would like to organize a meeting (on Zoom or in person) and would appreciate it if you could also arrange with some of the other Directors of TSB to attend this meeting as well.* *We kindly ask for 3 dates which would suit you as well as the other Directors for such a meeting.* *We trust you to find the above in order.*	

			Kind Regards, Julian Combrink	
	Nkgadimeng Trust A B Huma C Mokgoko S L Molotsane D W Wenhold	No comments received.	Landowner consultation email sent to Mogomotsi to on the **10th of October 2022** stating the following*: Dear Mogomotsi* *We hope you are well.* *We refer to our telephone conversation of earlier today, during which we informed you about the prospecting right application of Acacia Resources (Pty) Ltd, as well as the respective mining permit applications of First Run Trading (Pty) Ltd and National Treasure Minerals (Pty) Ltd on the farm Uitvalgrond 105.* *Certain trusts, of which your father was a Trustee, are the registered landowner of the farm in question.* *You mentioned that Mr Huma has passed away and that a new trustee must be appointed, which will happen soon.* *Further, that you are not a trustee of the involved trusts; but that you know the trustees and can arrange for them to come together for a meeting to discuss the respective applications.* *We kindly ask you to send this email to as many of the people of Uitvalgrond 105 RE that you know, to further the ongoing consultation process.* *We attach a list containing all the owners of the Uitvalgrond 105, and kindly request of you to make their contact details known to us?* *This will be sorely appreciated.* *It is in the interest of the landowners to contact us, to ensure their voices are heard.* *We trust you to find the above in order.* *Kind regards. Julian Combrink*	

Portion 1 of the Farm Uitvalgrond 105	Engelina Molatsane			
	Joseph Mosime			
	Ntubi Felitsa Mokgatle			
	Mosole Mary Kgamphe			
	Ruben Mokgatle			
	Christopher Serutle Kgamphe			
	Maseate Lillian Mokgatle			
	Boy Mokwena			
	Nancy Kgamphe			
	Mmanchala Lizzie Mahlangu			
	Maggie Nqatjelwa	No comments received.		
	Sekopi Mokgatle			
	Sonny Victor Mngadi			
	Justinus Kgamphe			
	Alfred Mokgatle			
	Salome Kgamphe			
	Dina Kgamphe			
	Sheila Kgamphe			
	Philemon Kgamphe			
	Leah Damaria Mathube			
	Herstia Kelebogile Mathuloe			
	Elnorah Kgamphe			
	R A Mokgatle Prop CC S M Makoe B Mohapi B Mokgatle B T Mokgatle K H Mokgatle H Semoko	No comments received.		
	Emmah Kgamphe			
Portion 2 of the Farm Uitvalgrond 105	**Mokgatle Trust**	No comments received.		

Surrounding Landowners				
Portion 1 of the Farm Boschkoppie 104 Portion 0 of the Farm Doornspruit 106 Portion 0 (RE) of the Farm Goedgedacht 110 Portion 0 of the Farm Kleindoornspruit 108	Republic of Bophuthatswana	No comments received		
Portion RE/21, 66, 67, 71, 138 & 139 of Farm Boschhoek 103	The Royal Bafokeng Resources	No comments received.		
Portion 0 (RE) of Farm Boschkoppie 104	Department of Rural Development & Land Reform Mr. Moduku Kween Ms. Nomfundo Ntloko-Gobodo	No comments received.		
Portion 2 of the Farm Boschkoppie 104	Rakgokong Edbaal	No comments received.		
Portion 13 & Portion 2 (RE) of the Farm Bultfontein 259	**Merafe Ferrochrome and Mining (Pty) Ltd** Z J Matlala M A Mngomezulu M J Vuso S D Chocho J P Mclaughlan K Tlale N Mabusela-Aikhuere D A Mc Gluwa	No comments received.		

	D Green			
Portion 10(RE) of the Farm Bultfontein 259	**Struthio (Pty) Ltd** B L Makgale Kenneth Modisaotsile Mokate	No comments received.		
Portion 0 of the Farm Stellite 255	**Ilitha Mining (Pty) Ltd** D Koncar G Konsbruck	No comments received.		
The Municipality in which jurisdiction the development is located				
Rustenburg Local Municipality	**The Municipal Manager**: Mr. Victor Makona	No comments received.		
Municipal councilor of the ward in which the site is located				
Rustenburg (Ward 3 Councillor)	To whom it may concern	No comments received.		
Organs of state having jurisdiction				
Department: Mineral Resources and Energy (DMRE)	Ms Tshisikhawe Tshisevhe	Email received on the **29th of July 2022** with a signed and dated acknowledgement letter of **29th of July 2022** stating*:* Comment 1: *We confirm having received you application for an Environmental Authorisation lodged in this office on the 15th July 2022. Your revised application form submitted on the 27th July 2022 was also evaluated and it is being considered.* Comment 2 *(a) You are requested to attached a locality map which locates the proposed activity of activities applied for at an appropriate scale as prescribed in terms of regulation 16 (1)* *(b) (vii) of the NEMA:EIA Regulations, 2017 as amended. The requested map should be on A3 paper size, must have legend, north point and printed in colour.*	Acknowledgement letter signed and dated **29th of July 2022** was received on the **29th of July 2022** and every comment stated by the DMRE official within the acknowledgment letter was hereby clearly read, acknowledged, and understood. Comment 2 *A locality map which locates the proposed activity of activities applied for at an appropriate scale as prescribed in terms of regulation 16 (1) was submitted to the Department on the **11th of August 2022,** as requested the map was on A3 paper size, had a legend, north point and printed in colour. In addition, Curriculum Vitae indicating the experience with Environmental Impact Assessment and relevant application processes was also attached and*	

		(c) Your application form has also failed to include Curriculum Vitae indicating the experience with Environmental Impact Assessment and relevant application processes as indicated in the application form. <u>Comment 3</u> *In light of the above, you are requested to submit the documents addressing the information mentioned in paragraph 2 within 14 days from the date of signing of this letter.* <u>Comment 4</u> *Your application is listed under Listing Notice 1 of the NEMA: EIA Regulations, 2014 as amended, therefor it will follow the Basic Assessment process. Please note that only activities listed on the application will be considered when issuing the environmental authorisation and the onus is on the EAP/applicant to ensure that all activities related to the proposed mining activities are included on the application.* <u>Comment 5</u> *Your attention is therefore brought to Regulation 19 (1) of the said Regulations which states that "where basic assessment must be applied to an application the applicant must within 90 days of receipt of the application by the competent authority, submit to the competent authority – a basic assessment report, inclusive of specialist reports, where applicable a closure plan, which have subjected to a public participation process of at least 30 days which reflect the incorporation of comments received, including any comments of the competent authority. You are also reminded that a Basic Assessment Report must contain the information set out in Appendix 1 while the Environmental Management Programme must conatin the information set out in Appendix 4 s prescribed on Regulation 19 (3) and (4) of the NEMA: EIA Regulations, 2014 as amended published on the 07th April 2017.* <u>Comment 6</u> *Kindly note that your timeframes for the submission of the Basic Assessment Report (90 days) shall be considered applicable in case your mining permit application lodged in terms of section*	*submitted to the Department of Mineral Resources and Energy.* <u>Comment 3</u> *The documents were submitted to the Department of Mineral Resources and Energy within 14 days from the date of signing of the acknowledgement letter.*	

		23 of Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002) is accepted i.e from date which the Regional Manager signed the acceptance letter. Further note that if your prospecting application is rejected, your application for environmental authorisation will be refused considering that it has been triggered by the decision in your mining application. <u>Comment 7</u> *During consultation period of your Basic Assessment Report you will be required to consult with every organ of state that administers a law relating to a matter affecting the environment relevant to this application in term of Chapter 3, Regulation 7(2) read with Chapter 6, Regulation 41. This includes, but is not limited to the National Department of Forestry and the Environment (DFFE), Department of Agriculture, Land Reform and Rural Development (DALRRD); Department of Water and Sanitation (DWS); Provincial Heritage Resources Agency (PHRA) North West. Any public participation process must be conducted for a period of at least 30 day as per Chapter 2, Regulation 3 (8) of the EIA Regulation, 2017.* <u>Comment 8</u> *Kindly also note your application has been assigned to Ms Thakhani Netshifhefhe/Mrs Linah Tshisevhe who could be reached at the following contact details: Tel: (018) 487 4300/4390.*		
Department: Mineral Resources and Energy (DMRE)	Ms Tshisikhawe Tshisevhe	*Email received on the **17th of August 2022** with a signed and dated acceptance letter of **16th of August 2022** stating:* *I hereby confirm that your application for a mining permit to mine for Chrome Ore and Platinum Group Metals in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2022 (Act 28 of 2002) (as amended) has been accepted.* *In terms of section 23 (5) read with Regulations 52 (1) of the said Act, you are therefore required to consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party and include the result of such consultation in the relevant environmental report.*	Acceptance letter signed and dated **16th of August 2022** was received on the **17th of August 2022** and every comment stated by the DMRE official within the acceptance letter was hereby clearly read, acknowledged, and understood.	

		Kindly take note that you are required to consult with the Department of Land Affairs in the land is state owned and in the even that the land is subject to land restitution, to consult the office of the Commission on Restitution of Land Rights and submit online and hard copy to the Regional Office the results of such consultation on or before the 27th of September 2022 (30 days). *Acceptance of your application does not grant you the right to commence with mining operations. Your application will be evaluated / processed and recommendation on the granting / refusal of the right will be forwarded to the Minister of his delegate. Any person operating without a prospecting/mining right or mining permit will be in contravention of Section 5(4) of the MPRDA and would be guilty of an offence in terms of the relevant Act.* *Take note further that failure to submit the documents as requested and failure to adhere to the timeframes as stipulated above amounts to non-compliance with the provision of the Act and will be therefore lead to your application being recommended for refusal without further notification to you.*		
Department: Agriculture and Rural Development (DARD)	**Head of Department:** Mr. Dipepeneneng Serage (Acting)	No comments received.		
Department: Community Safety and Transport Management (DCSTM)	**Head of Department:** Ms. B Mofokeng	No comments received.		
Department: Cooperative Governance and Traditional Affairs (DCGTA)	**Head of Department:** Mr. JK Mashego	No comments received.		
Department: Economic Development, Environment, Conservation and Tourism (DEDECT)	Mr. Ouma Skosana	No comments received.		

Department: Public Works and Roads (DPWR)	**Director:** Mr. Sfiso Diko (Roads Project Implementation)	No comments received.		
Department: Human Settlements	**Head of Department:** Mr K.J Mashigo	No comments received.		
Provincial Heritage Resources Authority (PHRA)	Mr. Mosiane Mothlabane	No comments received.		
Department: Water and Sanitation (DWS)	To whom it may concern	Email received on the **05th of October 2022** with response from request of consultation stating: "*Dear Mr Marco Morelli (Consultant), A request for consultation for the following Pre-Application Water Use Enquiry has been submitted to the department: General Authorisation Application for a chrome mine on Portion 2 of the farm Uitvalgrond 105 (WU26928)Your request for consultation was submitted to*": Name : Mr T. Mjona () e-Mail : MjonaT@dws.gov.za Tel : 0123921499		
Department of Rural Development and Land Reform, Land Claims Commission	Mr Lengane Bogatsu	Email received on the **10th of August 2022** with response letter also signed and dated **10th of August 2022** stating*:* *We refer to your letter dated 02nd of August 2022.* *We confirm that there is an existing land claim against the farm Uitvalgrond. The claim was lodged under Madibeng Local Municipality within Ngaka Modiri Molema. The information reflects on the database of claims lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, of 2014.* *Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides there are various factors that are beyond the Commissions control, particularly relating to claims that have been lodged but not yet gazetted such as;*	Email sent on **10/08/2022** is proof of land claims enquiry stating; *Dear Everyone, I trust all is well. Local Municipality: Rustenburg. May your office kindly assist in the land claims for the properties below: Portion of portion 2 of the Farm Uitvalgrond 105 JQ, Registration Division:JQ, Title deed:T 233/1984BP. Title Deed attached. Kind Regards. Lana Laufs*	

		1. *Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which ay not match the current property description and;* 2. *Some Claimants provided the geographic descriptions of the land they claim without mentioning the specific portion/property description they claim dispossession of rights in land against.* *The Constitutional Court ordered that the claims that were lodged between 1 July 2014 and 27 July 2016 are validly lodged, but it interdicted the Commission from processing those claims until the Commission has finalised the claims lodged by 31 December 1998 or until Parliament passes a new law providing for the re-opening of lodgement of land claims. Parliament was given until 27 July 2018 to pass such a law.* *The Commission will therefore not be processing the above claims until it finishes claims lodged by 31 December 1998 or until Parliament passes a new law providing for re-opening of lodgement of claims.* *It is important to note that provisions of section 11 (7) of the Restitution of Land Rights Act, 1994 do not apply until after the Commission has accepted the claim for investigation and published its details in the Government Gazette. That will only be done once either event in the previous paragraph has been finalized.* *The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims is found that there is/no land claim in respect of the above property.* *If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do further search.*		
Other–				
Bojanala Platinum District Municipality	**Municipal Manager:** Mr. P. Shikwane	No comments received.		

WESSA	Mr. John Wesson	No comments received.		
Eskom Holdings SOC Ltd	Mr. Mbulelo Dala	Email received on the **18th of August 2022** from Mbulelo Dala stating: *Hi Andile, Please add my name on stakeholder for comments. Thank you*,		
		Email received on the **2nd of September 2022** from Mbulelo Dala stating: *Good day, your email is received in order and will advise about the comments if any, during the set period. Kind regards*		
		Email received on the **19th of September 2022** from Mbulelo Dala stating; *Greetings, My apology for a delayed response, I went on a long leave. I see your identified site is distant from our servitudes, but wayleave will put formal comments in righting with regard to the servitudes. May I please request the engineering service report with specific Energy Scheme Outlook.*	Email sent on the **20th of September 2022** to Mbulelo Dala. *Good morning Mbulelo, I trust this email finds you well. Thank you for your email below. We look forward to receiving your formal comments. Thank you and kind regards. Andile Grant Nxumalo*	
		Email received on the **11th of October 2022** from Mbulelo Dala with the following comments*:* *We refer to your email dated 20/09/2022.* *This application affects our Eskom North West Operating Unit, BAFOKENG 7 / BOSCHKOPPIE 1 88kV and BOSCHKOPPIE / SUN CITY 1 88kV Conductors. Eskom Distribution will raise no objection to the proposed application, provided Eskom's rights and services are acknowledged and always respected.* <u>Comment 1</u> *There is 9 metres building and tree restriction on either side of the centre line of the 11 kV power lines, which must be adhered to in all future developments. No construction work may be executed closer than 9 meters from any of Eskom's structures and or supporting mechanisms. The building restriction for 132 kV on each side of the center of the power line is 15.5m and the separation distance between parallel lines is 21m.* <u>Comment 2</u> *All work within Eskom Distribution reserve area and servitudes must be done in accordance with the requirements of the Occupational Health and Safety Act No.85 of 1993 as amended. Special attention must be given to the clearances between*		

		Eskom's conductors, structures, cables and electrical apparatus and the proposed work as stipulated by Regulation R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirements. The requirements of the OHS Act must be adhered to in conditions where they are existing. <u>Comment 3</u> *Eskom Distribution's services and equipment must be always acknowledged and may not be tampered or interfered with.* <u>Comment 4</u> *All work within Eskom Distribution reserve area and servitudes must be done in accordance with the requirements of the Occupational Health and Safety Act No.85 of 1993 as amended. Special attention must be given to the clearances between Eskom's conductors, structures, cables and electrical apparatus and the proposed work as stipulated by Regulation R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirement.* <u>Comment 5</u> *The Applicants and Eskom's cables must be placed in sleeves encased in concrete across the width of the servitude, at the applicant's expense where frequent excavations occur in the cable area.* <u>Comment 6</u> *Eskom Distribution shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the area where Eskom Distribution has its services, by the applicant, his/her agent, contractors, Employees, successors in title and assigns.* <u>Comment 7</u> *The applicant indemnifies Eskom against loss, claims or damages including claims pertaining to interference with Eskom Distribution services or apparatus or otherwise. The applicant's attention is drawn to section 27(3) of the Electricity Act 1987, as*		

		amended in 1994, which stipulates that the applicant can be fined and/or imprisoned as a result of damage to Eskom's apparatus. Comment 8 *No mechanical equipment, including mechanical excavators, high lifting machinery and drilling equipment, may be used within Eskom's reserve area, or within close proximity of Eskom's services and equipment, without prior permission in writing and supervision of Eskom's authorised area manager for the NWOU Technical Service Centre Area; T Sewisa <SewisaT@eskom.co.za> (Tel. 0724269569).* Comment 9 *Permission must be obtained at least 10 (ten) working days prior to the commencement of any work within the reserve area.* Comment 10 *Eskom Distribution shall always have unobstructed access to and egress from its services.* Comment 11 *It will be required of the applicant to familiarise him/her self with all safety hazards related to electrical plant.* Comment 12 *Eskom's consent will not relieve the applicant from obtaining the necessary statutory, land owner or municipal approvals. (Eskom is not the land owner).* Comment 13 *Any third-party servitudes encroaching on Eskom servitudes shall have to be registered against the property at the applicant's own cost.* Comment 14 *The ineffective management and handling of waste is of crucial importance. No dumping shall be allowed within Eskom Distribution Servitudes. All unwanted waste (gaseous, liquid or solids) should be disposed of at a registered waste disposal site*		

		as stipulated under Section 20 of the Environmental Conservation Act (Act 73 of 1989). Comment 15 *No blasting is permitted. If blasting is needed, an additional application is to be lodged with Eskom Distribution.* Comment 16 *Any development, which necessitates the relocation of our services, will be to the account of the developer. For the relocation of any services, please contact Eskom Customer Services at Eskom Contact Centre: 086 00 37566.* Comment 17 *Eskom will recover costs from the applicant where any damages of Eskom assets and or any penalties suffered by Eskom occur.* *Should the applicant or his contractor damage any of Eskom services during commencement of any work whatsoever, then Eskom's 24 hour Contact Centre Tel: 086 000 1414 must be notified immediately to report the incident. We thank you and hope you will find the above in order. Should you have technical queries on the Eskom standards and specifications please feel free to phone our Technology and Quality Department, contact person: Mr Stephen Nkwane Tel: 012 421 4853*		
		Email received on the **11th of October 2022** from Mbulelo Dala stating; *Dear Andile, apologies for late response from our Wayleave department. Are there any Energy Scheme Outlook report for this mining permit? If any please share or connect us to your engineers dealing with energy. Kind regards.*	Email sent on the **12th of October 2022** stating*: Dear Mbulelo,I trust this email finds you well. Please kindly note the applicant will make use of diesel as the primary source of energy. Therefore, it is not anticipated an engineer will be required for both mining permit applications. Thank you and kind regards. Andile Grant Nxumalo*	
		Email received on the **12th of October 2022** from Mbulelo Dala stating: *Dear Andile, It makes a huge sense. The primary source (diesel) is temporary, they will probably engage us at a later stage. Regards, Mbulelo*	Email sent on the **12th of October 2022** stating: *Dear Mbulelo, Yes, correct. However, should this change at any stage we will ensure to consult with yourself and your team. Thank you and kind regards, Andile Grant Nxumalo*	
Bafokeng North Mines				
Impala Platinum Holdings Limited	Gerhard van Dyk	Email received on the **02 September 2022** from Gerhard van Dyk stating; *Morning Andile, The link provided in both these attachments only provide access to the DMRE acknowledgement letters and not the BAR. Will you please*	Email sent to Gerhard van Dyk on **02nd of September 2022** stating: *Dear Gerhard van Dyk, I trust this email finds you well. The Draft Basic Assessment Report & Environmental Management Programme was sent to*	

		provide the link to the report and appendices for both applications".	*yourself on the 26th of August 2022, I sincerely hope the report successfully reached you. Please kindly find attached a Public Participation Notification Letter with a drop-box link whereby you can access the Draft BAR & EMPr and the relevant appendices. Thank you and kind regards. Andile Grant Nxumalo*	
Royal Bafokeng Platinum	Malebabo Tsolo Rethabile Bogatsu Chrisna von Alleman	Email received on the **24th of August 2022** from Chrisna von Allemann stating; "*Dear Andile, Can you please forward a new link for the documents. The dropbox link in the letter only contains a DMRE acknowledgement letter*".	Email sent to Chrisna von Alleman on **02nd of September 2022** stating: *Dear Chrisna, I trust this email finds you well. The Draft Basic Assessment Report & Environmental Management Programme was sent to yourself on the 26th of August 2022, I sincerely hope the report successfully reached you. Please kindly find attached a Public Participation Notification Letter with a drop-box link whereby you can access the Draft BAR & EMPr and the relevant appendices. Thank you and kind regards. Andile Grant Nxumalo*	
		Email received on the **26th of September 2022** from Chrisna von Alleman stating and with the following comments: *Dear Andile Please refer to the attached letters for: First Run Trading (Pty) Ltd and National Treasure Minerals (Pty) Ltd* *Please also find the details for Gibb Consulting below as referred to in the letters:* <u>Comment 1</u> *With reference to the above-mentioned application received by e-mail correspondence on 26 August 2022 and 2 September 2022 with feedback due on 26 September 2022.* <u>Comment 2</u> *Kindly register Royal Bafokeng Platinum Limited (RBPlat) as interested and affected party*. <u>Comment 3</u> *Please be advised that RBPlat (on behalf of Royal Bafokeng Resources (Pty) Ltd, the holder of the mining right) operates the Bafokeng Rasimone Platinum Mine (BRPM) which is adjacent to the mining permit application area of First Run Trading. Please refer to Figure 1 which provides for a google earth image of the First Run application in relation to the BRPM operation including*	Email sent to Chrisna von Alleman on the **29th of September 2022** stating: *Dear Chrisna,* *I trust this email finds you well. The attached letters have been well received with respect to;* *1. First Run Trading (Pty) Ltd* *2. National Treasure Minerals (Pty) Ltd* *Thank you for taking the time to make us aware of the Royal Bafokeng Resources (Pty) Ltd mining right adjacent to the mining permit application areas of First Run Trading (Pty) Ltd and National Treasure Minerals (Pty) Ltd including the proposed solar PV plant to be constructed in the foreseeable future.* *All comments contained within both letters have been read thoroughly and understood. It is our uttermost intention to stretch mitigation measures as far as possible with regards to both mining permit applications. Thank you and kind regards, Andile Grant Nxumalo*	

		the proposed solar PV plant to be constructed in the foreseeable future. Comment 4 *It is noted that you intend to perform opencast mining activities including blasting activities. You will note that the edge of the BRPM tailings storage facility (TSF) is within 600m from the mining permit application area. Any activity in and around the TSF, outside of the control of RBPlat, may pose significant risks and you are therefore required to compile a risk assessment as per the requirements of the Mine Health and Safety Act, Act 29 of 1996 (MHSA) and to forward same to RBPlat for approval and further discussion should it be required. You are furthermore required to complete a zone of impact study.* Comment 5 *Environmental studies are currently underway to determine the feasibility of a solar PV plant within the boundaries of Portion 1 of the farm Boschkoppie 104 JQ. The proposed area is shown in Figure 1 (white outline). The proposed mining is within 2 kilometers from the planned solar facility. Please also register as interested and affected party (I&AP) for this project with Gibb Environmental who has been appointed as independent environmental consultants. Gibb will also likewise register as I&AP for the proposed mining permit application. The detail of Gibb is attached hereto, and they will also be in a position to share any documents and information with you.* Comment 6 *From an environment point of view noise, dust and water contamination may have a direct and/or cumulative impact on the RBPlat activities and need to be addressed in the environmental impact assessment. Please also note the comment below:* • *BRPM has two water boreholes (DWA04 & BH11) that is monitored just outside of the TSF. Boreholes could potentially be impacted by the prospecting activities.*		

		Comment 7 *Please acknowledge receipt of this letter.*		

iv) THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES

Baseline Environment

The baseline environment is described with specific reference to geotechnical conditions, ecological habitat and landscape features, Soil, land capability and agricultural potential, climate and the visual landscape.

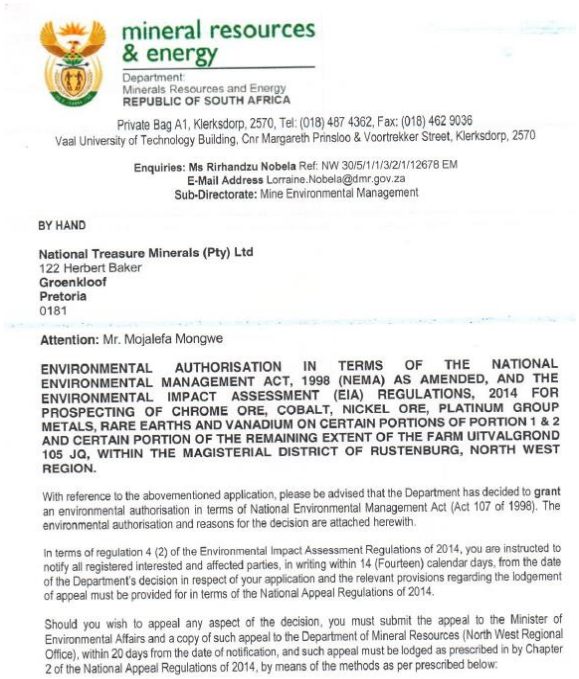
In cases where the trees will need to be cut, disturbed, damaged or destroyed or possessed, collected, removed, transported, exported, purchased, sold or donated a flora permit must be applied for.

TABLE: ENVIRONMENTAL SENSITIVITY OF THE PROPOSED AREA

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

MINING/PROSPECTING ACTIVITIES IN THE VICINITY

For this mining permit it is noted that there is an Environmental Authorisation for prospecting operation of National Treasure Minerals (Pty) Ltd adjacent the application area with DMRE ref number NW30/5/1/1/3/2/1/12678MP. This PR has been taken into consideration. Below is the cover page of the Authorisation.



mineral resources & energy

Department:
Minerals Resources and Energy
REPUBLIC OF SOUTH AFRICA

Private Bag A1, Klerksdorp, 2570, Tel: (018) 487 4362, Fax: (018) 462 9036
Vaal University of Technology Building, Cnr Margareth Prinsloo & Voortrekker Street, Klerksdorp, 2570

Enquiries: Ms Rirhandzu Nobela Ref: NW 30/5/1/1/3/2/1/12678 EM
E-Mail Address Lorraine.Nobela@dmr.gov.za
Sub-Directorate: Mine Environmental Management

BY HAND

National Treasure Minerals (Pty) Ltd
122 Herbert Baker
Groenkloof
Pretoria
0181

Attention: Mr. Mojalefa Mongwe

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NEMA) AS AMENDED, AND THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 FOR PROSPECTING OF CHROME ORE, COBALT, NICKEL ORE, PLATINUM GROUP METALS, RARE EARTHS AND VANADIUM ON CERTAIN PORTIONS OF PORTION 1 & 2 AND CERTAIN PORTION OF THE REMAINING EXTENT OF THE FARM UITVALGROND 105 JQ, WITHIN THE MAGISTERIAL DISTRICT OF RUSTENBURG, NORTH WEST REGION.

With reference to the abovementioned application, please be advised that the Department has decided to **grant** an environmental authorisation in terms of National Environmental Management Act (Act 107 of 1998). The environmental authorisation and reasons for the decision are attached herewith.

In terms of regulation 4 (2) of the Environmental Impact Assessment Regulations of 2014, you are instructed to notify all registered interested and affected parties, in writing within 14 (Fourteen) calendar days, from the date of the Department's decision in respect of your application and the relevant provisions regarding the lodgement of appeal must be provided for in terms of the National Appeal Regulations of 2014.

Should you wish to appeal any aspect of the decision, you must submit the appeal to the Minister of Environmental Affairs and a copy of such appeal to the Department of Mineral Resources (North West Regional Office), within 20 days from the date of notification, and such appeal must be lodged as prescribed in by Chapter 2 of the National Appeal Regulations of 2014, by means of the methods as per prescribed below:

Figure 5: Environmental Authorisation for prospecting operation of National Treasure Minerals (Pty) Ltd

The EAP is aware that there are other mining activities on the nearby properties and adjacent the application area. The impacts identified take into consideration the fact each right holder will be responsible for their own respective cumulative impacts that exist from within their boundaries.

Each right holder will be responsible for their own respective Environmental Management Programme ("EMP") which was approved as part and parcel of its right. Therefore, this BAR & EMPr focus only on the 5ha Mining Permit area of First Run Trading (Pty) Ltd.

EXISTING KNOWN MINES IN THE VICINITY

The below mines & smelters are in the 5km radius of the application area of First Run Trading (Pty) Ltd. Refer

- Bafokeng North Mine
- Impala 6 Shaft
- Ilitha Mining
- Boshoek Smelter Glencore
- Bafokeng Rasimone Platinum mine
- Shaft for Royal Bafokeng Platinum

It is understood that Royal Bafokeng Platinum Limited proposes to construct a solar PV plant in the foreseeable future within the 5km radius of the application area of First Run Trading (Pty) Ltd. In addition, it is noted that the edge of the BRPM tailings storage facility (TSF) is within 600m from the mining permit application area of First Run Trading (Pty) Ltd.

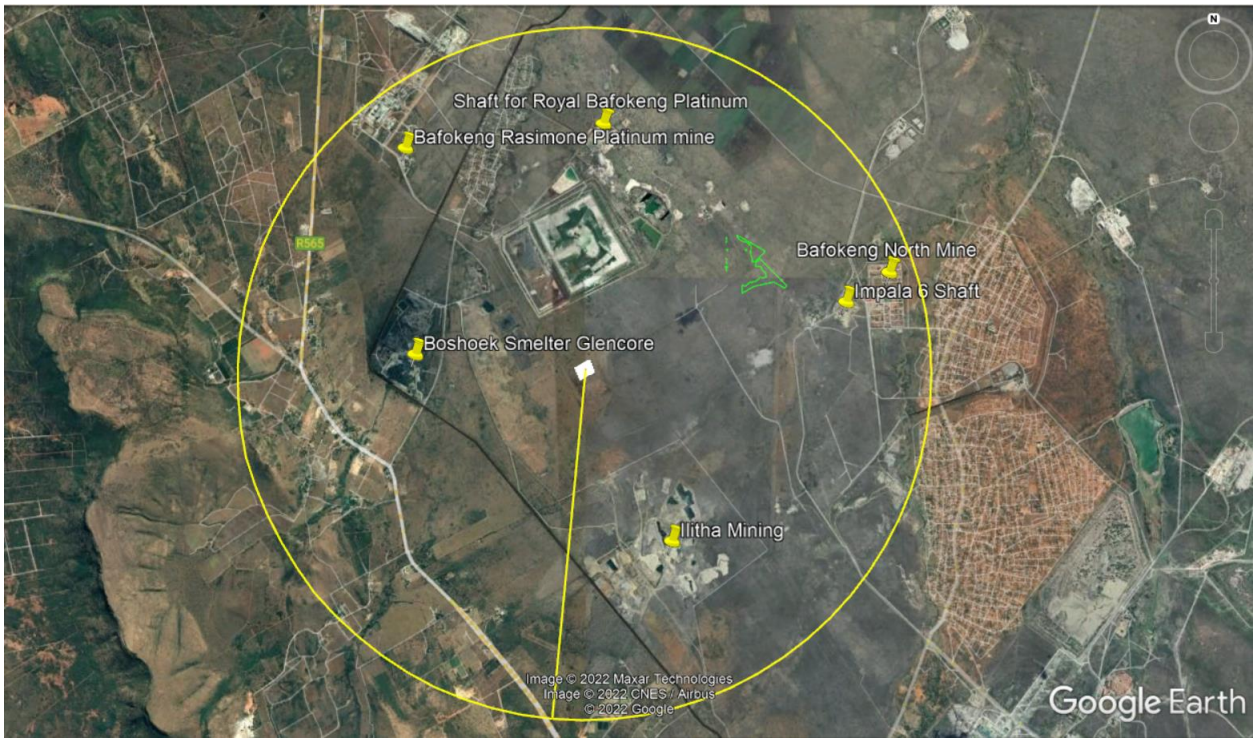


Figure 6: Mines/Smelters in a 5km radius of the 5ha mining permit area

Type of environment affected by the proposed activity.
(its current geographical, physical, biological, socio- economic, and cultural character).

Ecological habitat and landscape features

The proposed area falls within vegetation units SVcb 3, which is known as the Zeerust Thornveld Vegetation.

Zeerust Thornveld

According to Mucina and Rutherford (2006), the Zeerust Thornveld vegetation Extends along the plains from the Lobatsi River in the west via Zeerust, Groot Marico and Mabaalstad to the flats between the Pilanesberg and western end of the Magaliesberg in the east (including the valley of the lower Selons River). Altitude mainly 1 000–1 250 m.

Conservation: Least threatened. Target 19%. Less than 4% statutorily conserved, spread between four reserves including the Pienaar and Marico Bushveld Nature Reserves. Some 16% transformed mainly by cultivation, with some urban or built-up. A few areas with scattered plants of the alien Cereus jamacaru and several other alien species very scattered elsewhere. Erosion is mainly very low to low

Vegetation & Landscape Features:

Deciduous, open to dense short thorny woodland, dominated by Acacia species with herbaceous layer of mainly grasses on deep, high base-status and some clay soils on plains and lowlands, also between rocky ridges of SVcb 4 Dwarsberg-Swartruggens Mountain Bushveld.

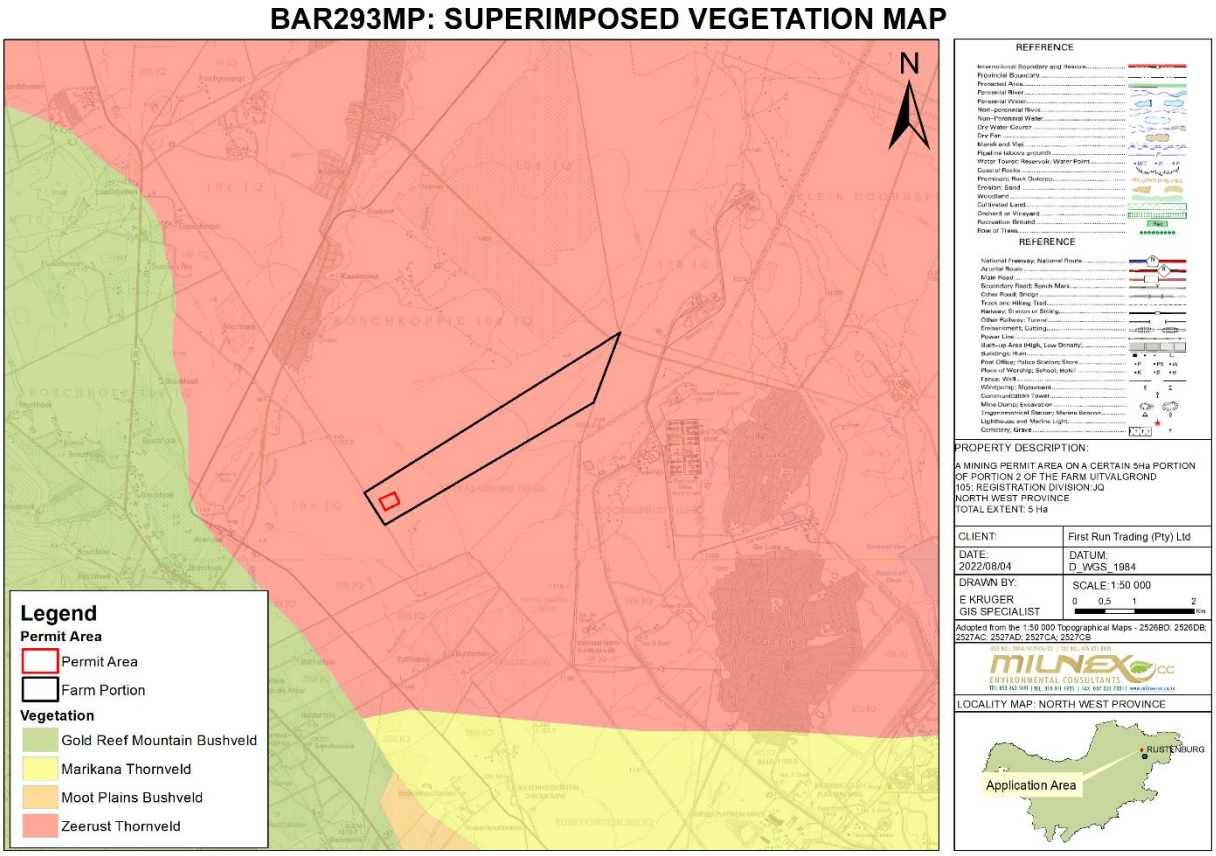


Figure 7: Vegetation Unit Map

According to the DEA Screening Tool, the agricultural sensitivity of the area is medium. Please see **Appendix 7** for the colour map.

Figure 8: Agricultural Sensitivity

PROTECTED AREAS

Formally protected areas are protected either by national or provincial legislation. Based on the SANBI (2010) Protected Areas Map (**Figure 9**), the study site does not overlap with any formally protected area or Threatened Ecosystem. Therefore, the location of the study site is not expected to have an impact on any formally protected areas.

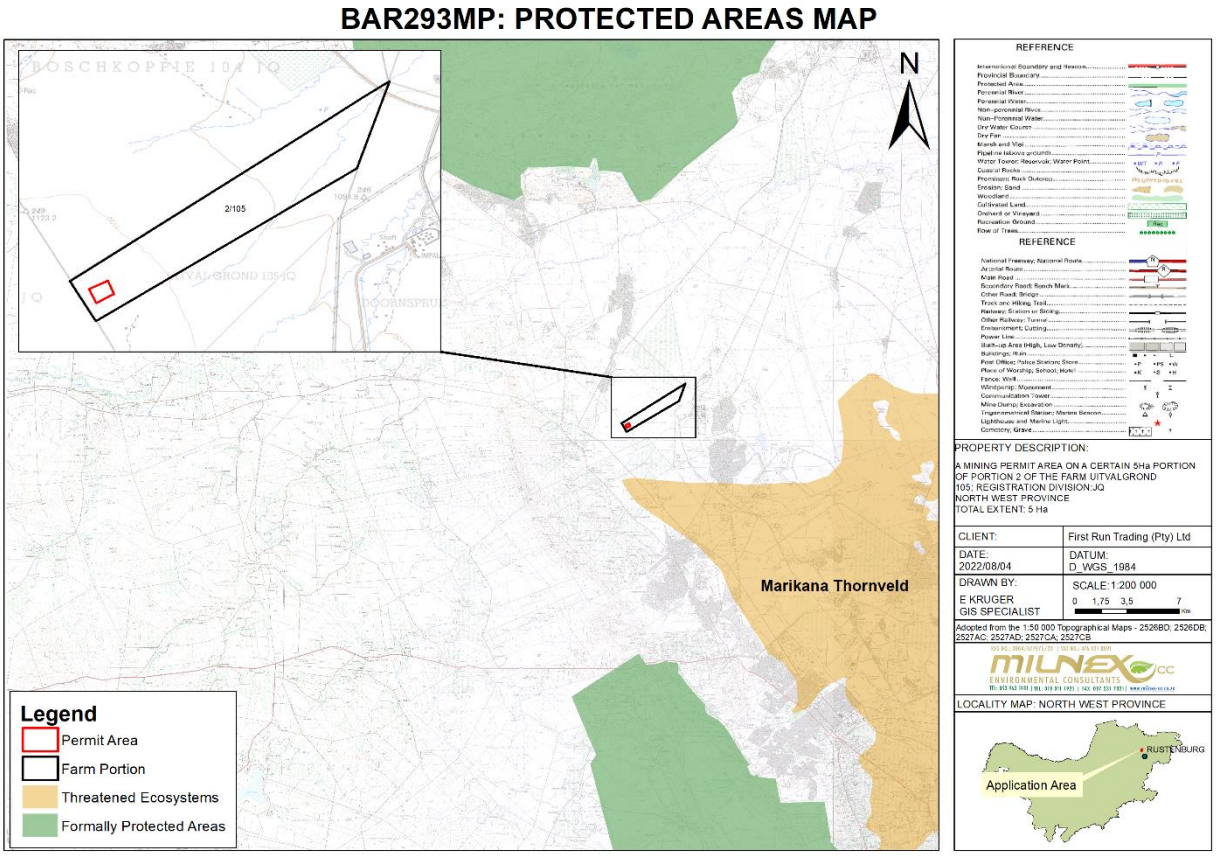


Figure 9: Threatened and Protected Areas Map

Critical Biodiversity Area

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of high biodiversity value that need to be conserved and maintained in a natural or near-natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services (MTPA, 2014). According to the National Environmental Management Act (NEMA) (Act no. 107 of 1998) certain activities have strict guidelines or are prohibited within CBAs and ESAs. Refer to the listed activities under the NEMA: Environmental Impact Assessment Regulations of 2014 (GNR 982) as promulgated in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) [as amended] for a comprehensive breakdown. The following terms are used to categorise the various land used types according to their biodiversity and environmental importance:

- Critical Biodiversity Area One (CBA1);
- Critical Biodiversity Area Two (CBA2);
- Ecological Support Area (ESA);
- Other Natural Areas (ONA); and
- Protected Area (PA).

Based on the desktop information (**Figure 10**), the application area does not fall within any CBA

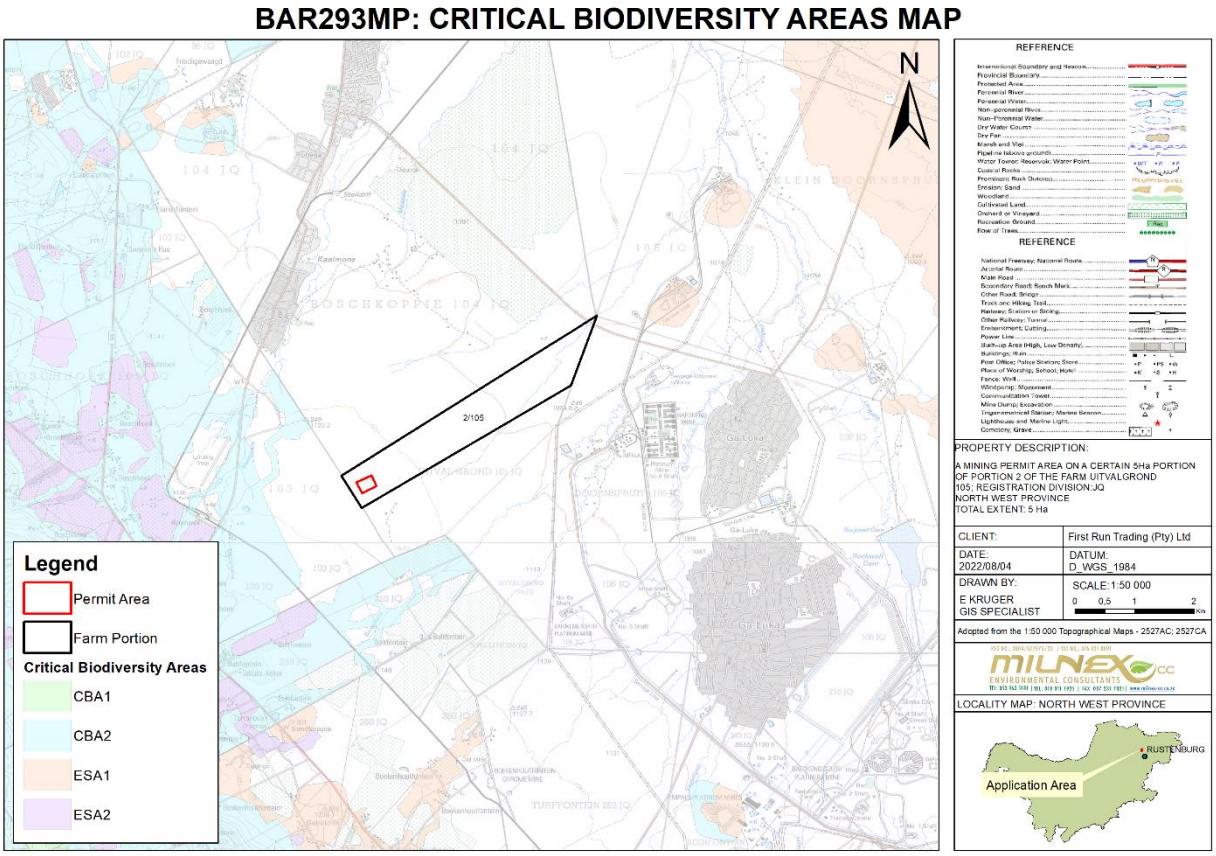


Figure 10: Critical Biodiversity Areas Map.

BIODIVERSITY PRIORITY AREAS FOR MINING

The Mining and Biodiversity Guideline was developed in 2013 for the purpose of mainstreaming biodiversity management practices into the mining sector (DEA, DMR, Chamber of Mines, SAMBF & SANBI 2013). This Guideline provides explicit direction in terms of where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining. The Guideline distinguishes between four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service perspective as well as the implications for mining in these areas (**Table below**).

Table: Four categories of biodiversity priority areas in relation to their biodiversity importance and implications for mining.

Category	Biodiversity Priority Areas	Risks for Mining	Implications for Mining
A. Legally Protected	• Protected areas (including National Parks, Nature Reserves, World Heritage Sites, Protected Environments, Nature Reserves) • Areas declared under Section 49 of the Mineral and Petroleum	**Mining Prohibited**	Mining projects cannot commence as mining is legally prohibited. Although mining is prohibited in Protected Areas, it may be allowed in Protected Environments if both the Minister of Mineral Resources and Minister of Environmental Affairs approve it.

	Resources Development Act (No. 28 of 2002)		In cases where mining activities were conducted lawfully in protected areas before Section 48 of the Protected Areas Act (No. 57 of 2003) came into effect, the Minister of Environmental Affairs may, after consulting with the Minister of Mineral Resources, allow such mining activities to continue, subject to prescribed conditions that reduce environmental impacts.
B. Highest Biodiversity Importance	• Critically endangered and endangered ecosystems • Critical Biodiversity Areas (or equivalent areas) from provincial spatial biodiversity plans • River and wetland Freshwater Ecosystem Priority Areas (FEPAs) and a 1km buffer around these FEPAs • Ramsar Sites	**Highest Risk for Mining**	Environmental screening, environmental impact assessment (EIA) and their associated biodiversity specialist studies should focus on confirming the presence and significance of these biodiversity features, and to provide site-specific basis on which to apply the mitigation hierarchy to inform regulatory decision-making for mining, water use licences, and environmental authorisations. If they are confirmed, the likelihood of a fatal flaw for new mining projects is very high because of the significance of the biodiversity features in these areas and the associated ecosystem services. These areas are viewed as necessary to ensure protection of biodiversity, environmental sustainability, and human well-being. An EIA should include the strategic assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity. This assessment should fully consider the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining, as well as the potential strategic importance of the minerals to the country. Authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts and may specify biodiversity offsets that would be written into licence agreements and/or authorisations.

C. High Biodiversity Importance	• Protected area buffers (including buffers around National Parks, World Heritage Sites* and Nature Reserves) • Transfrontier Conservation Areas (remaining areas outside of formally proclaimed protected areas) • Other identified priorities from provincial spatial biodiversity plans • High water yield areas • Coastal Protection Zone • Estuarine functional zone *Note that the status of buffer areas of World Heritage Sites is subject to a current intra-governmental process	**High Risk for Mining**	These areas are important for conserving biodiversity, for supporting or buffering other biodiversity priority areas, and for maintaining important ecosystem services for communities or the country. An EIA should include an assessment of optimum, sustainable land use for an area and will determine the significance of the impact on biodiversity. Mining options may be limited in these areas, and limitations for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.
D. Moderate Biodiversity Importance	• Ecological support areas • Vulnerable ecosystems • Focus areas for protected area expansion (land-based and offshore protection)	**Moderate Risk for Mining**	These areas are of moderate biodiversity value. EIAs and their associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened (land-based and offshore protection) species) not included in the existing datasets, and on providing site-specific information to guide the application of the mitigation hierarchy. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.

Based on **Figure 11,** the proposed area falls withing Category C with High Risk for Mining. Kindly refer to the table above for details on mining implications on category C

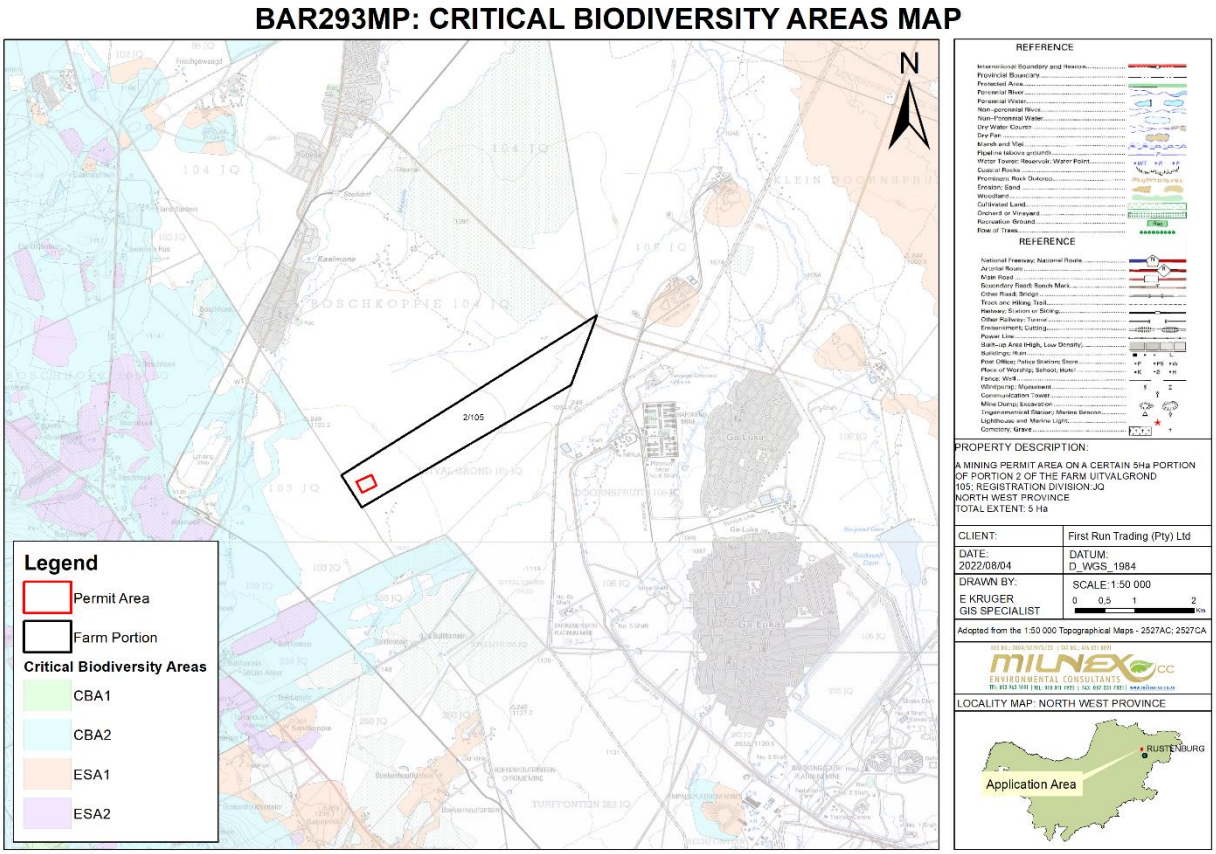


Figure 11: Biodiversity priority areas, in accordance with the Mining of Biodiversity Guidelines, associated with the study site.

Map of relative Terrestrial Biodiversity theme sensitivity according to the DEA Screening Tool, which illustrates the Terrestrial Biodiversity Combined Sensitivity has a low sensitivity. Please see **Appendix 7** for the colour map.

Figure 12: Terrestrial Biodiversity Combined Sensitivity

Wetland Areas

In terms of Section 1 of the National Water Act (No. 36 of 1998) (NWA), wetlands are legally defined as: "*land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil*" (NWA 1998).

Wetlands are defined by the presence of unique soils and vegetation that do not occur in terrestrial and purely aquatic environments (Edwards *et al.* 2018). Wetland soils are referred to as hydric soils that develop under anaerobic conditions (condition where oxygen is virtually absent from the soil). Wetlands are also typically characterized by relatively large and dense stands of plants sticking out of shallow water or wet soil. Plants adapted to such waterlogged conditions are referred to as hydrophytes. Wetlands are distinct from true aquatic ecosystems like river ecosystems, which are characterized by fast flowing water within channels, and lake ecosystems, that are flooded to great depth; both of which are not primarily characterized by the occurrence of hydric soils and hydrophytes.

A wide variety of wetland types are present in South Africa, and can be classified into six broad types, namely floodplain wetlands, unchannelled valley bottom wetlands, channelled valley bottom wetlands, seeps, depressions and wetland flats. Owing to the large variations in climate and topography across South Africa, vegetation and habitat associated with these wetland types vary tremendously from subtropical reed beds and tall swamp forests to arid salt pans, which all support unique and varied animal life.

Figure 13 illustrates all wetland types associated with the study site.

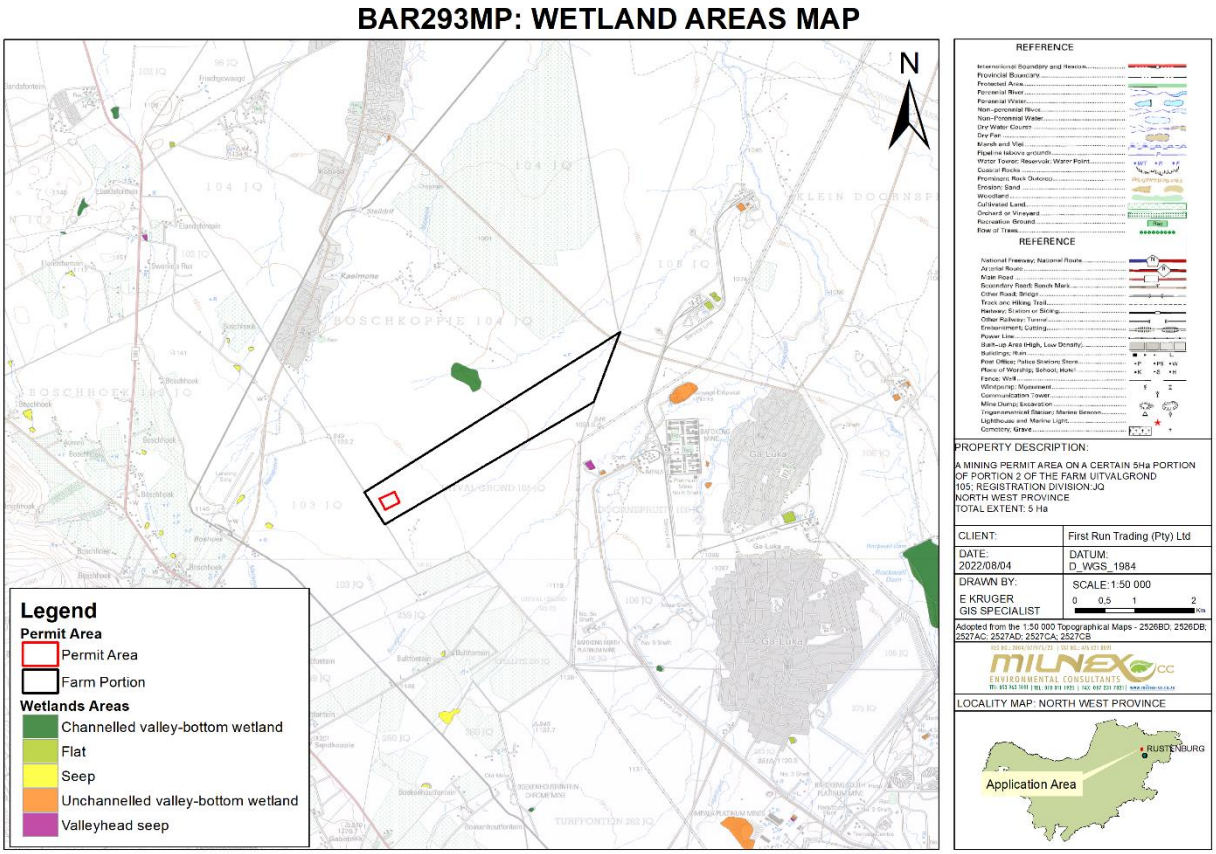


Figure 13: Wetland types located within or near the study site.

DESCRIPTION OF THE SOCIO-ECONOMIC ENVIRONMENT

- Socio-economic conditions

Overview and Location of RLM: The Rustenburg Local Municipality is a category B municipal council consisting of 45 wards. It is located in the eastern parts of the North-West Province and is accessible to a number of major South African urban centers. These centers include Johannesburg and Tshwane, which are located approximately 120km from Rustenburg. Smaller centers surrounding Rustenburg are Madibeng, Mogale City and Zeerust in the Ramotshere Moilwa Local Municipality. Rustenburg is linked to the above urban centers through an extensive regional road network. The most notable of these is the N4 freeway or Platinum Corridor, which links Rustenburg to Tshwane in the east and Zeerust to the west. The R24 links Rustenburg to Johannesburg in the south and the Pilanesberg to the north. Rustenburg Local Municipality (RLM) is one of five municipalities within the Bojanala District Municipality in the North-West Province and is divided into 45 wards.

The total population is 626 522 people, comprising of 54% males and 46% females. The significant growth in Rustenburg is largely attributed to the impact of the world's four largest mines in the immediate vicinity of the town, namely, Anglo Platinum, Impala Platinum, Xstrata and Lonmin. Approximately 97% of the total platinum production occurs in Rustenburg, with the mining sector providing around 50% of all formal employment.

Population: Table 2-1 provides an overview of the total population within the RLM, indicating the distribution of gender and age groups from 2011 to 2016. It is clear that overall the population increased from 2011 to 2016 and is steadily growing mostly due to the mining

activities in the area. In terms of gender distribution, it is shown that the majority of the population in RLM is male with 55% in 2011 and 54% in 2016. This phenomenon could be attributed to labour migration to Rustenburg due to more males migrating to the city to obtain job opportunities.

Rustenburg has a population of 626 522 persons as per the Community Survey (Stats SA, 2016). The gender breakdown is as follow:

Male	Female	Total
342 865	283 657	626 522

The total youth (15-34 years) population as per the Community Survey (Stats SA, 2016) is 225 181
persons and the gender breakdown is as follow:

Male	Female	Total
121810	103 371	225 181

Poverty Statistics: According to the Community Survey (Statistics South Africa, 2016), Rustenburg Local Municipality (662 NW373), sub-category B1 registered 29.3% of 2015 Grants and subsidies received as a % of Total Income. The 2016 poverty headcount stands at 8% and the municipality has intensity of poverty of 44.6%.

Rustenburg Local Municipality has a total of 27.9% living in poverty. A household is considered to be subject to poverty if the individuals therein earn a combined income which is less than the poverty income threshold. This poverty income threshold is defined as the minimum monthly income needed to sustain a household. The poverty income used by IHS - within the context of this assessment - is based on the Bureau of Market Research's Minimum Living Level. Currently, the poverty income threshold for a household of 4 people is set at R2 544 per month. Individuals in Rustenburg Local Municipality considered functionally literate constitutes 84.67% of the population (IHS).

Food Security: According to the Community Survey (Stats SA, 2016), a total number of 41 291 households (15.7%) “Run out of money to buy food in past 12 months”. A total number of 26 005 households (9.9%) “Running out of money to buy food for 5 or more days in past 30 days”. A total number of 30 584 households (11.6%) “Skipped meal in past 12 months”. a total number of 17 237 households (6.6%) “Skipping meal for 5 or more days in the past 30 days”.

Economy: The economic growth forecast is expected that Rustenburg Local Municipality will grow at an average annual rate of 12.34% from 2013 to 2018 (IHS). These growth projections are not spontaneous, but based on measures take to improve the local economy of Rustenburg.

The economy is overly and unsustainably resource intensive (New Growth Path). Amongst the key considerations is to transform Rustenburg from a resource-based to knowledge-based economy. The local economy needs to transit from a mining-dominant economy to a more balance and diversified one, with more secondary and tertiary sector employment opportunities. The secondary and tertiary sectors will be a major contributor to the economy. It is projected to provide about 130,000 jobs in manufacturing and 170,000 service-related jobs by 2040 (IMP, 2014).

The NWP economy, with the exception of the mines, is characterised by small, medium and micro enterprises (SMMEs). Given the sensitivity of the province’s economy to world mineral prices, the

NWP plans to reduce its dependence on the mining sector, with an increased diversification to tourism and non-mining related manufacturing industries, evident in the recent 2.5% growth in this sector.

Expected from the RLM in the next five years: 2017/22: The RLM has set out seven key areas of performance in ensuring that they achieve their intended goals especially in the following areas:

- Efficient provision of quality basic services and infrastructure within a well-planned spatial structure
- Drive diversified economic growth and job creation
- Ensure municipal financial viability and management
- Maintain clean, green, safe and healthy municipal environment for all
- Transform and maintain a vibrant and sustainable rural development
- Uphold good governance and public participation principles
- Drive optimal municipal institutional development, transformation and capacity building.

CULTURAL AND HERITAGE ASPECTS

Special attention will be given to the identification of possible cultural or heritage resources on site.

Heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore, if such resources are found during the Mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

According to the DEA Screening Report the application area falls within low Archaeological and cultural heritage theme sensitivity and the Palaeontology Theme Sensitivity is medium. Please refer to **Figure 14 and Figure 15** below or Appendix 7.

ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

Figure 14: Archaeological and cultural heritage theme sensitivity

PALEONTOLOGY THEME SENSITIVITY

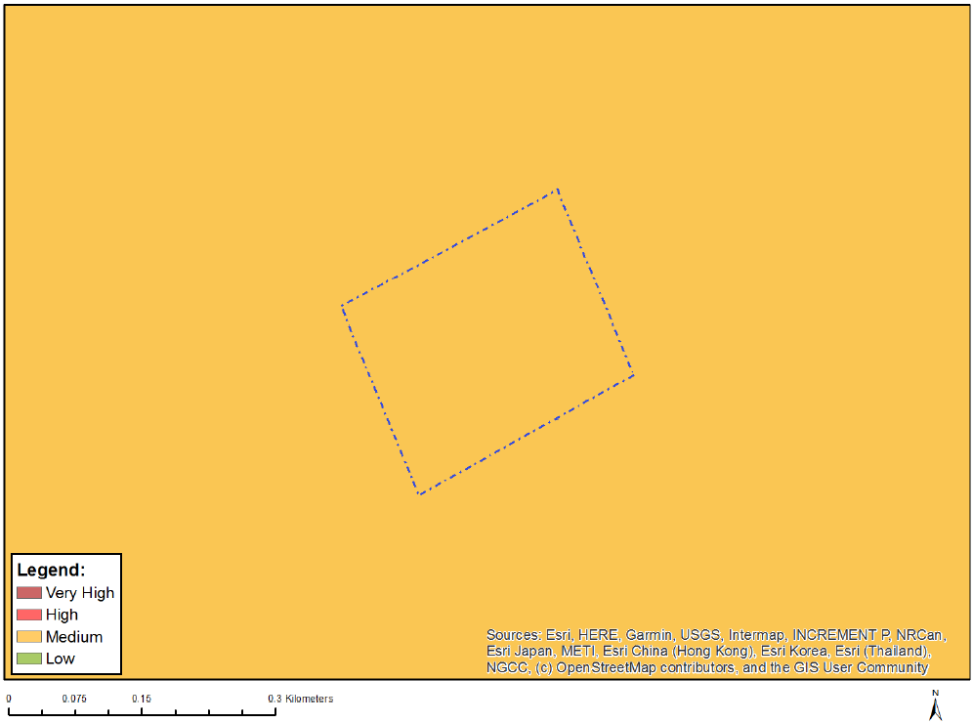


Figure 15: Palaeontology Theme Sensitivity

DESCRIPTION OF THE CURRENT LAND USES.

The site is largely natural and the land use map shows it as a cultivated land (**Figure 16**).

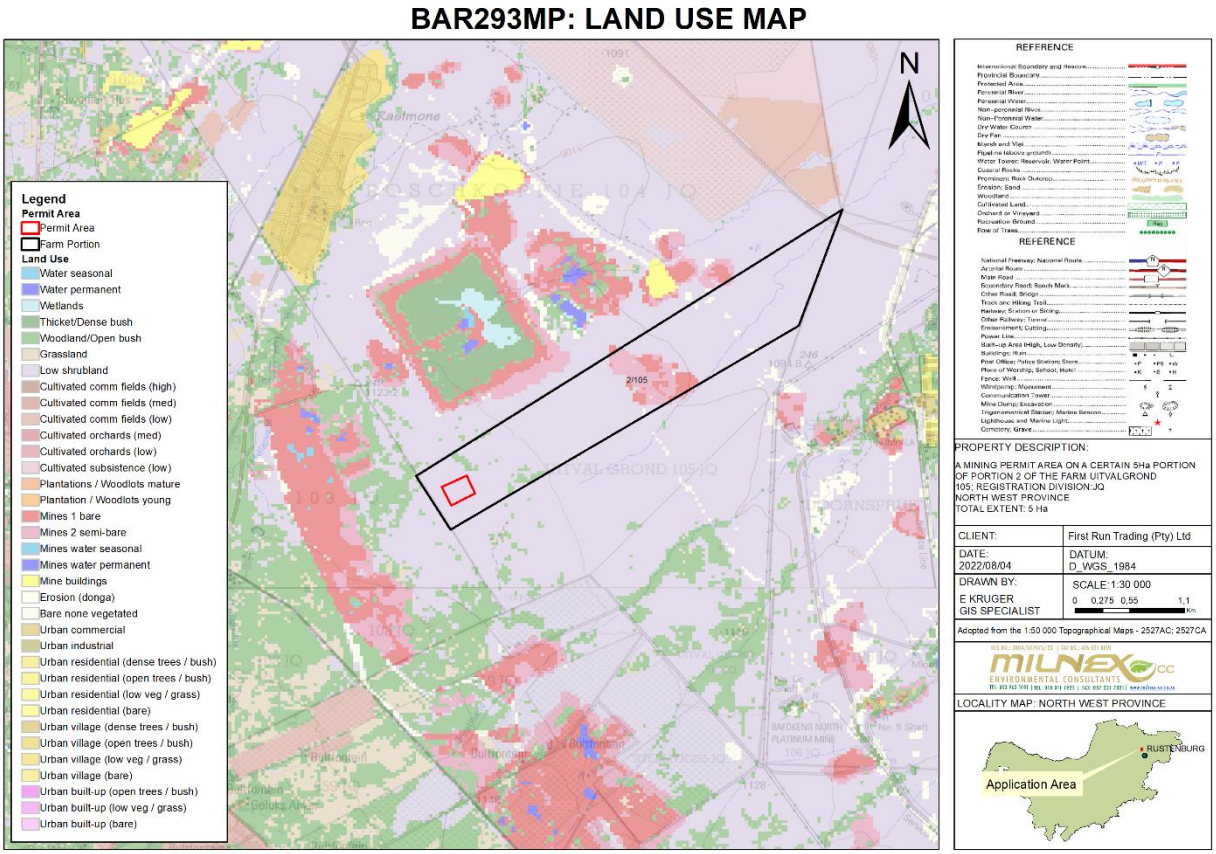


Figure 16: Current Land Use associated with the study site and surrounding areas.

v) IMPACTS AND RISKS IDENTIFIED INCLUDING THE NATURE, SIGNIFICANCE, CONSEQUENCE, EXTENT, DURATION AND PROBABILITY OF THE IMPACTS, INCLUDING THE DEGREE TO WHICH THESE IMPACTS -

(aa) can be reversed;
(bb) may cause irreplaceable loss of resources; and
(cc) can be avoided, managed or mitigated;

<u>Significance of potential impacts</u>

The following sections present the outcome of the significance rating exercise. The results suggest that the Mining activities will have an impact on the natural vegetation and the agricultural activities, if not properly mitigated.

The EAP is aware that there are other mining activities on the nearby properties and adjacent the application area. The impacts identified take into consideration the fact each right holder will be responsible for their own respective cumulative impacts that exist from within their boundaries.

Each right holder will be responsible for their own respective Environmental Management Programme ("EMP") which was approved as part and parcel of its right. Therefore, this BAR & EMPr focus only on the 5ha Mining Permit area of First Run Trading (Pty) Ltd.

INITIAL CLEARANCE AND SITE PREPARATION PHASE

Direct impacts: During this phase minor negative impacts are foreseen over the short term. The latter refers to a period of weeks. The site preparation may result in the loss or fragmentation of indigenous natural fauna and flora, loss or fragmentation of habitats, soil erosion, hydrology, and temporary noise disturbance, generation of waste, visual intrusions, increase in heavy vehicle traffic, and risk to safety, livestock and farm infrastructure, and increased risk of veld fires. The abovementioned impacts are discussed in more detail below:

- Loss, destruction or fragmentation of indigenous natural fauna and flora:

The proposed area falls within vegetation units SVcb 3, which is known as the Zeerust Thornveld Vegetation.

Zeerust Thornveld

According to Mucina and Rutherford (2006), the Zeerust Thornveld vegetation Extends along the plains from the Lobatsi River in the west via Zeerust, Groot Marico and Mabaalstad to the flats between the Pilanesberg and western end of the Magaliesberg in the east (including the valley of the lower Selons River). Altitude mainly 1 000–1 250 m.

Conservation: Least threatened. Target 19%. Less than 4% statutorily conserved, spread between four reserves including the Pienaar and Marico Bushveld Nature Reserves. Some 16% transformed mainly by cultivation, with some urban or built-up. A few areas with scattered plants of the alien Cereus jamacaru and several other alien species very scattered elsewhere. Erosion is mainly very low to low

Loss or fragmentation of indigenous natural fauna and flora	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (1)	Local (1)
Probability	Definite (4)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Barely reversible (3)	Barely reversible (3)
Irreplaceable loss of resources	Marginal loss of resource (2)	Marginal loss of resource (2)
Cumulative impact	High cumulative impacts (4)	
Significance	**Negative medium (48)**	**Negative low (28)**
Can impacts be mitigated?	If the development is approved, contractors must ensure that no mammalian species are disturbed, trapped, hunted or killed. If the development is approved, every effort should be made to confine the footprint to the blocks allocated for the development and have the least possible edge effects on the surrounding area. The EMPr also provides numerous mitigation measures – refer to section (f) of the EMPr. The potential impacts associated with damage to and loss of farmland should be effectively mitigated. The aspects that should be covered include: • The site should be fenced off prior to commencement of construction activities;	

	• The footprint associated with the construction related activities (access roads, construction platforms, workshop etc.) should be confined to the fenced off area and minimised where possible; • An Environmental Control Officer (ECO) should be appointed to monitor the establishment phase of the construction phase; • All areas disturbed by construction related activities, such as access roads on the site, construction platforms, workshop area etc., should be rehabilitated at the end of the construction phase; • The implementation of a rehabilitation programme should be included in the terms of reference for the contractor/s appointed. Specifications for the rehabilitation are provided throughout the EMPr – section (f) of the EMPr. • The implementation of the Rehabilitation Programme should be monitored by the ECO.

- Loss destruction or fragmentation of habitats – It is noted that the proposed Mining site is mostly covered in natural vegetation. Faunal species will primarily be affected by the overall loss of habitat.

Loss or fragmentation of habitats	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	Marginal loss of resource (2)
Cumulative impact	High cumulative impacts (4)	
Significance	**Negative Low (26)**	**Negative Low (24)**
Can impacts be mitigated?	Exotic and invasive plant species should not be allowed to establish, if the development is approved. Where exotic and invasive plant species are found at the site continuous eradication should take place. If the development is approved, every effort should be made to confine the footprint to the blocks allocated for development – section (f) of the EMPr also provides numerous mitigation measures related to fauna and flora.	

- Loss of topsoil –Topsoil may be lost due to poor topsoil management (burial, erosion, etc.). The effect will be the loss of soil fertility on disturbed areas after rehabilitation. This will result in grazing and cultivation potential being lost. However, this application is only for a mining permit which is restricted to 5ha area

Loss of topsoil	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Geographical extent	Site (1)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Short term (1)	Short term (1)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Medium cumulative impacts (2)	
Significance	**Negative low (20)**	**Negative low (14)**
Can impacts be mitigated?	The following mitigation or management measures are provided: • If an activity will mechanically disturb below surface in any way, then any available topsoil should first be stripped from the entire surface and stockpiled for re-spreading during rehabilitation. • Topsoil stockpiles must be conserved against losses through erosion by establishing vegetation cover on them. • Dispose of all subsurface spoils from excavations where they will not impact on undisturbed land. • During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface. • Erosion must be controlled where necessary on top soiled areas. Establish an effective record keeping system for each area where soil is disturbed for constructional purposes. These records should be included in environmental performance reports, and should include all the records below. • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation of constructional (or operational) activities at the particular site. • Photograph the area on cessation of constructional activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.	

	Section (f) of the EMPr also provide mitigation measures related to topsoil management.

- Soil erosion – Soil erosion due to alteration of the land surface run-off characteristics. Alteration of run-off characteristics may be caused by construction related land surface disturbance, vegetation removal and the establishment of roads. Erosion will cause loss and deterioration of soil resources. This will result in grazing and cultivation potential being lost.

Soil erosion	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Geographical extent	Site (1)	Site (1)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Short term (1)
Magnitude	High (3)	Medium (2)
Reversibility	Party reversible (2)	Party reversable (2)
Irreplaceable loss of resources	Marginal (2)	Marginal (2)
Cumulative impact	Medium cumulative impact (2).	
Significance	**Negative Medium (33)**	**Negative low (20)**
Can impacts be mitigated?	• The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly. Include periodical site inspection in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence any erosion on site or downstream – refer to section (f) of the EMPr..	

- Temporary noise disturbance - Preparation activities will result in the generation of noise over a period of months. Sources of noise are likely to include vehicles, the use of machinery such as back actors and people working on the site. The noise impact is unlikely to be significant; but activities should be limited to normal working days and hours.

Community Noise

Community noise impacts should not exceed the levels presented in Table below of South African Standards or result in a maximum increase above background levels of 3 dBA at the nearest receptor location off-site.

- The noise levels are relevant to noise impacts beyond the property boundary of the facility. However, noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. A point of reception or

receptor may be defined as any point on the premises occupied by persons where extraneous noise and/or vibration are received.

- South African National Standard (SANS) 10103 (2008) provides a guideline for estimating community response to an increase in the general ambient noise level caused by intruding noise.

SITE	**WHO / IFC LAEQ (1H) DBA**		**SOUTH AFRICAN STANDARDS**	
	DAY 07:00 – 19:00	NIGHT 19:00 – 07:00	DAY 07:00 – 19:00	NIGHT 19:00 – 07:00
Residential; Institutional; Educational	55	45	55	45
Industrial, Commercial	70	70	70	60

The possible noise and increased ground vibration during blasting and mine activities can however be controlled by means of approved acoustic screening measures, state of the art equipment, proper noise management principles, compliance to the Local Noise Regulations, and the International Finance Corporation's Environmental Health and Safety Guidelines.

Temporary noise disturbance	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impact (4).	
Significance	**Negative High (51)**	**Negative low (26)**
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

- Generation of waste - general waste, construction waste, sewage and grey water - The workers on site are likely to generate general waste such as food wastes, packaging, bottles, etc. The applicant will need to ensure that general waste is appropriately disposed of i.e. taken to the nearest licensed landfill.

  Sanitation for mine employees will consists of sufficient ablution facilities portable toilets serviced by one septic tank which is pumped out regularly. No further sanitation infrastructure is envisioned for the proposed expansion of the mining activities.
  No pit latrines, French drain systems or soak away systems shall be allowed.

Generation of waste	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local/district (2)	Local/district (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)

Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2) - An additional demand for landfill space could result in significant cumulative impacts if services become unstable or unavailable, which in turn would negatively impact on the local community. If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	**Negative low (24)**	**Negative low (11)**
Can impacts be mitigated?	Yes, it is therefore important that all management actions and mitigation measures included in section (f) of the EMPr are implemented.	

Impacts on heritage objects –

Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**".

If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

If anything of Archaeological and/or paleontological significance is found during the construction and operational phase of the mine the following applies:

- NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;
- NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;

According to the DEA Screening Report the application area falls within low Archaeological and cultural heritage theme sensitivity and the Palaeontology Theme Sensitivity is medium.

Impacts on heritage objects	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Short term (1)	Short term (1)
Magnitude	High (3)	Medium (2)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Significant loss of resources (3)	No loss of resource (1)
Cumulative impact	The impact would result in negligible to no cumulative effects (1).	
Significance	**Negative medium (39)**	**Negative low (22)**
Can impacts be mitigated?	If archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. Also refer to section (f) of the EMPr.	

Indirect impacts: The nuisance aspects generally associated with the installation of infrastructure or ground preparation will also be applicable to this development, which relates primarily to the increase in vehicle traffic associated with Mining practices, the influx of job seekers to the area, risk to safety, livestock and farm infrastructure, and increased risk of veld fires.

Increase in vehicle traffic – The movement of heavy vehicles have the potential to damage local farm roads and create dust and safety impacts for other road users in the area. Since the application is for a Mining. Access will be obtained from a gravel road off the R565. The volume of traffic along this road is medium and the movement of heavy vehicles along this road is likely to damage the road surface and impact on other road users.

- The site has access to the national dirt road and product will be transported on this road to customers. The current state of the roads in North West is deteriorating
- The movement of heavy vehicles have the potential to damage local farm roads and create dust and safety impacts for other road users in the area.

Increase in vehicle traffic	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	High (3)	Medium (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Medium cumulative impact (3). If damage to roads is not repaired, then this will affect the farming activities in the area and result in higher maintenance costs for vehicles of local farmers and other road users. The costs will be	

	borne by road users who were no responsible for the damage.	
Significance	**Negative Medium impacts (33)**	**Negative low (11)**
Can impacts be mitigated?	The potential impacts associated with heavy vehicles can be effectively mitigated. The mitigation measures include: • The contractor must ensure that damage caused by construction on the off-gravel roads. The costs associated with the repair must be borne by the contractor; • Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers; • All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits. Also refer section (f) of the EMPr. For mitigation measures related to traffic.	

It was the intention of the applicant to implement dust management on site to determine if unacceptable levels of dust fallout occur. Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance.

The National Framework for Air Quality Management in the Republic of South Africa (the National Framework), as published under Government Notice No. 1144 of 26 October 2018, underpins NEM:AQA by providing national norms and standards for air quality management to ensure compliance with legislation. The National Framework serves as the country's AQMP.

Section 32 of the NEM:AQA makes provision for the Minister or the MEC to prescribe measures for the control of dust in specific places or areas, or by specified machinery or in specific instances. While dust generally does not pose a health risk, it may be regarded as a nuisance. It is the responsibility of the owner of the dust generating activity to take reasonable measures to limit the nuisance factor.

With respect to this, the Minister has published in the gazette the regulations for the control of dust in 2013 (Notice 827, Government Gazette No. 36974). These regulations provide requirements for measures for the control of dust, which includes the requirements for monitoring, dust management plan development and implementation and reporting.

According to dust levels set out by the National Dust Control Regulations 2013 (GNR. 827). The limits have the following threshold

Section 3. Dustfall standard

Table 1. Acceptable dust fall rates

Restriction Areas	***Dustfall rate (D) (mg/m²/day, 30-day average)***	***Permitted frequency of exceeding dust fall rate***
Residential Area	*D < 600*	*Two within a year, not sequential months*
Non-residential Area	*600 < D < 1200*	*Two within a year, not sequential months*

- Risk to safety, livestock and farm infrastructure –

  - The presence of and movement of workers on and off the site poses a potential safety threat to local famer's, farm workers, and the communities in the vicinity of the site.
  - In addition, infrastructure, such as fences and gates, may be damaged and livestock losses may also result from gates being left open and/or fences being damaged or livestock theft linked either directly or indirectly to the presence of mine workers on the site.

Risk to safety, livestock and farm infrastructure	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), provided losses are compensated for.	
Significance	**Negative low (22)**	**Negative low (8)**
Can impacts be mitigated?	Key mitigation measures include: • **First Run Trading (Pty) Ltd** should enter into an agreement with the local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences; • The construction area should be fenced off prior to the commencement of the construction phase. The movement of construction workers on the site should be confined to the fenced off area; • Contractors appointed by **First Run Trading (Pty) Ltd** should provide daily transport for low and semi-skilled workers to and from the site. This would reduce the potential risk of	

	trespassing on the remainder of the farm and adjacent properties; • **First Run Trading (Pty) Ltd** should hold contractors liable for compensating farmers in full for any stock losses and/or damage to farm infrastructure that can be linked to construction workers. This should be contained in the Code of Conduct to be signed between the proponent, the contractors and neighbouring landowners. The agreement should also cover loses and costs associated with fires caused by construction workers or construction related activities (see below); • The Environmental Management Programme (EMPr) should outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested; • Contractors appointed **First Run Trading (Pty) Ltd** must ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms. • Contractors appointed by **First Run Trading (Pty) Ltd** must ensure that construction workers who are found guilty of trespassing, stealing livestock and/or damaging farm infrastructure are dismissed and charged. This should be contained in the Code of Conduct. All dismissals must be in accordance with South African labour legislation; • The housing of construction workers on the site should be strictly limited to security personnel (if any).

- Increased risk of veld fires - The presence of construction workers and construction-related activities on the site poses an increased risk of grass fires that could in turn pose a threat to livestock, crops, wildlife, farmsteads and the communities in the area. In the process, infrastructure may also be damaged or destroyed and human lives threatened. The potential risk of grass fires was heightened by the windy conditions in the area, especially during the dry, windy winter months from May to October. Fire-fighting equipment should be provided on site during the construction phase.

Increased risk of veld fires	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Region (3)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Very high (4)	Low (1)
Reversibility	Partly reversible (2)	Completely reversible (1)

Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Negligible cumulative effects (1), provided losses are compensated for.	
Significance	**Negative high (56)**	**Negative low (10)**
Can impacts be mitigated?	The mitigation measures include: • A fire-break should be constructed around the perimeter of the site prior to the commencement of the construction phase; • Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas; • Contractor to ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, windy winter months; • Contractor to provide adequate firefighting equipment on-site, including a fire fighting vehicle; • Contractor to provide fire-fighting training to selected construction staff; • No construction staff, with the exception of security staff, to be accommodated on site over night; • As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the firefighting costs borne by farmers and local authorities.	

OPERATIONAL PHASE

Direct impacts: During the operational phase the study area will serve as a Mining area and the impacts are generally associated with soil erosion, change in land use, impacts associated with the, increase in storm water runoff, increased consumption of water, visual intrusion, the generation of general waste, leakage of hazardous materials, and the change in the sense of place. The operational phase will also have a direct positive impact through the provision of permanent employment opportunities and facilitating a positive economic growth. The abovementioned impacts are discussed in more detail below:

- <u>Soil erosion</u>

The largest risk factor for soil erosion will be during the operational phase when the mining activity ensues, and soil is left bare until the benches will be rehabilitated. Erosion will be localised within the site. This will ultimately lead to the irretrievable commitment of this resource. The measurable effect of reducing erosion by utilizing mitigation measures may

reduce possible erosion significantly. The conditions of the EMP will be adhered to throughout the mining operation and commitment to rehabilitation is of paramount importance in order to obtain a closure certificate from DMRE.

Soil erosion	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), should these impacts occur, there will be a cumulative impact on the air and water resources in the study area in terms of pollution.	
Significance	**Negative Low (24)**	**Negative Low (8)**
Can impacts be mitigated?	Yes, to avoid soil erosion it will be a good practice to not remove all the vegetation at once but to only clear the area as it becomes necessary and to implement concurrent rehabilitation. • The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly Also refer to section (f) of the EMPr.	

- Change in land-use – The proposed area will go back to current use.

Change in land use	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	Marginal loss of resource (2)
Cumulative impact	Low cumulative effects (2)	
Significance	**Negative low (11)**	**Negative low (11)**
Can impacts be mitigated?	The proponent should establish a Rehabilitation Fund to be used to rehabilitate the area once the proposed facility has been decommissioned. The fund should be funded by	

	revenue generated during the operational phase of the project. The motivation for the establishment of a Rehabilitation Fund is based on the experience in the mining sector where many mines on closure have not set aside sufficient funds for closure and decommissioning. Also refer to section (f) of the EMPr.

- Generation of alternative land use income – Income generated through the Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) mine will provide the community with increased cash flow and livelihood, and thereby improve the financial sustainability of the community

Increased consumption of water	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Marginal loss of resources (2)	Marginal loss of resources (2)
Cumulative impact	Low cumulative impacts (2) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water.	
Significance	**Negative medium (30)**	**Negative medium (30)**
Can impacts be mitigated?	Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMPr.	

- Increase in storm water runoff – The development will unlikely result in an increase in storm water run-off that needs to be managed to prevent soil erosion, since no vegetation will be cleared.

Increase in storm water runoff	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Barley reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2) - Should these impacts occur, there will be cumulative impacts on the wider area.	
Significance	**Negative medium (26)**	**Negative low (9)**
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in section (f)	

	of the EMPr. are implemented to ensure that these impacts do not occur

- Increased consumption of water – Additional water requirements related to the portable water supply for employees and workers. Water will also be used for dust suppression.

- The mining operation in the operational phase may draw down the water table, affecting boreholes of adjacent property owners

Increased consumption of water	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (3)	Medium (2)
Reversibility	Irreversible (4)	Irreversible (4)
Irreplaceable loss of resources	Significant loss of resources (3)	Marginal loss of resources (2)
Cumulative impact	Medium cumulative impacts (4) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water.	
Significance	**Negative high (57)**	**Negative medium (36)**
Can impacts be mitigated?	Yes, management actions and mitigation measures related to the use of water are included in section (f) of the EMPr.	

- Generation of waste – Workers will be present on site 2 x 9 Hour Shifts daily, Average of 24 – 26 Days a month. Sources of general waste will be waste food, packaging, paper, etc. General waste will be stored on the site and removed on a weekly basis.

Generation of waste	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Medium cumulative impact (3) - An additional demand for landfill space could result in significant cumulative impacts with regards to the availability of landfill space. If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	**Negative low (14)**	**Negative low (14)**
Can impacts be mitigated?	Yes, management actions related to waste management are included in section (f) of the EMPr.	

- Leakage of hazardous materials - The proposed Mining activity will make use of machinery that use fuel and oil. Leakage of these oils and fuel can contaminate water supplies and must

be prevented by constructing oil and diesel permeable bunds to ensure that any spills are suitably attenuated and not released into the environment.

Leakage of hazardous materials	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	Marginal loss of resource (2)
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	**Negative low (20)**	**Negative low (16)**
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in the section (f) of EMPr are implemented to ensure that these impacts do not occur.	

- Noise disturbance - Mining activities will result in the generation of noise over a period of 2-3 years. Sources of noise are likely to include vehicles, the use of machinery such as drills and people working on the site; but mining activities should be limited to normal working days hours.

  The possible noise and increased ground vibration during blasting and mine activities can however be controlled by means of approved acoustic screening measures, state of the art equipment, proper noise management principles, compliance to the Local Noise Regulations, and the International Finance Corporation's Environmental Health and Safety Guidelines.

  The following three primary variables should be considered when designing acoustic screening measures for the control of sound and/or noise:

  - The source – Reduction of noise at the source;
  - The transmission path – Reduction of noise between the source and the receiver;
  - The receiver – Reduction of the noise at the receiver.

  The last option is not applicable as it was decided to control the noise levels at the source.

  Increased noise levels are directly linked with the various activities associated with the construction of the proposed facility and related infrastructure, as well as the operational phase of the activity.

Temporary noise disturbance	**Pre-mitigation impact rating**	**Post mitigation impact rating**
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)

Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impact (4).	
Significance	**Negative High (51)**	**Negative low (26)**
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

Indirect impacts: The operational phase will have an indirect negative impact through the change in the sense of place and an indirect positive impact through the provision of additional electrical infrastructure.

- Potential impact on tourism – There are no tourist facilities in close proximity to the proposed area.

Potential impacts on tourism	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Unlikely (1)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	N/A	N/A
Cumulative impact	N/A	
Significance	**Negative low (6)**	**Negative low (6)**
Can impacts be mitigated?	No mitigation required	

- Potential impact on tourism

  - The Magaliesberg Protected Natural Environment is situated approximately 16km away from the application area.
  - Pilanesberg National Park is situated approximately 8km away from the application area.
  - Kgaswane Mountain Nature Reserve is situated approximately 21km away from the application area.
  - McGregor Private Nature Reserve is situated approximately 15km away from the application area.

Potential impacts on tourism	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	N/A	N/A

Cumulative impact	N/A	
Significance	**Negative low (16)**	**Negative low (12)**
Can impacts be mitigated?	No mitigation required	

DECOMMISIONING PHASE (MINE CLOSURE AND REHABILITATION)

Direct impacts: Typically, the major social impacts associated with the decommissioning phase are linked to the loss of jobs and associated income. This has implications for the households who are directly affected, the communities within which they live. If infrastructures are removed after a 3/5 year period, the site will be returned to its natural state. Therefore, the physical environment will benefit from the closure of the Mining area.

- Rehabilitation of the physical environment – There is a minimal chance to restore the site to its natural state.

  - Any residue stockpiles need to be removed and placed in the base of the final void (excluding the final waste rock dump that will remain).
  - It is recommended that the Waste Rock dump be shaped to an 18° slope; and
  - Topsoil will be spread over all disturbed areas and re-vegetated.

Rehabilitation of the physical environment	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Positive	Positive
Extent	Site (1)	Site (1)
Probability	Definite (4)	Definite (4)
Duration	Long term (3)	Long term (3)
Magnitude	High (3)	High (3)
Reversibility	N/A	N/A
Irreplaceable loss of resources	N/A	N/A
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	**Positive low (27)**	**Positive low (27)**
Can impacts be mitigated?	No mitigation measures required.	

- Loss of employment - Given the relatively large number of people employed during the operational phase, the decommissioning of the facility has the potential to have a negative social impact on the local community

Loss of employment	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (1)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	**Negative low (20)**	**Negative low (18)**

Can impacts be mitigated?	The following mitigation measures are recommended: • All structures and infrastructure associated with the proposed facility should be dismantled and transported off-site on decommissioning; • **First Run Trading (Pty) Ltd** should establish an Environmental Rehabilitation Trust Fund to cover the costs of decommissioning and rehabilitation of disturbed areas.

Indirect impacts: No indirect impacts are anticipated from the decommissioning phase of the proposed development.

vi) METHODOLOGY USED IN DETERMINING AND RANKING THE NATURE, SIGNIFICANCE, CONSEQUENCES, EXTENT, DURATION AND PROBABILITY OF POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS

Method of environmental assessment

The environmental assessment aims to identify the various possible environmental impacts that could results from the proposed development. Different impacts need to be evaluated in terms of its significance and in doing so highlight the most critical issues to be addressed.

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in the Table below.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Impact Rating System

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the following project phases:

- Construction
- Operation
- Decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact the following criteria is used:

Table: The rating system

NATURE		
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be experienced.		
1	Site	The impact will only affect the site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact.		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
DURATION		
This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.		
1	Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 30 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.
INTENSITY/ MAGNITUDE		
Describes the severity of an impact.		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to

		function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
REVERSIBILITY		
This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.
CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible cumulative impact	The impact would result in negligible to no cumulative effects.
2	Low cumulative impact	The impact would result in insignificant cumulative effects.
3	Medium cumulative impact	The impact would result in minor cumulative effects.
4	High cumulative impact	The impact would result in significant cumulative effects
SIGNIFICANCE		
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates		

the level of mitigation required. The calculation of the significance of an impact uses the following formula:

(Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.

The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.

Points	Impact significance rating	Description
6 to 28	Negative low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative high impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive high impact	The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive very high impact	The anticipated impact will have highly significant positive effects.

vii) 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 advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

ACTIVITY	PHASE	POTENTIAL NEGATIVE IMPACTS
Site preparation Site Clearance	Construction Operation Decommissioning	Physical destruction and disturbance of: • Biodiversity • Air pollution • Disturbing noise • Visual impacts

Open-pit mining Mining	Construction Operation	• Loss of mineral resources • Loss of soil resources and land capability Physical destruction and disturbance of: • Biodiversity • Air pollution • Disturbing noise • Visual impacts • Pollution of surface water resources • Possible contamination of groundwater
Waste rock management Storage, stockpile or final disposal	Operation Decommissioning Closure (final landform)	• Loss of soil resources and land capabilityDisturbance of biodiversity • Pollution of surface water resources Contamination of groundwater • Air pollution • Disturbing noise • Negative landscape and visual impact
Transport Material systems Use of access points, road transport to and from site.	Construction Operation Decommissioning	• Noise • Traffic impacts
Non-mineralized waste management **Transportation off site**	Construction Operation Decommissioning Closure (limited)	• Pollution if not managed and stored properly
Rehabilitation Replacing soil, slope stabilization, landscaping, re-vegetation, restoration	Construction Operation Decommissioning Closure	• Disturbance of biodiversity • Alteration of natural drainage patterns • Contamination of groundwater • Air pollution • Visual impacts
ACTIVITY	**PHASE**	**POTENTIAL POSITIVE IMPACTS**
Job creation	Construction Operation	• Temporary employment and other economic benefits
Maintenance and aftercare Inspection and maintenanceof remaining facilities andrehabilitated areas	Closure	• Re-establishment of biodiversity

viii) 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).

Negative impacts on vegetation, soil and the water resources associated with the Mining activity have been identified through the BAR & EMPr process. Mitigation measures as set out in the

Environmental Management Programme (EMPr) attached in Part B must be implemented in order to minimise these potential impacts.

Noise

Site activities must take place during the day (06:00 – 18:00) to avoid nighttime noise disturbances and night time collisions with fauna.

Visual impact

Dust suppression measures must be implemented.

It was the intention of the applicant to implement dust management on site to determine if unacceptable levels of dust fallout occur. Monitoring compliance with the requirements of the National Dust Control Regulations for an activity, in terms of nuisance or disturbance.

Soil

- Disturbances to soil should be limited as far as possible.
- Erosion control measures should be implemented if necessary.
- Oils and lubricants must be stored in lined containment structures.
- Drip trays should be used where necessary.
- Waste bins should be provided and waste should be removed and disposed of at a licensed landfill site.
- Rehabilitation should be done concurrently.

Water

- Before any water is abstracted, a geo-hydro study should be conducted in order to determine the specific yield.
- Oils and lubricants must be stored in lined containment structures.
- Drip trays should be used where necessary.
- Erosion control measures should be implemented if necessary.

ix) MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED.

As discussed in the previous section, the possibility to encounter further Mining of Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a certain portion on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province, was identified.

x) STATEMENT MOTIVATING THE ALTERNATIVE DEVELOPMENT LOCATION WITHIN THE OVERALL SITE. (Provide a statement motivating the final site layout that is proposed)

The site is preferred due to its possibility of having Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) the property is also only suitable for potential grazing, due to the climate conditions.

I) 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.

i. A description of all environmental issues and risks that are identified during the environmental impact assessment process

Process for the identification of key issues

The methodology for the identification of key issues aims, as far as possible, to provide a user-friendly analysis of information to allow for easy interpretation.

- Checklist: The checklist consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts.
- Matrix: The matrix analysis provides a holistic indication of the relationship and interaction between the various activities, development phases and the impact thereof on the environment. The method aims at providing a first order cause and effect relationship between the environment and the proposed activity. The matrix is designed to indicate the relationship between the different stressors and receptors which leads to specific impacts. The matrix also indicates the specialist studies, which will be submitted as part of the Environmental Impact Report in order to address the potentially most significant impacts.

Checklist analysis

The site visit was conducted to ensure a proper analysis of the site specific characteristics of the study area. The table below provides a checklist, which is designed to stimulate thought regarding possible consequences of specific actions and so assist scoping of key issues. It consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts. The table highlights certain issues, which are further analysed in matrix format.

Table: Environmental checklist

Matrix analysis

QUESTION	YES	NO	Un-sure	Description
1. Are any of the following located on the site earmarked for the development?				
I. A river, stream, dam or wetland	X			A stream is present on the proposed area.
II. A conservation or open space area		X		
III. An area that is of cultural importance			X	Based on the DEA Screening Report the Archaeological and Cultural Heritage Theme are not indicated.
IV. Site of geological significance			X	
V. Areas of outstanding natural beauty		X		
VI. Highly productive agricultural land		X		According to the land use map and the Land Capability map the proposed area is mostly covered by natural vegetation and falls within land capability Class 3.

VII. Floodplain		×		
VIII. Indigenous forest			×	
IX. Grass land			×	According to the landcover map the site is largely natural with some cultivation and according to the superimposed vegetation map the area falls within Zeerust Thornveld
X. Bird nesting sites			×	
XI. Red data species			×	According to the DEA Screening Tool report the relative animal species theme sensitivity, relative aquatic biodiversity theme sensitivity and relative plant species theme sensitivity are all Low.
XII. Tourist resort			×	
2. Will the project potentially result in potential?				
I. Removal of people		×		None.
II. Visual Impacts	×			The visual impact will be managed;
III. Noise pollution	×			The noise impact is unlikely to be significant
IV. Construction of an access road		×		None. Access will be obtained from a gravel road off the R565
V. Risk to human or valuable ecosystems due to explosion/fire/ discharge of waste into water or air.		×		None.
VI. Accumulation of large workforce (>50 manual workers) into the site.	×			Approximately 16 employment opportunities will be created during the construction and operational phase of the project.
VII. Utilisation of significant volumes of local raw materials such as water, wood etc.			×	
VIII. Job creation	×			Approximately 103 employment opportunities will be created during the construction and operational phase of the project.
IX. Traffic generation		×		None.
X. Soil erosion	×			Only areas earmarked for mining will be cleared. Mining will be phased and the topsoil stockpiled separately. Concurrent rehabilitation will take place.
XI. Installation of additional bulk telecommunication transmission lines or facilities		×		None.
3. Is the proposed project located near the following?				
I. A river, stream, dam or wetland	×			A stream boretjhane pass close by the farm portions

II. A conservation or open space area			×	
III. An area that is of cultural importance			×	
IV. A site of geological significance			×	
V. An area of outstanding natural beauty		×		
VI. Highly productive agricultural land		×		According to the Land Capability map the area falls within land capability Class 4
VII. A tourist resort	×			• The Magaliesberg Protected Natural Environment is situated approximately 16km away from the application area. • Pilanesberg National Park is situated approximately 8km away from the application area. • Kgaswane Mountain Nature Reserve is situated approximately 21km away from the application area. • McGregor Private Nature Reserve is situated approximately 15km away from the application area.
VIII. A formal or informal settlement	×			Mogono Ga-Luka

The matrix describes the relevant listed activities, the aspects of the development that will apply to the specific listed activity, a description of the environmental issues and potential impacts, the significance and magnitude of the potential impacts, and the mitigation of the potential impacts. The matrix also highlights areas of particular concern, which requires more in depth assessment. Each cell is evaluated individually in terms of the nature of the impact, duration and its significance – should no mitigation measures be applied. This is important since many impacts would not be considered insignificant if proper mitigation measures were implemented. The matrix also provides an indication if mitigation measures are available.

In order to conceptualise the different impacts the matrix specify the following:

- **Stressor**: Indicates the aspect of the proposed activity, which initiates and cause impacts on elements of the environment.
- **Receptor**: Highlights the recipient and most important components of the environment affected by the stressor.
- **Impacts**: Indicates the net result of the cause-effect between the stressor and receptor.
- **Mitigation**: Impacts need to be mitigated to minimise the effect on the environment.

J) AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

LISTED ACTIVITY (The Stressor)	ASPECTS OF THE DEVELOPMENT /ACTIVITY		POTENTIAL IMPACTS		SIGNIFICANCE AND MAGNITUDE OF POTENTIAL IMPACTS			MITIGATION OF POTENTIAL IMPACTS	SPECIALIST STUDIES / INFORMATION
			Receptors	Impact description	Minor	Major	Duration	Possible Mitigation	
				CONSTRUCTION PHASE					
Listing Notice GNR 325, Activity 27: *:"The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation."* **NEM:WA 59 of 2008** **Residue stockpiles or residue deposits** **Category A: (15)** *The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).*	<u>Site clearing and preparation</u> Areas earmarked for mining will need to be cleared, topsoil will be stockpiled separately. This will inevitably result in the removal of indigenous vegetation located on the site.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Loss or fragmentation of indigenous natural vegetation. • Loss of sensitive species. • Loss or fragmentation of habitats.		-	L	Yes	-
			Air quality	• Air pollution due to the increase of traffic.	-		M	Yes	-
			Soil	• Soil degradation, including erosion. • Disturbance of soils and existing land use (soil compaction). • Loss of agricultural potential (low significance relative to agricultural potential of the site).	-		M	Yes	-
			Geology	• It is not foreseen that the removal of indigenous vegetation will impact on the geology or vice versa.	N/A	N/A	N/A	N/A	-
			Existing services infrastructure	• Generation of waste that need to be accommodated at a licensed landfill site. • Generation of sewage that need to be accommodated by the local sewage plant.		-	M	Yes	-
			Ground water	• Pollution due to construction vehicles.			S	Yes	-
			Surface water	• Increase in storm water run-off. • Pollution of water sources due to soil erosion. • Destruction of watercourses (pans/dams/streams).	-		M	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	• Job creation. • Skills development.		+	S	N/A	-
			Visual landscape	• Potential visual impact on residents or farmsteads and motorists in close proximity to proposed facility due to dust.		-	S	Yes	-
			Traffic volumes	• Increase in construction vehicles.		-	S	Yes	-
			Health & Safety	• Air/dust pollution. • Road safety.		-	S	Yes	-
			Noise levels	• The generation of noise as a result of construction vehicles, and people working on the site.		-	M	Yes	-

			Tourism industry	• Since there are no tourism facilities within 5km radius of the application area, the proposed activity will not have an impact on tourism in the area.	N/A	N/A	N/A	N/A	-
			Heritage & paleontological resources	• Removal or destruction of archaeological and/or paleontological sites. • Removal or destruction of buildings, structures, places and equipment of cultural significance. • Removal or destruction of graves, cemeteries and burial grounds.		-	S	Yes	-
OPERATIONAL PHASE									
Listing Notice GNR 327, Activity 21: *"Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including —* *(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; "* *Mining Permit for the mining of Chrome Ore including associated infrastructure, structure and earthworks.* **Listing Notice 3: GNR 324, Activity 12(h):** *North West "The clearance of an area of 300 square metres or more of indigenous vegetation:* *(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;* *(vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.*	The key components of the proposed project are described below: • <u>Roads</u> – Access will be obtained from a gravel road off the R565 • <u>Fencing</u> - For health, safety and security reasons, the facility will be required to be fenced off from the surrounding farm.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Fragmentation of habitats. • Establishment and spread of declared weeds and alien invader plants (operations).		-	L	Yes	-
			Air quality	• Air pollution due to the mining activity, blasting and transport of the gravel to the designated areas.		-	L	Yes	-
			Soil	• Soil degradation, including erosion. • Disturbance of soils and existing land use (soil compaction). • Loss of agricultural potential (low significance relative to agricultural potential of the site).	-		L	Yes	-
			Geology	• Collapsible soil. • Seepage (shallow water table). • Active soil (high soil heave). • Erodible soil. • The presence of undermined ground. • Instability due to soluble rock. • Steep slopes or areas of unstable natural slopes. • Areas subject to seismic activity. • Areas subject to flooding. • Blasting may affect the geology		-	S	Yes	-
			Existing services infrastructure	• Generation of waste that need to be accommodated at a licensed landfill site. • Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant. • Increased consumption of water.		-	L	Yes	-
			Ground water	• Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies. • Pollution due to blasting		-	L	Yes	-
			Surface water	• Increase in storm water runoff. The development will potentially result in an increase in storm water run-off that needs to be managed to prevent soil erosion.	-		L	Yes	-

				• Destruction of watercourses (pans/dams/streams). • Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies.					
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	• Job creation. • Skills development.		+	L	Yes	-
			Visual landscape	• Potential visual impact on residents and motorists in close proximity to proposed facility due to dust.		-	L	Yes	-
			Traffic volumes	• Increase in vehicles collecting gravel for distribution.		-	S	Yes	-
			Health & Safety	• Air/dust pollution. • Road safety.		-	S	Yes	-
			Noise levels	• The proposed development will result in noise pollution during the operational phase.	-	-	L	Yes	-
			Tourism industry	• Since there are no tourism facilities within 5km radius of the application area, the decommissioning activities will not have an impact on tourism in the area.	N/A	N/A	N/A	N/A	-
			Heritage & paleontological resources	• It is not foreseen that the proposed activity will impact on heritage resources or vice versa.	-		S	Yes	-
DECOMMISSIONING PHASE									
	<u>Mine closure</u> During the mine closure the Mine and its associated infrastructure will be dismantled. <u>Rehabilitation of biophysical environment</u> The biophysical environment will be rehabilitated.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	• Re-vegetation of exposed soil surfaces to ensure no erosion in these areas.		+	L	Yes	-
			Air quality	• Air pollution due to the increase of traffic of construction vehicles.	-		S	Yes	-
			Soil	• Backfilling of all voids • Placing of topsoil on backfill		+	L	Yes	-
			Geology	• It is not foreseen that the decommissioning phase will impact on the geology of the site or vice versa.		-	L	Yes	-
			Existing services infrastructure	• Generation of waste that need to be accommodated at the local landfill site. • Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant. • Increase in construction vehicles.	-		S	Yes	-
			Ground water	• Pollution due to construction vehicles.	-		S	Yes	-
			Surface water	• Increase in storm water run-off. • Pollution of water sources due to soil erosion. • Destruction of watercourses (pans/dams/streams).	-		S	Yes	-

		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	• Loss of employment.		-	L	Yes	-
			Visual landscape	• Potential visual impact on visual receptors in close proximity to proposed facility.	+		S	Yes	-
			Traffic volumes	• Increase in construction vehicles.	-		S	Yes	-
			Health & Safety	• Air/dust pollution. • Road safety. • Increased crime levels. The presence of mine workers on the site may increase security risks associated with an increase in crime levels as a result of influx of people in the area.	-			Yes	-
			Noise levels	• The generation of noise as a result of construction vehicles, the use of machinery and people working on the site.	-		S	Yes	-
			Tourism industry	• Since there are no tourism facilities within 5km radius of the application area, the decommissioning activities will not have an impact on tourism in the area.	N/A	N/A	N/A	N/A	-
			Heritage & paleontological resources	• It is not foreseen that the decommissioning phase will impact on any heritage resources.	N/A	N/A	N/A	N/A	-

(N/A) No impact (+) Positive Impact (-) Negative Impact (S) Short Term (M) Medium Term (L) Long Term

K) WHERE APPLICABLE, A SUMMARY OF THE FINDINGS AND IMPACTS MANAGEMENT MEASURES IDENTIFIED IN AN SPECIALIST REPORT COMPLYING WITH APPENDIX 6 OF THESE REGULATIONS AND AN INDICATION AS TO HOW THESE FINDINGS AND RECOMMENDATIONS HAVE BEEN INCLUDED IN THE FINAL REPORT;

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIOS HAVE BEEN INCLUDED.

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

SPECIALIST ASSESSMENTS NEEDED ACCORDING TO THE DEA SCREENING REPORT:	RESPONSE
Terrestrial Biodiversity Impact Assessment	The site falls within low and medium sensitivity area
Aquatic Biodiversity Impact Assessment	
Plant Species Assessment	
Animal Species Assessment	
Agricultural Impact Assessment	

Archaeological and Cultural Heritage Impact Assessment	Cultural Heritage in South Africa (includes all heritage resources) is protected by the **National Heritage Resources Act (Act 25 of 1999) (NHRA).** According to Section 3 of the Act, all Heritage resources include **"all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens**". If such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop. If anything of Archaeological and/or paleontological significance is found during the mining and operational phase of the mine the following applies: • NHRA 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • NHRA 38(4)e – The following conditions apply with regards to the appointment of specialists: i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA;
Palaeontology Impact Assessment	If anything of Paleontological importance are found on site during the pre-mining and mining phase of the development, then the management actions outlined in the Environmental Management Programme (EMPr) will be followed to mitigate the impact and a specialist will be contacted immediately.
Civil Aviation Theme	This study was not deemed necessary as the DEA Screening Report indicated that the area has low sensitivity

Defense Theme	This study was not deemed necessary as the DEA Screening Report indicated that the area has low sensitivity

L) ENVIRONMENTAL IMPACT STATEMENT

i) SUMMARY OF THE KEY FINDINGS

This section provides a summary of the assessment and conclusions drawn from the proposed Mining area. In doing so, it draws on the information gathered as part of the environmental impact assessment process and the knowledge gained by the environmental consultant during the course of the process and presents an informed opinion on the environmental impacts associated with the proposed project. The following conclusions can be drawn for the proposed Mining activity:

- Potential impacts on biodiversity: It is expected that some vegetation might be lost but through implementing mitigation measures, no adverse impacts are expected.

- Potential impact on heritage resources: Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

- Potential impact on Palaeontological resources: Should fossils be exposed during construction work, it must immediately be reported to a palaeontologist so that an investigation and evaluation of the finds can be made.

- Potential impacts on land use: The activity which will be subject to concurrent rehabilitation may have an impact on the land use.

- Potential social impacts: The presence of construction workers poses a potential risk to family structures and social networks. While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can impact on local communities. The most significant negative impact is associated with the disruption of existing family structures and social networks.

- Potential negative impacts: (noise, dust, soil degradation, storm water, traffic, health and safety) associated with the operation of the facility are expected to be of low-high impact, of medium terms and site specific. These can be mitigated or negated through the implementation of practical and appropriate mitigation measures.

- Positive impacts: The Mining Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) without bulk sampling, may result in socio-economic benefit to the area.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the migratory measures as set out in the Environmental Management Programme (EMPr) attached in Part B.

ii) 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.

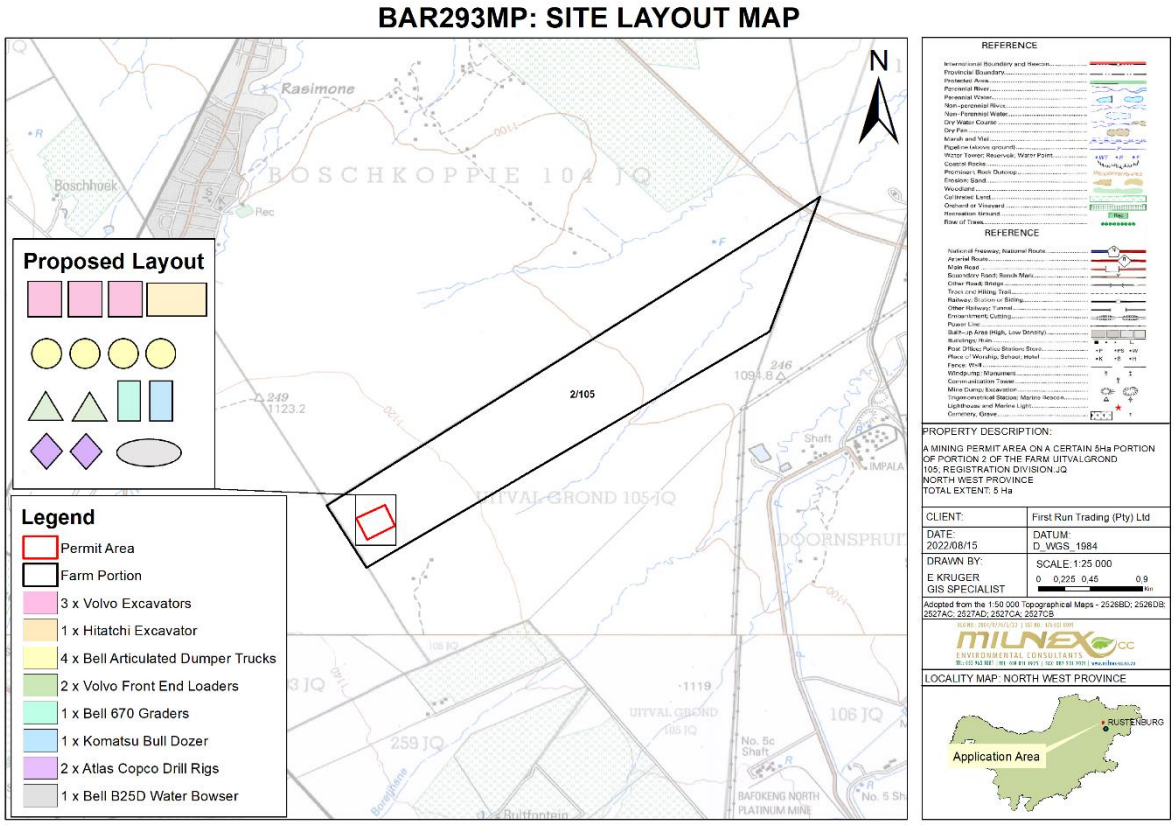


Figure 17: Locality Map

Refer to Site layout Map attached in **Appendix 4**.

iii) SUMMARY OF THE POSITIVE AND NEGATIVE IMPLICATIONS AND RISKS OF THE PROPOSED ACTIVITY AND IDENTIFIED ALTERNATIVES

- Increased noise levels
- Potential water and soil pollution impacts.
- Potential loss of fauna and flora.
- Increased vehicle activity.
- Increased dust levels.
- Increase in water consumption and possible depletion of groundwater resources.
- Potential visual impacts.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the mitigation measures as set out in the Environmental Management Programme (EMPr) attached in Part B.

M) 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)

Management objectives include:

- Ensure that the Mining activity does not cause pollution to the environment or harm to persons.
- Minimise production of waste.
- All Mining activities must be conducted in a manner that minimises noise impact, litter, environmental degradation and health hazards i.e. injuries.
- The mine must be kept neat and tidy during waste handling to prevent unsightliness and accidents.

Expected outcomes include:

- Minimum impacts on the environment as a result of mining activities
- Compliance with legislative requirements.
- Mine is neat and tidy and well managed.

FINAL PROPOSED ALTERNATIVES

(Provide an explanation for the final layout of the infrastructure and activities on the overall site as shown on the final site map together with the reasons why they are the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment)

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. Due to the expected mineral resources, **First Run Trading (Pty) Ltd** would like to potentially Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province, therefore there will be no other alternative (i.e. to facilitate the movement of machinery, equipment, infrastructure).

N) ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

Any aspects which have not formed part of the EMPr that must be made conditions of the Environmental Authorisation

- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMPr and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMPr.

O) DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE. (Which relate to the assessment and mitigation measures proposed)

The uncertainties in results are mostly related to the availability of information, time available to gather the relevant information as well as the sometimes-subjective nature of the assessment methodology. If the authority feels that specialists' studies need to be conducted, such will be corresponded to the applicant.

P) REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

REASONS WHY THE ACTIVITY SHOULD BE AUTHORIZED OR NOT.

Based on the outcomes of other mines in the area, the possibility to encounter further Chrome Ore and Platinum Group Metals reserves were identified.

The proposed Mining area is targeted as, historically, several Chrome Ore and Platinum Group Metals occurrences are known in/on the area, and a number of these have been exploited in the past. There are also various Chrome Ore and Platinum Group Metals operations within the vicinity of the exploration area.

The option of not approving the activities will result in a significant loss to valuable Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) deposits being exploited. And all economic benefits will be lost.

Q) CONDITIONS THAT MUST BE INCLUDED IN THE AUTHORISATION

- The operational activities and relevant rehabilitation of disturbed areas should be monitored against the improved EMPr and all other relevant environmental legislation.
- A copy of the EMP should be made available onsite at all times.
- Implementation of the proposed mitigation measures set out in the EMPr.

The EMPr should be binding on all managers and contractors operating/utilizing the site.

Period for which the Environmental Authorisation is required.

For a minimum of 5 years.

R) 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 required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Environmental Impact Assessment report and the Environmental Management Programme report.

I, **Andile Grant Nxumalo** (EAP) herewith confirms

A. the correctness of the information provided in the reports ☒

B. the inclusion of comments and inputs from stakeholders and I&APs; ☒

C. the inclusion of inputs and recommendations from the specialist reports where relevant; ☒ and

D. the acceptability of the project in relation to the finding of the assessment and level of mitigation proposed; ☒

A.g.N

Signature of the environmental assessment practitioner:

Milnex CC – Environmental Consultants

Name of company:

October 2022

Date:

S) FINANCIAL PROVISION

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

CALCULATION OF THE QUANTUM

Applicant:	First Run Trading (Pty) Ltd, Uitvalgrond 105 JQ, district of rustenburg	Ref No.:	NW 30/5/1/3/2/11094 MP
Evaluators:	Milnex CC	Date:	Oct-22

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19,46	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271,16	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	399,61	1	1	0
3	Rehabilitation of access roads	m2	200	48,53	1	1	9706
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	470,97	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	256,89	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542,33	1	1	0
6 (A)	Opencast rehabilitation including final voids and ramps	ha	5	276014,6	0,04	1	55202,92
7	Sealing of shafts adits and inclines	m3	0	145,57	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0,1	189528,12	1	1	18952,812
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0,05	236053,85	1	1	11802,6925
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685612,26	1	1	0
9	Rehabilitation of subsided areas	ha	0,02	158701,26	1	1	3174,0252
10	General surface rehabilitation	ha	0,5	150138,24	1	1	75069,12
11	River diversions	ha	0	150138,24	1	1	0
12	Fencing	m	0	171,26	1	1	0
13	Water management	ha	0	57086,79	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	1	19980,37	1	1	19980,37
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		193887,9397

1	Preliminary and General	23266,55276	weighting factor 2 1	23266,55276
2	Contingencies	19388,79397		19388,79397
			Subtotal 2	236543,29
			VAT (15%)	35481,49
			Grand Total	272025

i) Explain how the aforesaid amount was derived.

The closure cost estimate provided above is aligned with the Guideline Document for the Evaluation of Quantum of Closure related Financial Provision Provided by a Mine, by the DMR (January, 2005). The amount was calculated by Milnex CC.

ii) 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).

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed by **First Run Trading (Pty) Ltd** will be submitted to the department on request

Rehabilitation Fund

First Run Trading (Pty) Ltd will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

iii) Motivation for the deviation.

Not applicable

T) OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

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:

i. **Impact on the socio-economic conditions of any directly affected person. (**Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

The following impacts may be regarded as community impacts:

- Increased noise levels
- Potential water and soil pollution impacts.
- Potential loss of fauna and flora.
- Increased vehicle activity.
- Increased dust levels.
- Increase in water consumption and possible depletion of groundwater resources.
- Potential visual impacts.

Indirect socio-economic benefits are expected to be associated with the creation of employment.

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

Heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore, if such resources are found during the Mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work must stop.

U) 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 **Appendix 4)**.

From a local perspective, the Mining Permit Application, combined with a Waste Licence Application for the Mining of Chrome Ore (LG & MG seams) and Platinum Group Metals (PGM) on a certain portion on a Portion of portion 2 of the farm Uitvalgrond 105, Registration Division JQ, North West Province is preferred.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1) Draft environmental management programme.

A) DETAILS OF THE EAP

i) The EAP who prepared the report

ii) Expertise of the EAP

Name of Practitioner	Qualifications	Contact details
Mr. Andile Grant Nxumalo EAPASA (#2022/5545)	Hons. Degree in Environmental Science (refer to **Appendix 1**)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: andile.grant@milnex-sa.co.za

B) DESCRIPTION OF THE ASPECTS OF THE ACTIVITY (Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).

It is hereby confirmed that the requirements to describe the aspects of the activity that are required by the EMP is already included in Part A, section 1(h).

C) COMPOSITE MAP

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

Refer to Locality Map, attached as **Appendix 4**.

D) DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

i. **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described in 2.4 herein)

Closure objectives for the Mining permit will aim to ensure that the residual post-closure impacts be minimized and be acceptable to relevant parties. To achieve these closure objectives, the following will be implemented:

- All Mining related infrastructure, foundations and concrete areas will be decommissioned, removed from the site and appropriately disposed of. Reclaimable structures such as metal, electrical installations or equipment will be sold for re-use or as scrap.

- All disturbed areas within the site not already vegetated will be re-vegetated with appropriate indigenous, ecologically adapted species appropriate to the area and the final land use as soon as possible after operation ceases. Progress of vegetation growth/establishment, stability and drainage/erosion will be monitored and, in the event of adverse trends being identified, corrective measures will be implemented.

- Vegetation monitoring will consider, inter alia, the establishment of perennial ground cover and infestation by alien invasive plant species. The encroachment of indigenous vegetation into the area will be used as an indication of a stable, self-sustaining vegetation cover with little risk of retrogressing to a situation where are and water pollution may occur.

  - Final landforms must be resilient to perturbation and also be self-sustaining to obviate/limit further/ongoing interventions and maintenance by **First Run Trading (Pty) Ltd.**The remaining impacts be of an acceptable nature with minimal deterioration over time.
  - The final outcome of the mine site rehabilitation would be productive systems, where required sustaining either livestock and/or wildlife.
  - Environmental and human quality of life, including health and safety requirements in general, would not be compromised; and
  - Closure is achieved in an efficient and cost-effective manner as possible and with minimum socioeconomic changes.

STOCKPILE AREAS AND THE WASTE ROCK DUMP

The following activities will take place at closure:

- Any residue stockpiles need to be removed and placed in the base of the final void (excluding the final waste rock dump that will remain);
- It is recommended that the Waste Rock dump be shaped to an 18° slope; and
- Topsoil will be spread over all disturbed areas and re-vegetated.

OPEN PIT

The following activities will take place at closure and during concurrent rehabilitation:

- As the opencast mining progresses, the voids created will be backfilled with overburden from the progressive opencast mining, and then overlain by the various soil horizons and rehabilitated;
- There will be a final void at the end of life of mine and this will be filled with overburden material;
- The area will be blended in with the surrounding landscape and allowed to be free draining;
- Once the void has been backfilled, 300mm thick topsoil or soft overburden in place of soil will be spread on rehabilitated areas; and
- Once placed, the "growth medium" should then be fertilised, ripped and re-vegetated. A small topsoil stockpile should be left for remedial work.

INFRASTRUCTURE AREAS

The following activities will take place at closure:

- All surface plant, buildings and equipment will be removed from site;
- Foundations will be removed to a meter (1m) below surface and placed in the final void or disposed of at a registered landfill site if required;
- The surface areas will be levelled and vegetated

ACCESS ROADS

Roads required for future use will be left. All others will be ripped and vegetated.

CLOSURE GOALS AND TARGETS

"That all residual environmental impacts associated with the mining method employed, including possible final voids, infrastructure, and stockpile will be neutralized or minimised suchthat the post-mining environment is able to function in a manner which conforms to the concept of sustainable development." Implement operational control measures as indicated and required by the EMP:

- Ensure post mining provision (financial) is documented and available;
- Initiate first stage rehabilitation with the aim of establishing low yield graze land, simultaneous acknowledgement of structural and service-related factors for the later residential development objective
- Address post mining objectives as stipulated in the section below

PERFORMANCE ASSESSMENTS

The proposed mining activities are only temporary on the land, so it is vital that rehabilitation ofland takes place once mining operations have stopped. However, concurrent rehabilitation should take place where applicable. Mine reclamation activities are undertaken gradually;

- with the shaping and contouring of excavated areas,
- removal of infrastructure,
- replacement of topsoil,
- seeding with grasses and planting of trees taking place on the mined-out areas,

The above is largely achieved through bulldozers and scrapers which is used to reshape the disturbed area.

SAFETY

After planning for rehabilitation, the first step is to clean up and make the area to be rehabilitated, safe. This involves the following:

- Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.
- Removal of rubbish for disposal at approved sites.

SOCIO ECONOMIC

Closure Management Objectives

The retrenchment processes will be followed as per requirements of the applicable legal process.

Specific Performance Criteria

- The rehabilitated mining environment shall be made safe and deemed safe;
- The soils and land capability will be rehabilitated.
- Other fences erected around the mine will be dismantled and either disposed of at a permitted disposal site or sold as scrap (provided these structures will no longer be required by the post-mining landowner).
- Fences erected to cordon-off dangerous excavations will remain in place and will be maintained as required.

TRAFFIC AND SAFETY

Closure Management Objective

- Ensure that all roads within the mining area are rehabilitated and or left behind is safe in good working condition, ensuring public safety and access to site and monitoring points.

Monitoring and reporting

- The site manager will inspect the roads for degradation and spillages.
- Speed limits will be enforced on site where appropriate and feasible.
- All incidences and issues will be recorded, as will the actions taken to address issues and records of such actions kept on site.

TOPOGRAPHY AND EROSION CONTROL

Closure Management Objectives

- The area will have contours constructed to prevent soil erosion.

Specific Performance Criteria

- Surface water bodies shall not be left in any mining voids unless the operations manager demonstrates there will be no significant environmental impact (such as salinization, reduction in water availability, toxicity, algal problems, attraction to pest species or a local safety hazard).
- All slopes which may incur erosion will be profiled in such a way that a preferential.
- Rehabilitated profiles must ensure free drainage of water and should be contoured to fit in with the catchment dynamics.
- Erosion control measures such as contour banks and cut off berms should be constructed and soil vegetated in rehabilitated areas.
- On gentle slopes, water will be encouraged to flow off the rehabilitated surface as surface

flow, as quickly as possible without causing erosion.

CONSULTING SPECIALISTS

- Should soil depth be inadequate in the rehabilitated areas, then more soil will be brought in and deposited on the site.
- The area will also be inspected for erosion to determine the reason for soil loss. This will be addressed immediately.
- All recommendations made by the specialists will be implemented where deemed appropriate.
- Manual seeding or planting should vegetative cover be inadequate.
- An alien invasive management program will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods.

SURFACE WATER CONTROL

Closure Management Objectives

- All water that falls on the rehabilitated area will be managed in such a way that no erosion will occur through the use of contour drains.
- The filled and rehabilitated area will be shaped to facilitate run-off towards the catchment area.
- There shall be no long term reduction in the availability of water to meet local environmental values.

ECOLOGY

Closure Management Objectives

- Areas will be fenced off once seeded to prevent surface disturbance to the site and allow for vegetation to establish and stabilise.

Specific Performance criteria

- Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems.
- The rehabilitated ecosystem will have equivalent functions and resilience as the target ecosystem.
- Soil properties will be appropriate to support the target ecosystem.
- The rehabilitated areas will provide appropriate habitat for fauna
- Fauna utilisation, abundance and diversity appropriate to specified post mining land use.
- Berms will be maintained. This will be undertaken by vegetating all berms to ensure

thatthey are stable. The berms will also be inspected to ensure that there are no cracks, which could cause leakage. The berms will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

Monitoring and Proposed Actions

- Services of a qualified person will be used to monitor the re-vegetation of the rehabilitated areas.
- Records of the monitoring will be kept on site.
- The environmental site manager will ensure that an alien invasive monitoring, eradication and control programme is established during closure and the area will be inspected at least every 3 months and more frequently in areas where alien species were observed.
- The environmental site manager will be responsible for inspecting and managing any protected flora that may be identified by specialists. Specialists will be consulted regarding relocation of these species if necessary during rehabilitation or closure.
- All incidences and issues during closure will be recorded, as will the actions taken to address issues. These will be filed and kept at the mine offices.
- Rehabilitation will be visually inspected at least monthly with regards to vegetation cover abundance.
- The rehabilitated area will be inspected monthly for general erosion and vegetative cover.
- Rehabilitated areas will be monitored for soil quality and depth annually.

Action Required

- Should it be noted that designs are not being followed, rehabilitation activities will be amended to ensure corrective measures will be taken to ensure design specifications are achieved. Specialists will be consulted if necessary.
- The specialist's recommendations from bio-monitoring and from annual floral surveys ofrehabilitated areas will be implemented as soon as possible.
- Should any erosion be observed on site, it will be reported to the site manager and environmental site manager. The issue will be addressed and consideration given to:
  - ✓ Increasing vegetative cover in problem areas through manual seeding/planting.
  - ✓ Implementing erosion control measures such as contour berms or gabionbaskets.
  - ✓ Consulting specialists.
  - ✓ Should soil depth be inadequate in the rehabilitated areas, more soil will be brought in and deposited on the site.
  - ✓ The area will also be inspected for erosion to determine the reason for soil loss.
  - ✓ All recommendations made by the specialists will be followed.
  - ✓ Manual seeding or planting should vegetative cover be inadequate.

- ✓ An alien invasive management programme will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods. Any chemicals utilised must be used responsibly.

LAND USE

Closure Management objectives

- To ensure that rehabilitation (physical and chemical) is done to such an extent that land use potential is regained.

Specific Performance Criteria

- Soil samples will be taken from rehabilitated areas annually over the full period of closure to determine soil fertility, depth compaction, acidity and mine related pollution. This should be conducted by qualified specialist who will also recommend actions and remedial measures to correct any issues observed on site.
- Once the topsoil has been replaced, vehicle movement will be restricted to prevent compaction of the topsoil.
- Rehabilitated areas will be vegetated within the same growing season (before or during the rainy season). A suitable seed bed will be prepared to enhance the penetration and absorption of water, thereby giving the seed the best possible chance to germinate. The seeding depth should be very shallow to provide better germination. For most grass species seeding depth is approximately 5- 15mm.
- Rehabilitated areas will be re-vegetated with local indigenous flora as far as possible.
- Once the seed mixture has been sown the land must be rolled using to ensure consolidation around the seeds and effective moisture retention. Access to seeded areas will be restricted to protect the newly established pasture.

Monitoring and Measurement

- A detailed monitoring and reporting programme will be established and followed.
- Rehabilitated areas will be monitored for vegetation cover and alien invasive encroachment at least monthly by visual means.
- Areas of failed growth will be fertilised if necessary and re-seeded or planted with seedling plugs. All exotic and invasive vegetation should be removed.

AIR QUALITY AND NOISE

Closure Management Objectives

- Dust suppression should be undertaken at site especially during the dry season and during windy conditions.

Monitoring and proposed actions

- Dust suppression techniques and/or frequency will be altered as necessary should dust levels become excessive and exceed target values during rehabilitation.
- Air quality monitoring and reporting will be conducted
- The environmental site manager will be responsible for managing noise level database and implement actions should acceptable noise levels be exceeded.
- The site manager will be responsible for ensuring that all vehicles, including those of Applicant, are maintained as per their maintenance plan.
- All incidences and issues will be recorded, as will the actions taken to address issues. These will be kept at the mine offices.

Action required

- Should ambient dust levels exceed recommended standards and frequencies as per the Air Quality Act, then the management plan for dust will be re-evaluated and assessed to improve dust control on site. Actions could include:
- More frequent spraying.
- Should ambient noise levels exceed target levels:
- Additional noise measurements will be taken at all sensitive receptors beyond the mine boundary in question, initially those nearest to the mine and working further away until levels are within acceptable levels.
- Should levels at sensitive receptors still exceed target levels, and it is due to mining activities, then the noise management plan will be re-evaluated to reduce noise at these sensitive receptors to within acceptable limits.

Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.

The Rehabilitation & Closure Plan is attached as **Appendix 8.**

Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.

CALCULATION OF THE QUANTUM

Applicant:	First Run Trading (Pty) Ltd, Uitvalgrond 105 JQ, district of rustenburg	Ref No.:	NW 30/5/1/3/2/11094 MP
Evaluators:	Milnex CC	Date:	Oct-22

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19,46	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271,16	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	399,61	1	1	0
3	Rehabilitation of access roads	m2	200	48,53	1	1	9706
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	470,97	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	256,89	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542,33	1	1	0
6 (A)	Opencast rehabilitation including final voids and ramps	ha	5	276014,6	0,04	1	55202,92
7	Sealing of shafts adits and inclines	m3	0	145,57	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0,1	189528,12	1	1	18952,812
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0,05	236053,85	1	1	11802,6925
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685612,26	1	1	0
9	Rehabilitation of subsided areas	ha	0,02	158701,26	1	1	3174,0252
10	General surface rehabilitation	ha	0,5	150138,24	1	1	75069,12
11	River diversions	ha	0	150138,24	1	1	0
12	Fencing	m	0	171,26	1	1	0
13	Water management	ha	0	57086,79	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	1	19980,37	1	1	19980,37
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		193887,9397

1	Preliminary and General	23266,55276	weighting factor 2 1	23266,55276
2	Contingencies	19388,79397		19388,79397
			Subtotal 2	236543,29
			VAT (15%)	35481,49
			Grand Total	272025

(a) Confirm that the financial provision will be provided as determined.

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed by **First Run Trading (Pty) Ltd** will be submitted

Rehabilitation Fund

First Run Trading (Pty) Ltd will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

E) IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

Measures to rehabilitate the environment affected by the undertaking of any listed activity

ACTIVITIES **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. For mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	**PHASE** (of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	**SIZE AND SCALE of disturbance** (volumes, tonnages and hectares or m²)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity Or. Upon the cessation of mining, bulk sampling or prospecting as the case may be.
Clearance of vegetation	open pit mining methods	5 Ha Total hectares to be disturbed Conventional open pit mining methods will be used with surface drills, explosives,	1. Site clearing must take place in a phased manner, as and when required. 2. Areas which are not to be prospected on within two months must not be cleared to reduce erosion risks. 3. The area to be cleared must be clearly demarcated and this footprint strictly maintained.	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.

		loading and trucks hauling the ore and waste to designated tipping points before being hauled off the property	4. Spoil that is removed from the site must be removed to an approved spoil site or a licensed landfill site. 5. The necessary silt fences and erosion control measures must be implemented in areas where these risks are more prevalent.		
Construction of roads	open pit mining methods	+- 500m	1. Planning of access routes to the site for construction/mining purposes shall be done in conjunction with the Contractor and the Landowner. All agreements reached should be documented and no verbal agreements should be made. The Contractor shall clearly mark all access roads. Roads not to be used shall be marked with a “NO ENTRY for Mining vehicles" sign. 2. Construction routes and required access roads must be clearly defined. 3. Damping down of the un-surfaced roads must be implemented to reduce dust and nuisance. 4. Soils compacted by construction/Mining activities shall be deep ripped to loosen compacted layers and re-graded to even running levels. 5. The contractor must ensure that damage caused by related traffic to the gravel access road is repaired continuously. The costs associated	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.

			with the repair must be borne by the contractor; 6. Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport the gravel are fitted with tarpaulins or covers; 7. All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.		
Mining of Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) – Soils and geology	open pit mining methods	5Ha Total hectares to be disturbed Conventional open pit mining methods will be used with surface drills, explosives, loading and trucks hauling the ore and waste to designated tipping points.	1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil (If topsoil exists), and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil during stripping. 3. The topsoil must be conserved on site in and around the pit/trench area. 4. Subsoil and overburden in the Mining area should be stockpiled separately to be returned for backfilling in the correct soil horizon order.	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mine

			5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms, trenches or low brick walls around their bases. 6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. 7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager. 8. The impact on the geology will be permanent. There is no mitigation measure.		
Mining Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) – excavations	Open pit mining methods	5 Ha Total hectares to be disturbed Conventional open pit mining methods will be used with surface drills, explosives, loading and trucks hauling	1. The Mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development. 2. Mine, pans, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the Contractor(s), the sites must be evaluated in detail	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the Mining area

		the ore and waste to designated tipping points.	and specific measures designed in to the system. 3. Truck traffic should be routed away from noise sensitive areas, where possible. 4. Noise levels must be kept within acceptable limits. 5. Noisy operations should be combined so that they occur where possible at the same time. 6. Mine workers to wear necessary ear protection gear. 7. Noisy activities to take place during allocated hours. 8. Noise from labourers must be controlled. 9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site. 10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport.		

			11. Implementation of enclosure and cladding of processing plants. 12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.		

IMPACT MANAGEMENT OUTCOMES

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ();

ACTIVITY (whether listed or not listed).	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated	**MITIGATION TYPE**	**STANDARD TO BE ACHIEVED**
(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm	**(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**		**(e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)**	**(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** • **Remedy through rehabilitation..**	**(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.**

water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).					
Clearance of vegetation	Loss or fragmentation of habitats	Fauna & flora	Open pit mining methods	**Existing vegetation** 1. Vegetation removal must be limited to the Mining area. 2. Vegetation to be removed as it becomes necessary rather than removal of all vegetation throughout the site in one step. 3. No vegetation to be used for firewood. 4. Exotic and invasive plant species should not be allowed to establish, if the development is approved. **Rehabilitation** 5. All damaged areas shall be rehabilitated upon completion of the contract. 6. Re-vegetation of the disturbed site is aimed at approximating as near as possible the natural vegetative conditions prevailing prior to construction. 7. All natural areas impacted during construction/Mining must be rehabilitated with locally indigenous grasses typical of the representative botanical unit. 8. Rehabilitation must take place in a phased approach as soon as possible. 9. Rehabilitation process must make use of species indigenous to the area. Seeds from surrounding seed banks can be used for re-seeding. 10. Rehabilitation must be executed in such a manner that surface run-off will not cause erosion of disturbed areas. 11. Planting of indigenous tree species in areas not to be cultivated or built on must be encouraged. **Demarcation of Mining area**	Minimisation of impacts to acceptable limits

				12. All plants not interfering with Mining operations shall be left undisturbed clearly marked and indicated on the site plan. 13. The Mining area must be well demarcated and no construction/Mining activities must be allowed outside of this demarcated footprint. 14. Vegetation removal must be phased in order to reduce impact of construction/Mining. 15. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 16. Strict and regular auditing of the Mining process to ensure containment of the Mining and laydown areas. 17. Soils must be kept free of petrochemical solutions that may be kept on site during construction/Mining. Spillage can result in a loss of soil functionality thus limiting the re-establishment of flora. **Utilisation of resources** 18. Gathering of firewood, fruit, muti plants, or any other natural material onsite or in areas adjacent to the site is prohibited unless with prior approval of the ECO. **Exotic vegetation** 19. Alien vegetation on the site will need to be controlled. 20. The Contractor should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion. 21. The spread of exotic species occurring throughout the site should be controlled. **Herbicides** 22. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified	

				technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used. 23. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation. **Fauna** 24. Rehabilitation to be undertaken as soon as possible after the Mining activities have been completed. 25. No trapping or snaring to fauna on the construction/Mining site should be allowed. 26. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development.	
Mining Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) – excavations	Loss of topsoil	Soil	Open pit mining methods	1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil during stripping. 3. The topsoil must be conserved on site in and around the pit/trench area. 4. Subsoil and overburden in the Mining area should be stockpiled separately to be returned for backfilling in the correct soil horizon order. 5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases.	Minimisation of impacts to acceptable limits

				6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. 7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager. Establish an effective record keeping system for each area where soil is disturbed for Mining purposes. These records should be included in environmental performance reports, and should include all the records below. • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation Mining activities at the particular site. • Photograph the area on cessation of Mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.	
	Erosion	Soil Air Water	Pitting and trenching phase- (construction and operation phase)	1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream.	Minimisation of impacts to acceptable limits

				3. Wind screening and stormwater control should be undertaken to prevent soil loss from the site. 4. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion. 5. Other erosion control measures that can be implemented are as follows: o Brush packing with cleared vegetation o Mulch or chip packing o Planting of vegetation o Hydroseeding/hand sowing 6. Sensitive areas need to be identified prior to construction/Mining so that the necessary precautions can be implemented. 7. All erosion control mechanisms need to be regularly maintained. 8. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 9. Retention of vegetation where possible to avoid soil erosion. 10. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 11. Re-vegetation of disturbed surfaces should occur immediately after construction/Mining activities are completed. This should be done through seeding with indigenous grasses. 12. No impediment to the natural water flow other than approved erosion control works is permitted. 13. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/Mining activities must be estimated and the drainage system assessed accordingly. 14. Stockpiles not used in three (3) months after stripping must be seeded or backfilled to prevent dust and erosion.	
	Air Pollution	Air	Open pit mining methods	**Dust control** 1. Wheel washing and damping down of un-surfaced and un-vegetated areas.	Minimisation of impacts to

				2. Retention of vegetation where possible will reduce dust travel. 3. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. 4. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust. 5. The Contractor shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities. 6. A speed limit of 30km/h must not be exceeded on site. 7. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor. 8. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled. **Odour control** 9. Regular servicing of vehicles in order to limit gaseous emissions. 10. Regular servicing of onsite toilets to avoid potential odours. **Rehabilitation** 11. The Contractor should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks. **Fire prevention** 12. No open fires shall be allowed on site under any circumstance. All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires. 13. The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.	acceptable limits

	Noise		Pitting and trenching phase- (construction and operation phase)	1. The Mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development. 2. Mine, crushers, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the Contractor(s), the sites must be evaluated in detail and specific measures designed in to the system. 3. Truck traffic should be routed away from noise sensitive areas, where possible. 4. Noise levels must be kept within acceptable limits. 5. Noisy operations should be combined so that they occur where possible at the same time. 6. Mine workers to wear necessary ear protection gear. 7. Noisy activities to take place during allocated hours. 8. Noise from labourers must be controlled. 9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site. 10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport. 11. Implementation of enclosure and cladding of processing plants. 12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.	Minimisation of impacts to acceptable limits

	Impact on potential Cultural & heritage objects and palaeontological aspects	Cultural & heritage objects and palaeontological aspects	Open pit mining methods	1. Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA. 2. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts are uncovered in the affected area. 3. The Contractor must ensure that his workforce is aware of the necessity of reporting any possible historical or archaeological finds to the ECO so that appropriate action can be taken. 4. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from the SAHRA should the proposed site affect any world heritage sites or if any heritage sites are to be destroyed or altered. 5. Avoidance/Preserve: If the burial sites are to be retained, a buffer area of 100 m is set out around them to protect the graves from impacts by blasting operations or other activities. 6. Should archaeological sites or graves be exposed in other areas during mining activities or construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.	Minimisation of impacts to acceptable limits
Waste management		Pollution	Open pit mining methods	**Litter management** 1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction site. 2. The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill. 3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction site. 4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and	Minimisation of impacts to acceptable limits

				recycled. An independent contractor can be appointed to conduct this recycling. 5. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite. 6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly. 7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours. 8. Where a registered waste site is not available close to the construction site, the Contractor shall provide a method statement with regard to waste management. 9. A certificate of disposal shall be obtained by the Contractor and kept on file, if relevant. 10. Under no circumstances may solid waste be burnt on site. 11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours. **Hazardous waste** 12. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site, where practical. Incineration may be used where relevant. 13. Contaminants to be stored safely to avoid spillage. 14. Machinery must be properly maintained to keep oil leaks in check. 15. All necessary precaution measures shall be taken to prevent soil or surface water pollution from hazardous materials used during construction and any spills shall immediately be cleaned up and all affected areas rehabilitated. **Sanitation**	

				16. The Contractor shall install mobile chemical toilets on the site. 17. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed. 18. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly. 19. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer. 20. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility. 21. The construction of "Long Drop" toilets is forbidden, but rather toilets connected to the sewage treatment plant. 22. Potable water must be provided for all construction staff. **Remedial actions** 23. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site. 24. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to storage containers until treated or disposed of at a licensed hazardous landfill site. 25. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material. 26. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure. 27. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use. 28. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further	

				release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.	
Water Use and Quality	Water pollution	Water	Open pit mining methods	**Water Use** 1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users. 2. Water must be reused, recycled or treated where possible. **Water Quality** 3. The quality and quantity of effluent streams discharged to the environment including stormwater should be managed and treated to meet applicable effluent discharge guidelines. 4. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone. 5. Efficient oil and grease traps or sumps should be installed and maintained at refuelling facilities, workshops, fuel storage depots, and containment areas and spill kits should be available with emergency response plans. **Stormwater** 6. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt or chemical pollutants. 7. Silt fences should be used to prevent any soil entering the stormwater drains. 8. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration. 9. Promote a water saving mind set with construction/Mining workers in order to Contractor ensure less water wastage. 10. Hazardous substances must be stored at least 40m from any water bodies on site to avoid pollution.	

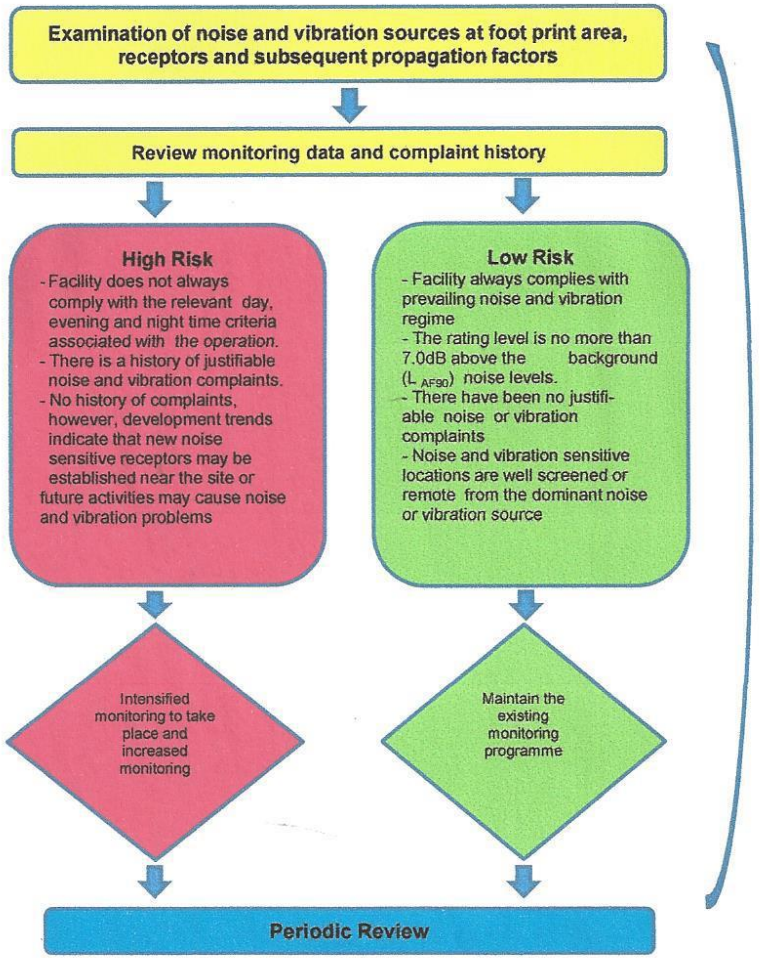
				11. The installation of the stormwater system must take place as soon as possible to attenuate stormwater from the construction phase as well as the operation phase. 12. Hazardous substances must be stored at least 20m from any water bodies on site to avoid pollution. 13. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers. 14. There should be a periodic checking of the site's drainage system to ensure that the water flow is unobstructed. 15. If a batching plant is necessary, run-off should be managed effectively to avoid contamination of other areas of the site. Untreated runoff from the batch plant must not be allowed to get into the storm water system or nearby streams, rivers or erosion channels or dongas. 16. The cut-off trenches and silt fences will be installed where necessary as to control runoff storm water by attenuating it and control the movement of sediment on the premises. 17. These structures will be monitored on a regular basis. It is suggested that it be monitored on a weekly basis during the rainy season, and after possible rain events during the dry season. 18. If these practices is found to be insufficient for the control of storm water and sedimentation, other alternatives should immediately be investigated and implemented. **Groundwater resource protection** 19. Process solution storage ponds and other impoundments designed to hold non fresh water or non-treated process effluents should be lined and be equipped with sufficient wells to enable monitoring of water levels and quality. **Sanitation**	

				20. Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 16 workers). 21. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution. **Concrete mixing** 22. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth. **Public areas** 23. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis. 24. The Contractor should take steps to ensure that littering by construction/Mining workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines. 25. No washing or servicing of vehicles on site.	
Noise and ground vibration monitoring	Sound and/or noise Ground vibration	Noise Vibrations	Construction phase, Operational phase and Rehabilitation phase	The following three primary variables should be considered when designing acoustic screening measures for the control of sound and/or noise: • The source – Reduction of noise at the source; • The transmission path – Reduction of noise between the source and the receiver; • The receiver – Reduction of the noise at the receiver. The last option is not applicable as it was decided to control the noise levels at the source. **Acoustic screening recommendations** <u>Construction phase</u> • Machinery with low noise levels that complies with the manufacturer's specifications to be used.	

				• Activities to take place during daytime period only. • Noise monitoring on a quarterly basis. • Crack survey at the abutting residential areas to be carried out once the mine lay-out plan is made available. <u>Operational phase</u> • Emergency generators to be placed in such a manner that it is 500m away from any residential area. • Drilling with drilling rig to be done in such a manner and must be 500m away from any residential area. • Noise monitoring to be done on a quarterly basis. • Crushing activities to be monitored and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis. • Blasting to take place under controlled conditions and by using the safe blasting methods at all times. • A distance of 500m must be at all times maintained between the residential area, and the blast site and an earth berm of 10.0m to be erected in the vicinity of residential properties. • A safe distance to be maintained at the OHP during blasting activities. • The explosive magazine at the northern boundary to be relocated. • Blasting activities to be monitored and ground vibration and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis. • The feeder roads from the east and the south to be closed for traffic during blasting. • Permanent ground vibration to be carried out at the abutting noise sensitive areas. • Crushing activities to be monitored and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis.	

				<u>Rehabilitation phase</u> • Machinery with low noise levels which complies with the manufacturer's specifications to be used. • Activities to take place during daytime period only. • Noise monitoring on a quarterly basis. <u>Cumulative impact of the entire process</u> • Actively manage the process and noise and vibration impact assessment to determine compliance to the noise and vibration regulations and/or standards. The levels to be evaluated in terms of the baseline noise and ground vibration levels. The following are the Environmental, Health and Safety Guidelines of the IFC of the World Bank, which should be taken into consideration during the construction, operational and rehabilitation phases of the project: • Selecting equipment with lower sound power levels; • Installing silencers for fans; • Installing suitable mufflers on engine exhausts and compressor components; • Installing acoustic enclosures for equipment causing radiating noise; • Installing vibration isolation for mechanical equipment; • Re-locate noise sources to areas that are less noise sensitive, to take advantage of distance and natural shielding; • Taking advantage during the design stage of natural topography as a noise buffer; • Develop a mechanism to record and respond to complaints. Blasts must be designed in such a manner that ground vibration and over pressure levels are adhered to. In order to comply with the above, the following measures should be implemented: • A scheme of vibration and air over pressure monitoring to be implemented; • A scheme by which air over pressure is controlled;	

				• Days and times of blasting operations to be established; • Ensure that the correct design relationship exists between burden, spacing and hole diameter; • Ensure the maximum amount of explosive on any one-day delay interval, the maximum instantaneous charge, is optimized by considering; • Reduce the number of holes per detonator delay interval; • Reduce the instantaneous charge by in-hole delay techniques; • Reduce the bench height or hole depth; • Reduce the borehole diameter. Always attempt to minimize the resulting environmental effects of blasting operations and to recognize the fact that the perception of blasting events occurs at levels of vibration well below those necessary for the possible onset of the most cosmetic of damage; but nevertheless at levels that can concern occupants abutting the mining area; Be aware that relatively small changes in blast design can produce noticeable differences in environmental emissions and that it is very often in response to changes in these emissions rather than their absolute value that complaints may be made. Scheme of vibration monitoring may include the following: • The location and number of monitoring points; • The type of equipment to be used and the parameters to be measured; • The frequency of monitoring; • The method by which such data are made available to management; • The method by which such data are used in order to ensure that the site vibration limit is not exceeded and to mitigate any environmental effects of blasting.	

				The following noise management plan must be used to identify any new noise sources that may have an impact on the abutting noise sensitive areas.  	

Soil stripping and stockpiling plan	Soil stripping and stockpiling	Soil stripping and stockpiling	Construction phase: Operational phase: Rehabilitation and decommissioning phase:	A detailed soil stripping and stockpiling plan needs to be developed. **Construction phase**: The phase of the mine includes the clearing of vegetation across the proposed footprint areas of the different mining activities. The clearing of vegetation entails the removal of indigenous vegetation. The removal of vegetation entail that established grass and other plant species will be removed from their habitat. Areas that will be cleared include the open cast pits, contractors lay down area (ablution facilities, workshop, wash bay, & administration offices), RoM pads, roads, and stockpile areas. All disturbed areas must be rehabilitated to at least the pre-mining state. Hydrocarbon spillages also holds the risk of depleting soil quality and inhibiting proper vegetation establishment. Machines must be investigated on a daily basis to prevent any machine leakages from occurring. The risk to loss of indigenous vegetation and hydrocarbon spillages can be successfully mitigated. All expected impacts can be mitigated to within acceptable levels. **Operational phase:** After the vegetation clearing, top soil and sub soil will be removed for stockpiling purposes. The risk exists that top soil and sub soil can mix, which could impact on rehabilitation success. Top soil and sub soil must be stockpiled separately in order to prevent depletion of soil quality. Top soil must be placed on-top of the sub soil during stock piling in order to prevent a depletion of soil organic carbon. The construction of roads, as well as erection of temporary buildings may cause underlying soil layers to compact, and impact detrimentally on soil infiltration and effective soil depth. All impacted and affected areas must be ripped to at least 300mm after decommissioning, fertilized, and seeded. Alien invasive plant species will occur mostly on disturbed areas from when mining is initiated. An alien invasive management plan will have to be developed that will dictate the eradication plan. All expected impacts can be mitigated to within acceptable levels	

				Rehabilitation and decommissioning phase: Hydrocarbon spillages remains a high risk to cause impact. Regular machine maintenance must be conducted in order to prevent leakages. Improper final landscape design could decrease the final land use potential. All environmental and geotechnical factors must be taken into consideration during the soil replacement and rehabilitation stages. These include, but are not limited to: soil bulking factors, soil swelling & shrinkage characteristics, soil quality, slope stability, erosion potential of soils on slopes, climate, etc. Disturbed areas must be ripped, fertilise, and rehabilitated. Seeding must only occur from October-January, and after sufficient rains. Established vegetation must be monitored in order to ensure that the rehabilitated sites show progressive ecosystem development. All alien and invasive plant species must be removed from site, and monitoring must be conducted in order to prevent reoccurrence. Subsidence along pit boundary could possibly occur due to consolidation settlement. These areas must be compacted and rehabilitated. The potential for fires could impede successful vegetation establishment if not managed. Grazing activities must be controlled for at least the first 3 years after rehabilitation. This will provide some time for ecosystem functions to develop.	
Blasting	Air quality/ Dust monitoring plan	Dust Air quality	Construction phase, Operational phase and Rehabilitation phase	An effective monitoring plan (dust bucket network) is required. Proper dust monitoring is crucial for determining the impact of mining operations on the ambient air quality and amount of suspended particulate matter. The National Ambient Air Quality Standards clearly outline the allowable frequencies of exceedance for Nitrogen dioxide (NO2), Particulate Matter (PM10), PM2.5, Ozone (O3), Benzene (C6H6), Lead (Pb) and Carbon monoxide (CO) pollutants. If the allowable frequencies are exceeded the construction of a comprehensive Dust Management Plan will be mandatory.	
Water quality	Water pollution	Water quality	Construction phase,	**Construction Phase** **1)** The following land clearance activities will take place during the construction phase:	

			Operational phase and Rehabilitation phase	- Vegetation clearance, - Topsoil and sub-soil stripping and stockpiling. The potential impact of stripping and stockpiling of topsoil and subsoil from the infrastructure and pit surface areas on the groundwater regime is considered negligible since no chemical interaction is envisaged that could have an adverse impact on groundwater quality. **2)** The following surface infrastructure will be constructed during the construction phase: - Contractor lay down area, - Stormwater facility. The construction of infrastructure will cause a very small reduction in recharge to the underlying aquifer system due to the compaction of the surface of the foundation layers. Clean run-off from areas such as roofs and parking areas eventually contributes to catchment yields. Run-off from haul-roads will be diverted and contained in the stormwater facility. No adverse impact is foreseen on groundwater quality since material used for construction is inert. **Operational Phase** **1)** The following activities will take place during the operational phase: - Utilisation of surface infrastructure, - Utilisation of access and service roads. Very little impact is expected since no water seepage or extraction is involved that could affect water levels. For dry facilities, impact on the groundwater only occurs through leachate formation from contaminated surface areas.	

				Impacts thus only occur as a result of rainfall recharge or when water is introduced in some form where leachate can form that seeps to the groundwater regime. <u>Mitigation Measures:</u> Haul roads and other compacted surfaces will be kept free of potentially hazardous material by cleaning spillages, thereby reducing infiltration of contaminated water. **2)** The following activities will take place during the development and utilisation of the waste stockpile and ROM pad - The development and utilisation of the waste stockpile and ROM pad as mining progresses. Nitrate contamination in a chrome mining environment is more often than not associated with rock and ore material that contain remnants of nitrate based explosives, which are highly soluble in water. Seepage emanating from stockpile areas is therefore expected to contain elevated concentrations of nitrate and pose a significant groundwater contamination risk. Sporadic contamination of the groundwater regime therefore occurs whenever water seeps through the contaminated material during periods of rainfall. <u>Mitigation Measures:</u> - Clean surface water will not come into contact with dirty water or nitrate contaminated material, - The surface area should be compacted to minimise the ingress of poor quality seepage, - Continuous monitoring of groundwater quality. **3)** The following activities will take place during the development and progression of the opencast pits	

				- Progressive development of opencast mining cuts, including blasting and extraction of chrome ore. Groundwater levels are expected to decrease within the immediate vicinity of the opencast pits as a result of pit dewatering. The degree of aquifer dewatering depends on the extent and depth of the opencast pits below the local groundwater level as well as the hydraulic properties of the aquifer host rock. Please refer to Section 5.2 for a full discussion on the expected groundwater level impacts associated with the planned opencast workings. Pit dewatering will occur whenever necessary to ensure dry and safe mining conditions. Groundwater contamination of surrounding users is therefore not expected to take place while the mine is still operational. Only after groundwater levels have recovered from the impacts of pit dewatering is contamination expected to migrate in the down gradient groundwater flow direction/s. The impact rating/significance provided below is therefore focused on the impacts associated with the planned pit dewatering (groundwater level impacts). The aquifer structure will be destroyed wherever it is intersected by the opencast pits. <u>Mitigation Measures:</u> - The dewatering of the local aquifer system and destruction of its structure/s cannot be prevented. - A quarterly monitoring program should be implemented to monitor the extent of the dewatering. **Rehabilitation / Decommissioning Phase** **1)** The following activities will take place during the decommissioning phase: - Removal of all mining and related infrastructure,	

				- Shaping and landscaping of the opencast pits and temporary stockpiles, - Removal of potentially hazardous material from disturbed land use areas, - Demolition and rehabilitation of redundant surface infrastructure depending on the long-term groundwater management strategy and agreed end land use, - Removal of exotic and invasive plants and the re-establishment of such species within the rehabilitated areas will be prevented, - Final rehabilitation, including the placement of topsoil and establishment of vegetation on rehabilitated areas, - Aim to establish a sustainable and agreed end land use through final rehabilitation. The rehabilitation of the disturbed surface areas will have a positive effect on the groundwater system. <u>Mitigation Measures:</u> - Removal of all mining and related infrastructure, - Shaping and landscaping of the opencast pits and temporary stockpiles, - Removal of potentially hazardous material from disturbed land use areas, - Demolition and rehabilitation of redundant surface infrastructure depending on the long-term groundwater management strategy and agreed end land use, - Removal of exotic and invasive plants and the re-establishment of such species within the rehabilitated areas will be prevented, - Final rehabilitation, including the placement of topsoil and establishment of vegetation on rehabilitated areas, - Aim to establish a sustainable and agreed end land use through final rehabilitation. Seen in the light of sustainable development and water security during times of drought, Groundwater Complete believe that the	

				rehabilitated opencast pits may provide an opportunity for water storage. Keeping in mind that: - Water levels would need to be monitored frequently and kept below the potential decant elevations. - An abstraction point needs to be installed in the deepest part of the pit floor. - Rehabilitation should aim to optimize the effective recharge to the rehabilitated pits.	
Ecology	Ecology	Ecology	Mining activities	**Wetland areas** • no construction or disturbance is generally allowed within a 32 m buffer zone of a wetland. Mitigation Measures: • Any construction activities in a wetland or water course may only take place after the necessary water use license has been obtained. • During excavations, soil stockpiling should as far as possible take place outside the wetland edge keeping topsoil and sub-soil apart as far as possible. These stockpiles should then be backfilled in the right order placing topsoil on top of sub-soil. • Where excavated soil will not be used for backfilling, it must be removed to a registered landfill area to prevent it from eroding into the wetland/water course. • Cement mixing must either only take place over a covered surface nearby or beside the construction area. It is important that no cement spills can enter the wetlands/watercourses. • Natural vegetation must not to be injudiciously damaged or removed. • Indiscriminate off-road driving through wetlands is not allowed. • Construction machinery and vehicles must be checked for oil leaks before operating close to a wetland/water course and its delineated buffer zone. Strictly no re-fuelling of vehicles or machinery should be allowed to take place in any construction area in or near a wetland/water course.	

				• Populations of alien and invader plant species within as well as alongside the wetland areas should be monitored on a regular basis and actions to eradicate these species at an early stage should be implemented. • During and after construction it is important to take runoff control into serious consideration. Areas of exposed soil can easily erode and subsequently end up in the stream/wetland system. After construction water runoff control is equally important in order to avoid polluted water to end up in the wetland and drainage line further downstream. A well designed storm water drainage system must be constructed in order to channel water, which may potentially be polluted, away from wetland areas. Natural runoff from the natural terrestrial habitat should however not be restricted. • The use of potential pollutants (paint, chemicals, etc.) during construction and operational phases must be strictly controlled and a high quality of management and supervision concerning such materials must be enforced, especially near to wetland/water courses. • Sanitary facilities must be made available to construction workers working in or near to prevent urine and faecal waste entering the wetlands/watercourses. **Floral Communities** <u>Mitigation Measures:</u> • Injudicious and unnecessary destruction of natural vegetation should be avoided at all costs, restrict vegetation clearing to only what is necessary. • Construction footprint is to be kept as small as possible. • As far as possible vehicles are to only utilise designated existing roads • Red Data and protected plant species should be conserved as far as possible by means of:	

				– Avoidance of unnecessary disturbance or destruction of their natural habitat. – If possible, developments that jeopardize any large populations of red data or protected species should be planned in such a way as to avoid the populations. It is strongly advised that all detectable specimens of these species in the zone of development be transplanted into similar localities in nature; or – Transplant specimens into a nursery or other safe site until they can be relocated or used during rehabilitation and/or landscaping, or transplant such specimens into similar natural habitat, where no developments are planned. • A population study of Red Data and protected species are to be made of planned development areas for the impact on the local populations of these species to be determined and a workable plan of action to be formulated. • No informal fires are allowed within the study site • If viable populations of red data and protected species are found outside the areas that will be directly impacted by the proposed development, these areas need to be actively conserved in order to conserve a viable, non-fragmented gene pool of these species. • High diversity areas should be avoided in terms of planning of mining or any other anthropogenic activities. • The continued eradication of declared alien and invasive plant populations in the study area is strongly advised. A management plan and proper follow-up strategy for the prevention of the further spread or establishment of new populations of such species should be developed and enforced. • It should be noted that permits for certain activities are required according to national as well as regional ordinances and laws as far as indigenous flora and all water bodies (rivers, streams, wetlands, etc.) are concerned. • No unauthorised collection or removal of plants/ plant material from the study site.	

				• Wherever possible, any soil that can serve as a growth medium for plants must be stripped and stockpiled for future landscaping or rehabilitation after or during the construction phase and should be used as soon as possible after "harvesting" to ensure that seed sources does not become worthless due to decomposition of the seed over time. • Water control structures should be constructed and well maintained to minimize erosion and to create a favourable habitat for the establishment of vegetation during and after rehabilitation/landscaping. • As far as possible construct the rock dumps, overburden dumps etc. in such a way that slopes with a maximum of but preferably less than 18° are constructed in order to minimize the negative effects of steep slopes. • Destruction, pollution or any form of degradation of natural watercourses and wetland areas as well as their immediate catchment areas should be avoided as far as possible. • According to law in South Africa, all natural wetlands and riparian zones are to be delineated and protected. • A legitimate and well-designed rehabilitation plan must be set in place before mining commences and be strictly enforced on an on-going basis throughout the life of the mine and thereafter. **Faunal Communities** Mitigation Measures: The following can be implemented during the planning and construction of infrastructure to facilitate biodiversity preservation: • It is recommended that site clearing take place in a phased manner to allow for any faunal species present to move away from the study site. • Areas known for high faunal species richness should be avoided by mining infrastructure development. • Red data and protected species listed in legislation should be protected from mining impacts and areas where they occur	

				should be avoided during the mining infrastructure development and construction. • A population study of Red Data and legally protected species are to be conducted on planned development areas in order for the impact on the local populations of these species to be determined and a workable plan of action to be formulated • The pollution of wetland or water courses should be avoided, since it may negatively impact on the viability of amphibian populations and decrease species richness. Wetlands and riverine habitats are protected under law. • As far as possible discourage trapping or hunting of any faunal species within the study site. • No unauthorised collection or removal of plants/ plant material from the study site. In order to facilitate biodiversity preservation in the area the following will prevent and mediate biodiversity preservation: • Areas known for high faunal species richness should be avoided by mining operations. • Vehicles are to utilise designated existing roads. • Red data and protected species listed in legislation should be protected from mining impacts and areas where they occur should be avoided during the mining process. • The relocation of encountered specimens of protected or listed species to suitable habitat in the general vicinity may be necessary. • A population study of Red Data and legally protected species are to be conducted on planned development areas in order for the impact on the local populations of these species to be determined and a workable plan of action to be formulated. • If viable populations of red data and protected species are found outside the areas that will be directly impacted by the proposed development, these areas need to be actively conserved in order to conserve a viable, non-fragmented gene pool of these species.	

				• Nationally and provincially protected species may require a permit from conservation authorities before any restricted activity may be performed with listed animals. • The pollution of wetland or water courses should be avoided, since it may negatively impact on the viability of amphibian populations and decrease species richness. Wetlands and riverine habitats are protected under law. • The high rate of disturbance induced by mining activities may also lead to the establishment of alien and invasive plant species, which may alter the habitat structure of faunal species. Such plants should be removed as soon as possible to avoid infestations, habitat alteration and legal consequences. • Rehabilitation plans after the closure of mining operations should include the rehabilitation of faunal habitats and possibly the artificial reintroduction of species with limited dispersion abilities. Constant monitoring of faunal populations during and after rehabilitation may be needed to ascertain the status of faunal populations on the site. **<u>TERRESTRIAL MANAGEMENT PLAN</u>** **Opencast Phase** • To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees. • Activities on site must comply with the regulations of the Animal Protection Act, 1962 (Act No. 71 of 1962). Workers should also be advised on the penalties associated with the needless destruction of wildlife, as set out in this act. • Appoint an ECO to oversee the activities and ensure that ecological aspects are kept in mind;	

				• Priority species, specifically nests if encountered, should be identified first and a management plan should be established for each of the priority species; • Continuous rehabilitation and clean-up of the area should be implemented during the operational phase; • Limit activities (transport etc.) to the smallest area possible. This is to prevent fragmentation that may have irreversible changes to faunal communities. It also increases the invasion of alien/foreign species; • A management plan for the control of alien and invasive plant species needs to be implemented; • Restrict movement to the proposed footprint of the activities. Control of access should be implemented for all other natural areas to prevent unnecessary destruction of habitats or disturbance of species. It is also vital that no additional fragmentation occur and that all roads are clearly demarcated and kept to a minimum without any exceptions. No vehicles or personnel are permitted outside of these demarcated roads; • No camping activities or other contractor camps should be allowed on site and this practice will be a good investment in preventing more impacts, noise and waste or possibly the spread of fires. **Fauna and Habitat Mitigation and Management Measures** • Ensure awareness amongst all staff, contractors and visitors to site to not needlessly harm or hinder animals or damage flora that is endemic and serve as habitat for the animals inhabiting the area. • Allow animals to escape areas of activity freely and do not hinder their movement, especially avoid the natural ecological corridors created by the different drainage lines encountered. • All injured animals sighted during the development should be protected and moved to receive rehabilitation at the designated centre (the SHEQ/ECO should find out which centres will be	

				appropriate for the species in the North-west Province) and should not be handled by the employees under any circumstance. Clear protocol should be developed on the matter. • Have a policy in place to prohibit hunting for food or pleasure (rifles, snares, dogs) by the workers or employees of the operations. These conditions should be written into contractor's agreements with strict penalty clauses. Employees engaging in any of these activities should be faced with disciplinary action. All hunting activities will require special permits and should be avoided wherever possible. • To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees. • All noisy equipment should be avoided or mitigated to lessen sound levels as well as vibration levels should be controlled to limit impact on biodiversity and sensitive species. • Undisturbed natural areas should be designated and should remain intact throughout the lifetime of the proposed development as well as closure and decommissioning phase. • Activities should be focused during the day-time to prevent night time impacts on the animals. • An active body to report any problems and observations made (of prohibited activities) or should be designated to an existing committee; this may be the ECO or the SHEQ or any other decided management body within the operational framework of the activities, which is designated responsibility of this management plan. **Monitoring** A monitoring framework should be instigated and managed by their responsible body and the following system may enforce good practice:	

				• Implement an "Observe and report" approach which will enable employees to report any disturbance of fauna or degradation that they encounter during the operational phase. • Activity restrictions of the ecological and aquatic corridors will need to be included to ensure the restriction of human movement within these sensitive zones, except when the required license has been obtained to allow for controlled modifications specifically to the drainage lines within these areas. • Annual biodiversity monitoring during September to March of areas both affected and unaffected by activities should be initiated to determine annual fluctuation in species numbers and if necessary, relate this to activities on site. • Determine annual fluctuation in species numbers and if necessary, relate this to activities on site. • Establish a monitoring programme for early detection of alien invasive species and establish and alien invasive awareness, eradication and control programme. **Decommissioning and Closure** • A rehabilitation plan should be implemented, and it should be determined what the end use of the land will be. It is recommended that the areas be restored to its natural state as far as possible after decommissioning as to preserve and regain the habitat and vegetation lost from these endemic regions. • This includes process of replanting the vegetation if required and this should be governed by a vegetation expert. • Ensure awareness amongst all staff, contractors and visitors to the site to not needlessly damage any part of the natural environment. • Re-vegetation of al degraded areas and bare patches is advised to speed recovery to natural, self-sustaining state as soon as possible.	

				General management in terms of dust and traffic control will ensure low hindrance to the fauna communities and should be adequate.	

F) IMPACT MANAGEMENT ACTIONS

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

ACTIVITY Whether listed or not listed. **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)**.	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through** **(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** **Remedy through rehabilitation..**	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:- .. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or prospecting as the case may be.	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)

Clearance of vegetation	Loss or fragmentation of habitats	**Existing vegetation** 1. Vegetation removal must be limited to the Mining site. 2. Vegetation to be removed as it becomes necessary rather than removal of all vegetation throughout the site in one step. 3. No vegetation to be used for firewood. 4. Exotic and invasive plant species should not be allowed to establish, if the development is approved. **Rehabilitation** 5. All damaged areas shall be rehabilitated upon completion of the contract. 6. Re-vegetation of the disturbed site is aimed at approximating as near as possible the natural vegetative conditions prevailing prior to construction. 7. All natural areas impacted during construction/Mining must be rehabilitated with locally indigenous grasses typical of the representative botanical unit. 8. Rehabilitation must take place in a phased approach as soon as possible. 9. Rehabilitation process must make use of species indigenous to the area. Seeds from surrounding seed banks can be used for re-seeding. 10. Rehabilitation must be executed in such a manner that surface run-off will not cause erosion of disturbed areas. 11. Planting of indigenous tree species in areas not to be cultivated or built on must be encouraged. **Demarcation of Mining area** 12. All plants not interfering with Mining operations shall be left undisturbed clearly marked and indicated on the site plan. 13. The Mining area must be well demarcated and no construction activities must be allowed outside of this demarcated footprint. 14. Vegetation removal must be phased in order to reduce impact of construction/Mining.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		15. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 16. Strict and regular auditing of the Mining process to ensure containment of the Mining and laydown areas. 17. Soils must be kept free of petrochemical solutions that may be kept on site during construction/Mining. Spillage can result in a loss of soil functionality thus limiting the re-establishment of flora. **Utilisation of resources** 18. Gathering of firewood, fruit, muti plants, or any other natural material onsite or in areas adjacent to the site is prohibited unless with prior approval of the ECO. **Exotic vegetation** 19. Alien vegetation on the site will need to be controlled. 20. The Contractor should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion. 21. The spread of exotic species occurring throughout the site should be controlled. **Herbicides** 22. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used. 23. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation.		

		Fauna 24. Rehabilitation to be undertaken as soon as possible after Mining has been completed. 25. No trapping or snaring to fauna on the construction/Mining site should be allowed. 26. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development.		
Mining of Chrome Ore (LG & MG seams) & Platinum Group Metals (PGM) – excavations	Loss of topsoil	1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction/Mining and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil during stripping. 3. The topsoil must be conserved on site in and around the pit/trench area. 4. Subsoil and overburden in the Mining area should be stockpiled separately to be returned for backfilling in the correct soil horizon order. 5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases. 6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding. 7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		spillage/leakage occurs should be attained and given to the project manager. Establish an effective record keeping system for each area where soil is disturbed for Mining purposes. These records should be included in environmental performance reports, and should include all the records below. • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation Mining activities at the particular site. • Photograph the area on cessation of Mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time.		
	Erosion	1. An effective system of run-off control should be implemented, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. 2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream. 3. Wind screening and stormwater control should be undertaken to prevent soil loss from the site. 4. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion. 5. Other erosion control measures that can be implemented are as follows: o Brush packing with cleared vegetation o Mulch or chip packing o Planting of vegetation o Hydroseeding/hand sowing	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		6. Sensitive areas need to be identified prior to construction/Mining so that the necessary precautions can be implemented. 7. All erosion control mechanisms need to be regularly maintained. 8. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 9. Retention of vegetation where possible to avoid soil erosion. 10. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 11. Re-vegetation of disturbed surfaces should occur immediately after construction/Mining activities are completed. This should be done through seeding with indigenous grasses. 12. No impediment to the natural water flow other than approved erosion control works is permitted. 13. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/Mining activities must be estimated and the drainage system assessed accordingly. A drainage plan must be submitted to the Engineer for approval and must include the location and design criteria of any temporary stream crossings. 14. Stockpiles not used in three (3) months after stripping must be seeded/backfilled to prevent dust and erosion.		
	Air Pollution	**Dust control** 14. Wheel washing and damping down of un-surfaced and un-vegetated areas. 15. Retention of vegetation where possible will reduce dust travel. 16. Clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. 17. Damping down of all exposed soil surfaces with a water bowser or sprinklers when necessary to reduce dust.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty

		18. The Contractor shall be responsible for dust control on site to ensure no nuisance is caused to the neighbouring communities. 19. A speed limit of 30km/h must not be exceeded on site. 20. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor. 21. Any dirt roads that are utilised by the workers must be regularly maintained to ensure that dust levels are controlled. **Odour control** 22. Regular servicing of vehicles in order to limit gaseous emissions. 23. Regular servicing of onsite toilets to avoid potential odours. **Rehabilitation** 24. The Contractor should commence rehabilitation of exposed soil surfaces as soon as practical after completion of earthworks. **Fire prevention** 25. No open fires shall be allowed on site under any circumstance. All cooking shall be done in demarcated areas that are safe and cannot cause runaway fires. 26. The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.		of Care as prescribed by NEMA.
	Noise	1. The Mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development. 2. Pans, power plants, crushers, workshops and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance

		available by the Contractor(s), the sites must be evaluated in detail and specific measures designed in to the system. 3. Truck traffic should be routed away from noise sensitive areas, where possible. 4. Noise levels must be kept within acceptable limits. 5. Noisy operations should be combined so that they occur where possible at the same time. 6. Mine workers to wear necessary ear protection gear. 7. Noisy activities to take place during allocated hours. 8. Noise from labourers must be controlled. 9. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site. 10. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport. 11. Implementation of enclosure and cladding of processing plants. 12. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.		with NEMA and Duty of Care as prescribed by NEMA.
	Impact on potential Cultural & heritage objects and palaeontological aspects	1. Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA. 2. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts are uncovered in the affected area. 3. The Contractor must ensure that his workforce is aware of the necessity of reporting any possible historical or	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance

		archaeological finds to the ECO so that appropriate action can be taken. 4. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from the SAHRA should the proposed site affect any world heritage sites or if any heritage sites are to be destroyed or altered. 5. Avoidance/Preserve: If the burial sites are to be retained, a buffer area of 100 m is set out around them to protect the graves from impacts by blasting operations or other activities. 6. (2) Relocation of graves: If the graves are to be relocated, the full and correct procedures, as set out in Section 4 of Addendum, should be followed. Please see specialist study under Appendix 12 of the EIR&EMPr. 7. Should archaeological sites or graves be exposed in other areas during mining activities or construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.		with NEMA and Duty of Care as prescribed by NEMA.
Waste Management		**Litter management** 1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction/Mining site. 2. The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill. 3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction/Mining site. 4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent contractor can be appointed to conduct this recycling.	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		5. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite. 6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly. 7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours. 8. Where a registered waste site is not available close to the construction/Mining site, the Contractor shall provide a method statement with regard to waste management. 9. A certificate of disposal shall be obtained by the Contractor and kept on file, if relevant. 10. Under no circumstances may solid waste be burnt on site. 11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours. **Hazardous waste** 12. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site, where practical. Incineration may be used where relevant. 13. Contaminants to be stored safely to avoid spillage. 14. Machinery must be properly maintained to keep oil leaks in check. 15. All necessary precaution measures shall be taken to prevent soil or surface water pollution from hazardous materials used during construction/Mining and any spills shall immediately be cleaned up and all affected areas rehabilitated. **Sanitation** 16. The Contractor shall install mobile chemical toilets on the site.		

		17. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed. 18. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly. 19. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer. 20. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility. 21. The construction of "Long Drop" toilets is forbidden, but rather toilets connected to the sewage treatment plant. 22. Potable water must be provided for all construction staff. **Remedial actions** 23. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site. 24. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to storage containers until treated or disposed of at a licensed hazardous landfill site. 25. The ECO must determine the precise method of treatment for polluted soil. This could involve the application of soil absorbent materials as well as oil-digestive powders to the contaminated soil. 26. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material. 27. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure. 28. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use.		

		29. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.		
Water Use and Quality	Water pollution	**Water Use** 1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users. 2) Water must be reused, recycled or treated where possible. **Water Quality** 3) The quality and quantity of effluent streams discharged to the environment including stormwater should be managed and treated to meet applicable effluent discharge guidelines. 4) Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone. 5) Efficient oil and grease traps or sumps should be installed and maintained at refuelling facilities, workshops, fuel storage depots, and containment areas and spill kits should be available with emergency response plans. **Stormwater** 6) The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt or chemical pollutants. 7) Silt fences should be used to prevent any soil entering the stormwater drains. 8) Temporary cut off drains and berms may be required to capture stormwater and promote infiltration. 9) Promote a water saving mind set with construction/Mining workers in order to Contractor ensure less water wastage.		

		10) New stormwater construction must be developed strictly according to specifications from engineers in order to ensure efficiency. 11) Hazardous substances must be stored at least 20m from any water bodies on site to avoid pollution. 12) The installation of the stormwater system must take place as soon as possible to attenuate stormwater from the construction phase as well as the operation phase. 13) Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers. 14) There should be a periodic checking of the site's drainage system to ensure that the water flow is unobstructed. 15) If a batching plant is necessary, run-off should be managed effectively to avoid contamination of other areas of the site. Untreated runoff from the batch plant must not be allowed to get into the storm water system or nearby streams, rivers or erosion channels or dongas. 16) The cut-off trenches and silt fences will be installed where necessary as to control runoff storm water by attenuating it and control the movement of sediment on the premises. 17) These structures will be monitored on a regular basis. It is suggested that it be monitored on a weekly basis during the rainy season, and after possible rain events during the dry season. 18) If these practices is found to be insufficient for the control of storm water and sedimentation, other alternatives should immediately be investigated and implemented. **Groundwater resource protection** 19) Process solution storage ponds and other impoundments designed to hold non fresh water or un-treated process effluents		

		should be lined and be equipped with sufficient wells to enable monitoring of water levels and quality. **Sanitation** 20) Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 15 workers). 21) The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution. **Concrete mixing** 22) Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth. **Public areas** 23) Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis. 24) The Contractor should take steps to ensure that littering by construction workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines. 25) No washing or servicing of vehicles on site.		
Noise and ground vibration monitoring	Sound and/or noise Ground vibration	The following three primary variables should be considered when designing acoustic screening measures for the control of sound and/or noise: • The source – Reduction of noise at the source; • The transmission path – Reduction of noise between the source and the receiver; • The receiver – Reduction of the noise at the receiver. The last option is not applicable as it was decided to control the noise levels at the source. **Acoustic screening recommendations** <u>Construction phase</u>		

		• Machinery with low noise levels that complies with the manufacturer's specifications to be used. • Activities to take place during daytime period only. • Noise monitoring on a quarterly basis. • Crack survey at the abutting residential areas to be carried out once the mine lay-out plan is made available. <u>Operational phase</u> • Emergency generators to be placed in such a manner that it is 500m away from any residential area. • Drilling with drilling rig to be done in such a manner and must be 500m away from any residential area. • Noise monitoring to be done on a quarterly basis. • Crushing activities to be monitored and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis. • Blasting to take place under controlled conditions and by using the safe blasting methods at all times. • A distance of 500m must be at all times maintained between the residential area, and the blast site and an earth berm of 10.0m to be erected in the vicinity of residential properties. • A safe distance to be maintained at the OHP during blasting activities. • The explosive magazine at the northern boundary to be relocated. • Blasting activities to be monitored and ground vibration and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis. • The feeder roads from the east and the south to be closed for traffic during blasting. • Permanent ground vibration to be carried out at the abutting noise sensitive areas. • Crushing activities to be monitored and noise survey to be done on a monthly basis after which the frequency can change to a quarterly basis.		

		<u>Rehabilitation phase</u> • Machinery with low noise levels which complies with the manufacturer's specifications to be used. • Activities to take place during daytime period only. • Noise monitoring on a quarterly basis. <u>Cumulative impact of the entire process</u> • Actively manage the process and noise and vibration impact assessment to determine compliance to the noise and vibration regulations and/or standards. The levels to be evaluated in terms of the baseline noise and ground vibration levels. The following are the Environmental, Health and Safety Guidelines of the IFC of the World Bank, which should be taken into consideration during the construction, operational and rehabilitation phases of the project: • Selecting equipment with lower sound power levels; • Installing silencers for fans; • Installing suitable mufflers on engine exhausts and compressor components; • Installing acoustic enclosures for equipment causing radiating noise; • Installing vibration isolation for mechanical equipment; • Re-locate noise sources to areas that are less noise sensitive, to take advantage of distance and natural shielding; • Taking advantage during the design stage of natural topography as a noise buffer; • Develop a mechanism to record and respond to complaints. Blasts must be designed in such a manner that ground vibration and over pressure levels are adhered to. In order to comply with the above, the following measures should be implemented: • A scheme of vibration and air over pressure monitoring to be implemented;		

		• A scheme by which air over pressure is controlled; • Days and times of blasting operations to be established; • Ensure that the correct design relationship exists between burden, spacing and hole diameter; • Ensure the maximum amount of explosive on any one-day delay interval, the maximum instantaneous charge, is optimized by considering; • Reduce the number of holes per detonator delay interval; • Reduce the instantaneous charge by in-hole delay techniques; • Reduce the bench height or hole depth; • Reduce the borehole diameter. Always attempt to minimize the resulting environmental effects of blasting operations and to recognize the fact that the perception of blasting events occurs at levels of vibration well below those necessary for the possible onset of the most cosmetic of damage; but nevertheless at levels that can concern occupants abutting the mining area; Be aware that relatively small changes in blast design can produce noticeable differences in environmental emissions and that it is very often in response to changes in these emissions rather than their absolute value that complaints may be made. Scheme of vibration monitoring may include the following: • The location and number of monitoring points; • The type of equipment to be used and the parameters to be measured; • The frequency of monitoring; • The method by which such data are made available to management; • The method by which such data are used in order to ensure that the site vibration limit is not exceeded and to mitigate any environmental effects of blasting.		

Soil stripping and stockpiling plan	Soil stripping and stockpiling	A detailed soil stripping and stockpiling plan needs to be developed. **Construction phase**: The phase of the mine includes the clearing of vegetation across the proposed footprint areas of the different mining activities. The clearing of vegetation entails the removal of indigenous vegetation. The removal of vegetation entail that established grass and other plant species will be removed from their habitat. Areas that will be cleared include the open cast pits, contractors lay down area (ablution facilities, workshop, wash bay, & administration offices), RoM pads, roads, and stockpile areas. All disturbed areas must be rehabilitated to at least the pre-mining state. Hydrocarbon spillages also holds the risk of depleting soil quality and inhibiting proper vegetation establishment. Machines must be investigated on a daily basis to prevent any machine leakages from occurring. The risk to loss of indigenous vegetation and hydrocarbon spillages can be successfully mitigated. All expected impacts can be mitigated to within acceptable levels. **Operational phase:** After the vegetation clearing, top soil and sub soil will be removed for stockpiling purposes. The risk exists that top soil and sub soil can mix, which could impact on rehabilitation success. Top soil and sub soil must be stockpiled separately in order to prevent depletion of soil quality. Top soil must be placed on-top of the sub soil during stock piling in order to prevent a depletion of soil organic carbon. The construction of roads, as well as erection of temporary buildings may cause underlying soil layers to compact, and impact detrimentally on soil infiltration and effective soil depth. All impacted and affected areas must be ripped to at least 300mm after decommissioning, fertilized, and seeded. Alien invasive plant species will occur mostly on disturbed areas from when mining is initiated. An alien invasive management plan will have to be developed that will dictate the eradication plan. All expected impacts can be mitigated to within acceptable levels.		

		Rehabilitation and decommissioning phase: Hydrocarbon spillages remains a high risk to cause impact. Regular machine maintenance must be conducted in order to prevent leakages. Improper final landscape design could decrease the final land use potential. All environmental and geotechnical factors must be taken into consideration during the soil replacement and rehabilitation stages. These include, but are not limited to: soil bulking factors, soil swelling & shrinkage characteristics, soil quality, slope stability, erosion potential of soils on slopes, climate, etc. Disturbed areas must be ripped, fertilise, and rehabilitated. Seeding must only occur from October-January, and after sufficient rains. Established vegetation must be monitored in order to ensure that the rehabilitated sites show progressive ecosystem development. All alien and invasive plant species must be removed from site, and monitoring must be conducted in order to prevent reoccurrence. Subsidence along pit boundary could possibly occur due to consolidation settlement. These areas must be compacted and rehabilitated. The potential for fires could impede successful vegetation establishment if not managed. Grazing activities must be controlled for at least the first 3 years after rehabilitation. This will provide some time for ecosystem functions to develop.		
Air quality/ Dust monitoring plan	Dust Air quality	An effective monitoring plan (dust bucket network) is required. Proper dust monitoring is crucial for determining the impact of mining operations on the ambient air quality and amount of suspended particulate matter. The National Ambient Air Quality Standards clearly outline the allowable frequencies of exceedance for Nitrogen dioxide (NO2), Particulate Matter (PM10), PM2.5, Ozone (O3), Benzene (C6H6), Lead (Pb) and Carbon monoxide (CO) pollutants. If the allowable frequencies are exceeded the construction of a comprehensive Dust Management Plan will be mandatory.		
Water Quality	Water pollution	**Construction Phase** **1)** The following land clearance activities will take place during the construction phase:		

		- Vegetation clearance, - Topsoil and sub-soil stripping and stockpiling. The potential impact of stripping and stockpiling of topsoil and subsoil from the infrastructure and pit surface areas on the groundwater regime is considered negligible since no chemical interaction is envisaged that could have an adverse impact on groundwater quality. **2)** The following surface infrastructure will be constructed during the construction phase: - Contractor lay down area, - Stormwater facility. The construction of infrastructure will cause a very small reduction in recharge to the underlying aquifer system due to the compaction of the surface of the foundation layers. Clean run-off from areas such as roofs and parking areas eventually contributes to catchment yields. Run-off from haul-roads will be diverted and contained in the stormwater facility. No adverse impact is foreseen on groundwater quality since material used for construction is inert. **Operational Phase** **1)** The following activities will take place during the operational phase: - Utilisation of surface infrastructure, - Utilisation of access and service roads. Very little impact is expected since no water seepage or extraction is involved that could affect water levels. For dry facilities, impact on the groundwater only occurs through leachate formation from contaminated surface areas.		

		Impacts thus only occur as a result of rainfall recharge or when water is introduced in some form where leachate can form that seeps to the groundwater regime. <u>Mitigation Measures:</u> Haul roads and other compacted surfaces will be kept free of potentially hazardous material by cleaning spillages, thereby reducing infiltration of contaminated water. **2)** The following activities will take place during the development and utilisation of the waste stockpile and rom pad - The development and utilisation of the waste stockpile and ROM pad as mining progresses. Nitrate contamination in a chrome mining environment is more often than not associated with rock and ore material that contain remnants of nitrate based explosives, which are highly soluble in water. Seepage emanating from stockpile areas is therefore expected to contain elevated concentrations of nitrate and pose a significant groundwater contamination risk. Sporadic contamination of the groundwater regime therefore occurs whenever water seeps through the contaminated material during periods of rainfall. <u>Mitigation Measures:</u> - Clean surface water will not come into contact with dirty water or nitrate contaminated material, - The surface area should be compacted to minimise the ingress of poor quality seepage, - Continuous monitoring of groundwater quality. **3)** The following activities will take place during the development and progression of the opencast pits - Progressive development of opencast mining cuts, including blasting and extraction of chrome ore.		

		Groundwater levels are expected to decrease within the immediate vicinity of the opencast pits as a result of pit dewatering. The degree of aquifer dewatering depends on the extent and depth of the opencast pits below the local groundwater level as well as the hydraulic properties of the aquifer host rock. Please refer to Section 5.2 for a full discussion on the expected groundwater level impacts associated with the planned opencast workings. Pit dewatering will occur whenever necessary to ensure dry and safe mining conditions. Groundwater contamination of surrounding users is therefore not expected to take place while the mine is still operational. Only after groundwater levels have recovered from the impacts of pit dewatering is contamination expected to migrate in the down gradient groundwater flow direction/s. The impact rating/significance provided below is therefore focused on the impacts associated with the planned pit dewatering (groundwater level impacts). The aquifer structure will be destroyed wherever it is intersected by the opencast pits. <u>Mitigation Measures:</u> - The dewatering of the local aquifer system and destruction of its structure/s cannot be prevented. - A quarterly monitoring program should be implemented to monitor the extent of the dewatering. **Rehabilitation / Decommissioning Phase** 1) The following activities will take place during the decommissioning phase: - Removal of all mining and related infrastructure, - Shaping and landscaping of the opencast pits and temporary stockpiles, - Removal of potentially hazardous material from disturbed land use areas,		

		- Demolition and rehabilitation of redundant surface infrastructure depending on the long-term groundwater management strategy and agreed end land use, - Removal of exotic and invasive plants and the re-establishment of such species within the rehabilitated areas will be prevented, - Final rehabilitation, including the placement of topsoil and establishment of vegetation on rehabilitated areas, - Aim to establish a sustainable and agreed end land use through final rehabilitation. The rehabilitation of the disturbed surface areas will have a positive effect on the groundwater system. <u>Mitigation Measures:</u> - Removal of all mining and related infrastructure, - Shaping and landscaping of the opencast pits and temporary stockpiles, - Removal of potentially hazardous material from disturbed land use areas, - Demolition and rehabilitation of redundant surface infrastructure depending on the long-term groundwater management strategy and agreed end land use, - Removal of exotic and invasive plants and the re-establishment of such species within the rehabilitated areas will be prevented, - Final rehabilitation, including the placement of topsoil and establishment of vegetation on rehabilitated areas, - Aim to establish a sustainable and agreed end land use through final rehabilitation. Seen in the light of sustainable development and water security during times of drought, Groundwater Complete believe that the rehabilitated opencast pits may provide an opportunity for water storage. Keeping in mind that: - Water levels would need to be monitored frequently and kept below the potential decant elevations.		

		- An abstraction point needs to be installed in the deepest part of the pit floor. - Rehabilitation should aim to optimize the effective recharge to the rehabilitated pits.		
Ecological Impact Assessment	Wetland, flora and fauna	**<u>Wetland areas</u>** • no construction or disturbance is generally allowed within a 32 m buffer zone of a wetland. <u>Mitigation Measures:</u> • Any construction activities in a wetland or water course may only take place after the necessary water use license has been obtained. • During excavations, soil stockpiling should as far as possible take place outside the wetland edge keeping topsoil and sub-soil apart as far as possible. These stockpiles should then be backfilled in the right order placing topsoil on top of sub-soil. • Where excavated soil will not be used for backfilling, it must be removed to a registered landfill area to prevent it from eroding into the wetland/water course. • Cement mixing must either only take place over a covered surface nearby or beside the construction area. It is important that no cement spills can enter the wetlands/watercourses. • Natural vegetation must not to be injudiciously damaged or removed. • Indiscriminate off-road driving through wetlands is not allowed. • Construction machinery and vehicles must be checked for oil leaks before operating close to a wetland/water course and its delineated buffer zone. Strictly no re-fuelling of vehicles or machinery should be allowed to take place in any construction area in or near a wetland/water course. • Populations of alien and invader plant species within as well as alongside the wetland areas should be monitored on a regular basis and actions to eradicate these species at an early stage should be implemented.		

		• During and after construction it is important to take runoff control into serious consideration. Areas of exposed soil can easily erode and subsequently end up in the stream/wetland system. After construction water runoff control is equally important in order to avoid polluted water to end up in the wetland and drainage line further downstream. A well designed storm water drainage system must be constructed in order to channel water, which may potentially be polluted, away from wetland areas. Natural runoff from the natural terrestrial habitat should however not be restricted. • The use of potential pollutants (paint, chemicals, etc.) during construction and operational phases must be strictly controlled and a high quality of management and supervision concerning such materials must be enforced, especially near to wetland/water courses. • Sanitary facilities must be made available to construction workers working in or near to prevent urine and faecal waste entering the wetlands/watercourses. **Floral Communities** <u>Mitigation Measures:</u> • Injudicious and unnecessary destruction of natural vegetation should be avoided at all costs, restrict vegetation clearing to only what is necessary. • Construction footprint is to be kept as small as possible. • As far as possible vehicles are to only utilise designated existing roads • Red Data and protected plant species should be conserved as far as possible by means of: – Avoidance of unnecessary disturbance or destruction of their natural habitat. – If possible, developments that jeopardize any large populations of red data or protected species should be planned in such a way as to avoid the populations. It is		

		strongly advised that all detectable specimens of these species in the zone of development be transplanted into similar localities in nature; or – Transplant specimens into a nursery or other safe site until they can be relocated or used during rehabilitation and/or landscaping, or transplant such specimens into similar natural habitat, where no developments are planned. • A population study of Red Data and protected species are to be made of planned development areas for the impact on the local populations of these species to be determined and a workable plan of action to be formulated. • No informal fires are allowed within the study site • If viable populations of red data and protected species are found outside the areas that will be directly impacted by the proposed development, these areas need to be actively conserved in order to conserve a viable, non-fragmented gene pool of these species. • High diversity areas should be avoided in terms of planning of mining or any other anthropogenic activities. • The continued eradication of declared alien and invasive plant populations in the study area is strongly advised. A management plan and proper follow-up strategy for the prevention of the further spread or establishment of new populations of such species should be developed and enforced. • It should be noted that permits for certain activities are required according to national as well as regional ordinances and laws as far as indigenous flora and all water bodies (rivers, streams, wetlands, etc.) are concerned. • No unauthorised collection or removal of plants/ plant material from the study site. • Wherever possible, any soil that can serve as a growth medium for plants must be stripped and stockpiled for future landscaping or rehabilitation after or during the construction phase and should be used as soon as possible after “harvesting” to ensure		

		that seed sources does not become worthless due to decomposition of the seed over time. • Water control structures should be constructed and well maintained to minimize erosion and to create a favourable habitat for the establishment of vegetation during and after rehabilitation/landscaping. • As far as possible construct the rock dumps, overburden dumps etc. in such a way that slopes with a maximum of but preferably less than 18° are constructed in order to minimize the negative effects of steep slopes. • Destruction, pollution or any form of degradation of natural watercourses and wetland areas as well as their immediate catchment areas should be avoided as far as possible. • According to law in South Africa, all natural wetlands and riparian zones are to be delineated and protected. • A legitimate and well-designed rehabilitation plan must be set in place before mining commences and be strictly enforced on an on-going basis throughout the life of the mine and thereafter. **Faunal Communities** Mitigation Measures: The following can be implemented during the planning and construction of infrastructure to facilitate biodiversity preservation: • It is recommended that site clearing take place in a phased manner to allow for any faunal species present to move away from the study site. • Areas known for high faunal species richness should be avoided by mining infrastructure development. • Red data and protected species listed in legislation should be protected from mining impacts and areas where they occur should be avoided during the mining infrastructure development and construction. • A population study of Red Data and legally protected species are to be conducted on planned development areas in order for the		

		impact on the local populations of these species to be determined and a workable plan of action to be formulated • The pollution of wetland or water courses should be avoided, since it may negatively impact on the viability of amphibian populations and decrease species richness. Wetlands and riverine habitats are protected under law. • As far as possible discourage trapping or hunting of any faunal species within the study site. • No unauthorised collection or removal of plants/ plant material from the study site. In order to facilitate biodiversity preservation in the area the following will prevent and mediate biodiversity preservation: • Areas known for high faunal species richness should be avoided by mining operations. • Vehicles are to utilise designated existing roads. • Red data and protected species listed in legislation should be protected from mining impacts and areas where they occur should be avoided during the mining process. • The relocation of encountered specimens of protected or listed species to suitable habitat in the general vicinity may be necessary. • A population study of Red Data and legally protected species are to be conducted on planned development areas in order for the impact on the local populations of these species to be determined and a workable plan of action to be formulated. • If viable populations of red data and protected species are found outside the areas that will be directly impacted by the proposed development, these areas need to be actively conserved in order to conserve a viable, non-fragmented gene pool of these species. • Nationally and provincially protected species may require a permit from conservation authorities before any restricted activity may be performed with listed animals. • The pollution of wetland or water courses should be avoided, since it may negatively impact on the viability of amphibian populations		

		and decrease species richness. Wetlands and riverine habitats are protected under law. • The high rate of disturbance induced by mining activities may also lead to the establishment of alien and invasive plant species, which may alter the habitat structure of faunal species. Such plants should be removed as soon as possible to avoid infestations, habitat alteration and legal consequences. • Rehabilitation plans after the closure of mining operations should include the rehabilitation of faunal habitats and possibly the artificial reintroduction of species with limited dispersion abilities. Constant monitoring of faunal populations during and after rehabilitation may be needed to ascertain the status of faunal populations on the site. **<u>TERRESTRIAL MANAGEMENT PLAN</u>** **Opencast Phase** • To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees. • Activities on site must comply with the regulations of the Animal Protection Act, 1962 (Act No. 71 of 1962). Workers should also be advised on the penalties associated with the needless destruction of wildlife, as set out in this act. • Appoint an ECO to oversee the activities and ensure that ecological aspects are kept in mind; • Priority species, specifically nests if encountered, should be identified first and a management plan should be established for each of the priority species; • Continuous rehabilitation and clean-up of the area should be implemented during the operational phase; • Limit activities (transport etc.) to the smallest area possible. This is to prevent fragmentation that may have irreversible changes to		

		faunal communities. It also increases the invasion of alien/foreign species; • A management plan for the control of alien and invasive plant species needs to be implemented; • Restrict movement to the proposed footprint of the activities. Control of access should be implemented for all other natural areas to prevent unnecessary destruction of habitats or disturbance of species. It is also vital that no additional fragmentation occur and that all roads are clearly demarcated and kept to a minimum without any exceptions. No vehicles or personnel are permitted outside of these demarcated roads; • No camping activities or other contractor camps should be allowed on site and this practice will be a good investment in preventing more impacts, noise and waste or possibly the spread of fires. **Fauna and Habitat Mitigation and Management Measures** • Ensure awareness amongst all staff, contractors and visitors to site to not needlessly harm or hinder animals or damage flora that is endemic and serve as habitat for the animals inhabiting the area. • Allow animals to escape areas of activity freely and do not hinder their movement, especially avoid the natural ecological corridors created by the different drainage lines encountered. • All injured animals sighted during the development should be protected and moved to receive rehabilitation at the designated centre (the SHEQ/ECO should find out which centres will be appropriate for the species in the North-west Province) and should not be handled by the employees under any circumstance. Clear protocol should be developed on the matter. • Have a policy in place to prohibit hunting for food or pleasure (rifles, snares, dogs) by the workers or employees of the operations. These conditions should be written into contractor's agreements with strict penalty clauses. Employees engaging in		

		any of these activities should be faced with disciplinary action. All hunting activities will require special permits and should be avoided wherever possible. • To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees. • All noisy equipment should be avoided or mitigated to lessen sound levels as well as vibration levels should be controlled to limit impact on biodiversity and sensitive species. • Undisturbed natural areas should be designated and should remain intact throughout the lifetime of the proposed development as well as closure and decommissioning phase. • Activities should be focused during the day-time to prevent night time impacts on the animals. • An active body to report any problems and observations made (of prohibited activities) or should be designated to an existing committee; this may be the ECO or the SHEQ or any other decided management body within the operational framework of the activities, which is designated responsibility of this management plan. **Monitoring** A monitoring framework should be instigated and managed by their responsible body and the following system may enforce good practice: • Implement an "Observe and report" approach which will enable employees to report any disturbance of fauna or degradation that they encounter during the operational phase. • Activity restrictions of the ecological and aquatic corridors will need to be included to ensure the restriction of human movement within these sensitive zones, except when the required license has		

		been obtained to allow for controlled modifications specifically to the drainage lines within these areas. • Annual biodiversity monitoring during September to March of areas both affected and unaffected by activities should be initiated to determine annual fluctuation in species numbers and if necessary, relate this to activities on site. • Determine annual fluctuation in species numbers and if necessary, relate this to activities on site. • Establish a monitoring programme for early detection of alien invasive species and establish and alien invasive awareness, eradication and control programme. **Decommissioning and Closure** • A rehabilitation plan should be implemented, and it should be determined what the end use of the land will be. It is recommended that the areas be restored to its natural state as far as possible after decommissioning as to preserve and regain the habitat and vegetation lost from these endemic regions. • This includes process of replanting the vegetation if required and this should be governed by a vegetation expert. • Ensure awareness amongst all staff, contractors and visitors to the site to not needlessly damage any part of the natural environment. • Re-vegetation of al degraded areas and bare patches is advised to speed recovery to natural, self-sustaining state as soon as possible. • General management in terms of dust and traffic control will ensure low hindrance to the fauna communities and should be adequate.		

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including

G) MONITORING OF IMPACT MANAGEMENT ACTIONS

H) MONITORING AND REPORTING FREQUENCY

I) RESPONSIBLE PERSONS

J) TIME PERIOD FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS

K) MECHANISM FOR MONITORING COMPLIANCE

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Clearance of vegetation	Loss or fragmentation of habitats	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.
Mining of the applied for minerals – drilling	Loss of topsoil Erosion Air Pollution Noise	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an

	Impact on potential cultural, heritage artefacts and fossils			annual basis. Reports should be made available to the competent authority if required.
Waste management	Pollution	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.
Water Use and Quality	Water pollution	• Conduct regular internal audits • Conduct regular external audits	• Environmental Manager • Suitable qualified environmental auditor	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.

L) THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT REPORT.

External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the Competent Authority if required.

M) ENVIRONMENTAL AWARENESS PLAN

1. Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

Covid-19:
The World is faced with a pandemic and there should be measures in place on how the applicant will conduct their activities taking into consideration the Covid-19 Occupational Health and Safety Measures in Workplaces.

See the attached **Appendix 10** for the Awareness plan & Covid-19 Occupational Health and Safety Measures in Workplaces.

First Run Trading (Pty) Ltd will implement an Environmental Awareness Plan which will include various mechanisms for informing employees of environmental risks resulting from their work, including:

- Induction training for full –time staff and contractors;
- In-house training sessions to be held with relevant employees;
- On the job training regarding environmental issues
- Training and skills development

The above measures will be implemented through an Environmental Communication Strategy to be implemented.

See the attached **Appendix 10** for the Awareness plan & Covid-19 Occupational Health and Safety Measures in Workplaces.

i. Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

First Run Trading (Pty) Ltd will implement an incident reporting and reporting procedure in order to identify risks timeously and implement actions to avoid or minimise environmental impacts.

N) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(Among others, Confirm that the financial provision will be reviewed annually).

No specific information requirements have been detailed by the Competent Authority.

************END OF THE REPORT ************