



**DRAFT ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME**

**SUBMITTED FOR ENVIRONMENTAL AUTHORIZATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT 1998 (NEMA), AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT 2008 (NEMWA) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCE DEVELOPMENT ACT 2002 (MPRDA) AS AMENDED.**

**NAME OF APPLICANT :Setleng Mining (Pty) Ltd**

**REFERENCE NUMBER : LP 30/5/1/1/2/ 14407 PR**

**FARM NAME : Matabata location 306, Plaats 304 and Ongegund 302**

**MAGISTERIAL DISTRICT: Capricorn**

**COMMODITY : Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General)**

**DATE : 07 February 2022**

## STANDARD DIRECTIVE

In terms of the Mineral and Petroleum Resource Development Act as amended, the Minister must grant Mining or Prospecting right if among others the mining will not result in unacceptable pollution, ecological degradation or damage to the environment”.

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

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 a permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

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



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## SOURCES

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2. Statistics South Africa(census), 2011
3. <http://www.samsamwater.com/climate>,2016

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## 1. IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.

**Table 1-1: Details of the applicant**

ITEM	COMPANY CONTACT DETAILS
Company Name	Setleng Mining (Pty) Ltd
Full Name and	Mr Kgasago Jimmy Setleng
Tel no	072 729 9111
Fax no:	086 599 3318
E-mail address	<a href="mailto:Jmkgasago@gmail.com">Jmkgasago@gmail.com</a>
Postal address	P O Box 731 Barberton 1300

**Table 1-2: Details of the EAP**

ITEM	CONSULTANT CONTACT DETAILS (If
Name	TPR Mining Resources (Pty) Ltd
Tel no	087 980 5800
Fax no:	086 599 3318
Cellular no	079 244 2470
E-mail address	<a href="mailto:info@tprmining-resources.co.za">info@tprmining-resources.co.za</a>
Physical address	29J Woltemade Street, Witbank Mpumalanga Province 1034

### Project team

**Author:** Ms Lethabo Chauke

**Qualification:** National Diploma in Environmental Sciences

**EAP:** Mr. Thato Ramoraswi

**Qualification:** BEnvSc (Environmental Science), Cert Waste Management



**2. Location of the overall activity**

**Table 2.1: details of the affected site**

<b>Farm name</b>	Matabatas location 306, Plaats 304 and Ongegund 302
<b>Application area(Ha)</b>	4390 Ha
<b>Magisterial district</b>	Capricorn
<b>Distance and direction from nearest town</b>	Approximately 47.0 km along the R37 route connecting to Orrie baragwanath pass road from Lebowakgomo to Moleke
<b>21 digit Surveyor general code for each farm portion</b>	T0KS00000000030600000, T0KS00000000030400000, T0KS00000000030200000,

**3. INTRODUCTION**

Setleng Mining (Pty) Ltd have applied for an Environmental authorisation for prospecting right on farm Matabatas location 306, Plaats 304 and Ongegund 302. The proposed prospecting area will be explored in three phases namely; literature review, Site observation, field mapping and drilling. The type of drilling to be used has minimal impact on the environment.

Literature review is the first stage of prospecting wherein scientists need to conduct a research about the location, geology and the suitable prospecting method by means of books, journals, internet, article etc. This is done in order to gain an overview of the study area and gathering as much information for reference.

Site observation takes place when scientist personally goes to site and discovers the functioning of the site. Scientist can gain first-hand knowledge of the geology, vegetation, Land-use activities and operations that occurs around the study area.

Field mapping include the description of the geologic features and structural geometry of a deformed field area, simultaneously conducting geophysical survey.

Drilling phase will involve drilling of the positioned boreholes using a diamond core drilling technique. A sump will be constructed at each drilling site for the storage of water used to cool the drill rig. The sump will be constructed to be one square



meter in size and have a maximum depth of one metre. Soils removed from the sump (1 cubic meters) will be placed adjacent the drilling site and used for rehabilitation of the site after drilling.

Boreholes will be drilled at pre-planned sites. The boreholes will be drilled to intersect all the expected Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) seams and will be logged by the geologist. The Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) samples will be sent to the laboratory for quality analyses. This data will form the basis for the geological modelling and financial evaluation.

This activity is contemplated under NEMA ACT (107 of 1998), as amended and section 27 of the Mineral Petroleum Resource Development Act 2002 (Act 28 of 2002) as amended.

### 3.1 Project locality

The area where prospecting will take place is located approximately 47.0 km north east of Lebowakgomo along the R37 route connecting Orrie Baragwanath pass road to Moleke on the remaining extent of the farms Matabata location 306, Plaats 304 and Ongegund 302, within Lepelle-Nkumpi Local Municipality, Capricorn district of Limpopo Province.

#### Site Co-ordinates of the application area

No:	X	Y
1	-24.19964450	29.86694052
2	-24.20724000	29.86608700
3	-24.20630300	29.87930200
4	-24.22451896	29.88310674
5	-24.22508982	29.8845002
6	-24.22390101	29.88969400



<b>7</b>	-24.22132324	29.89522844
<b>8</b>	-24.22388200	29.90673000
<b>9</b>	-24.22553037	29.92431497
<b>10</b>	-24.24676200	29.91658400
<b>11</b>	-24.23386471	29.87534144
<b>12</b>	-24.24627200	29.87494300
<b>13</b>	-24.24738919	29.86776170
<b>14</b>	-24.24931513	29.86105354
<b>15</b>	-24.25365800	29.84605200
<b>16</b>	-24.25435011	29.82552783
<b>17</b>	-24.25137509	29.82505257
<b>18</b>	-24.24243001	29.81769300
<b>19</b>	-24.23844897	29.82526244
<b>20</b>	-24.23166812	29.82534321
<b>21</b>	-24.22966387	29.82259188
<b>22</b>	-24.22700315	29.82319771
<b>23</b>	-24.22507191	29.82122629
<b>24</b>	-24.22325300	29.81562000
<b>25</b>	-24.21078000	29.83054500
<b>26</b>	-24.19914298	29.83618840



<b>27</b>	-24.19799457	29.88049898
<b>28</b>	-24.20548803	29.89395326
<b>29</b>	-24.20575528	29.90527477
<b>30</b>	-24.20420215	29.90123828
<b>31</b>	-24.2024434	29.89854737
<b>32</b>	-24.19951869	29.89669487

#### 4. Locality Map of the proposed farm Koedoeskop 408, Matabatas location 306, Plaats 304, Ongegund 302, Haakdoornhoek 406 KS

See attached Locality **Appendix B**

#### 4.1 Description of the Scope of the proposed overall activity

##### 4.1.1 Listed and specified activities

**Table 4.1: listed activities**

<b>Name of activity E g. for prospecting drill site, site camp</b>	<b>Aerial extent of the activity Ha or m<sup>2</sup></b>	<b>Listed activity mark with an X where applicable or affected.</b>	<b>Applicable listing notice (GNR 983,984.985)</b>
Drill site (indicated by circular dots)	1.5M <sup>2</sup>	X	GNR 983(Activity 20)
Ablution facility(mobile hired toilets closer to each drill site)	0M <sup>2</sup>		
Accommodation (camping site for drilling contractor outside prospecting site)	500m <sup>2</sup>		
Equipment storage (outside prospecting site)	500m <sup>2</sup>		



Sample storage (outside prospecting site)	not applicable		
Site office (No site office to be established)	not applicable		
Access route( Pre-existing access routes will be used)	0m <sup>2</sup>		

## 4.2 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

### 4.2.1 Minerals to be prospected

Setleng Mining (Pty) Ltd intends to prospect for Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) utilising core drilling and ore sampling. Drilling will be conducted on specified drilling points depending on available site within the farm portions.

### 4.2.2 Methods to be used for prospecting

#### Invasive methods

Invasive methods will include diamond core drilling which is preferred when prospecting for Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General). Core drilling is done in order to ascertain the stratigraphy and reef horizon of the ore body. However no invasive methods will be utilized for this application, this is due to the fact that previous drilling results have been obtained from previous drilling activities that were conducted on the same affected farm properties

#### Non-invasive methods

Non-invasive methods includes ground magnetic survey and produces minimal impact on the environment. The ground magnetic survey will assist in identification of plotted sites within the boundary of the farm where drilling will take place, this type of survey is used to determine the required data for mapping of the ore body. Geophysical survey and field reconnaissance will also be undertaken in order to obtain detailed data of the ore to be prospected.

### 4.2.3 Environmental Attributes



The environmental attributes will be determined through the baseline assessment. A baseline assessment will be undertaken to describe the environment that is likely to be affected during prospecting. The baseline assessment will include the local setting and infrastructure, climate, topography, soil and land capability, land use, biodiversity (including threatened and endangered species, plants of medicinal value and conservation areas), surface water, groundwater, geology, noise, air quality, places of cultural interest and sensitive landscapes (including wetlands, heritage sites and land claims), the socio-economic setting and waste.

#### 4.2.4 Identification of impacts and risks

The environmental risk analysis will be performed to identify potential environmental impacts associated with the prospecting project.

#### 4.2.5 Consideration of alternatives

No possible alternative has been envisaged at the current moment, if things change in future such information will be made available. However should the prospecting right be granted that will assist the applicant to consider applying for either a mining permit or a mining right depending on the outcome of the drilling results.

#### 4.2.6 Process to assess and rank impacts

Various ranking include probability, duration, scale and magnitude.

Once these factors have been ranked for each impact, the significance of the two aspects, occurrence and severity, will be assessed using the following formula:

$$SP \text{ (Significance points)} = (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability}$$

The maximum value is 100 significance points (SP). Risks are identified as potentially significant (High, >60 SP), Moderate (30 – 60 SP) or insignificant (Low, <30 SP).

In some instances risks can be rated as uncertain or unknown. Risk management strategies will be identified for the potentially significant risks, while the uncertain risks will be re-evaluated after a data collection and analysis programme.

#### 4.2.7 Contribution of specialists reports





Vegetation sensitivity specialists can assist in determining any protected species within the prospecting area including protected terrestrial areas. Such information will assist in remediation phases and rehabilitation. Geohydrological studies can aid in developing monitoring and mitigation measures to reduce contamination of underground water during drilling phase, archaeological investigation of ancient habitation or graves.

**4.2.8 Determination of impact management objectives and outcomes**

- Fire management plan: To ensure that the prospecting area is prepared in the event of a fire breaking out.
- Spill procedure: Ensure adequate ventilation, if the spill occurred in-doors.
- Boreholes drilling management: All drilling rigs will be fitted with appropriate dust and noise suppression equipment like water sprays and mufflers.

**5. Policy and Legislative Context**

**Table 5.1: listed activities**

Applicable legislation and guidelines used to compile these report(	Reference where applicable	How does this development comply with and respond to the legislation and policy
National Environmental Management Act 107 of 1998,GNR 983 Listing Notice 1, Activity 20	Government gazette No: 10328,04 December 2014 No 38282, Department of Environmental Affairs	An application for Environmental authorisation has been lodged in terms of the NEMA ACT (107 of 1998)
National Environmental Management: Biodiversity Act (No 10 of 2004), Sections 57, 65-69, 71, 73 and 75	Department of Environmental Affairs	An application for a permit for removal of indigenous plant has not been lodged, if by any means there is existing indigenous plants within the proposed prospecting area, an application will be lodged with the department of

		environmental Affairs prior to removal
National Heritage Resources Act (No 25 of 1999), Section 34–36(NHA)	South African Heritage Resource Agency	An application for a permit to demolish old structures that are more than 60 years old or presence of graves has not been lodged, if there is presence of archaeological remains within the proposed prospecting area, such will be done in accordance with prescribed legislation.
Mineral Petroleum Resource Development Act 28 of 2002(MPRDA)	Department of Mineral Resources	An application for a prospecting right has been lodged with the Department of Mineral Resources in terms MPRDA (28 of 2002)section 16
National Water Act(Act 36 of 1996)NWA	Department of Water Affairs	Application for a Water-use licence will be applicable should any water resources is disturbed within the prospecting area.
Conservation of Agricultural Resource Act(Act 43 of 1993)CARA	Department of Agriculture and Fisheries	Protection of agricultural resources from any prospecting activities will be practised.

**5.1 Need and Desirability of the proposed activities**



According to the geological characteristics of the proposed prospecting area. The farms Matabatas location 306, Plaats 304 and Ongegund 302 KS is situated 47.0 km along the R37 route connecting Orrie Baragwanath pass road from Lebowakgomo to Moleke. The type of prospecting to be conducted has minimal impact on the environment as it will only involve drilling and sampling of ore, to determine the quantity and grading of the ore.

### 5.1.1 Socio economic

In respect of the input into the National economy, Limpopo Province only contributes about 7% of the total GDP generated by the country as a whole, making it one of the lowest contributors in the country. However, Limpopo Province makes the second biggest contribution the total GDP in the Mining sector (22%), topped only by North West Province (26%). The distribution of platinum mining cluster on the Dilokong Corridor is in abundance around the areas of bugersford and Jane furse. This will attract foreign investment to the local town and nearby communities through transportation, beneficiation. Introduction of mining operations will attract businesses to invest within the surrounding area. Introduction of mining operations will attract businesses to invest within the surrounding area, as a result bring development of parks, shopping Malls recreation facilities. This will improve social cohesion for the local communities.

In 2001, Capricorn District represented some 23.1% of the total population of Limpopo Province, compared to 23.3% for 2011. Capricorn District has seen its population grow by 106 784 people between 2001 and 2011. The population situated in Lepelle-Nkumpi Municipality, with a population size of 230 350, takes up some 18.3% of the total population of the Capricorn District. The population in Lepelle-Nkumpi has grown slower than in the rest of the District, which indicates that the growth experienced in the district was not generated in Lepelle-Nkumpi Municipality, which had an overall increase in population of 1.5% (2 388 people) between 2001 and 2011.

About 52% of the economically active population of Lepelle-Nkumpi is employed, which is higher than the level of employment in 2001. Unemployment rates are far higher than that on a national (30%) and District level (37%). Lepelle-Nkumpi Municipality has an unemployment rate of 48%. The unemployment rate is expressed as a measure of the economic active population that are unemployed (i.e. not accounting for 'other', such as housewives/ homemakers; students and scholars; pensioners and retired people; people who cannot work due to illness or disability; seasonal workers; etc., or they choose not to work). There is thus a pressing and urgent need for job creation.

Mining operation will boots local SMMEs and business, which will in turn reduce unemployment rate around the area. Mining operations will also attract retail facilities around the proposed mining area.

### 5.1.2 Location suitability

The farm area is characterised by a vacant area which consists of tall trees, shrubs and grasses. There is low-residential concentration around the proposed farm area, which provides suitable establishment of mining operations. The commodity which is proposed to be prospected is geologically distributed within.

## 5.2 Motivation for the overall preferred site, activities and technology alternatives

### 5.2.1 Preferred site

The proposed study area is mainly dominated by the granite, dolerite and gabbro. The area is characterized by gabbro and minimal lava. Corridor 1 traverses dolomite, clinopyroxente and andesite which is dominated by gabbro. Corridor 2 traverses mainly gabrro and minimal anderite. Corridor 3 spans on granite, dolomite and arsenate.

### 5.2.2 Technology alternatives

The proposed exploration programme will be carried out in two phases. The first phase involves a desktop study in order to identify target sites for exploration drilling. This will include a review of available information, creation of geological and financial model and the identification of target sites for sampling.

The second phase of exploration will require the drilling of a first borehole to a certain depth in (m). Assuming the targeted seams are encountered during drilling, Cores will be raised and sections inserted into sampling canisters. The samples will then be taken to a laboratory for testing and analysis.

### 5.2.3 Summary of exploration programme to be undertaken. Desktop study:

This programme aims to assess historical data and surrounding properties. Properties and previous work done on the property will comprise of the following key activities:



- Historical data
- Previous prospecting activities
- Prospecting activity
- Challenges relating to exploration and mining
- Depth
- Thickness of the ore body
- Size of the ore body

#### 5.2.4 Geological Mapping

After conducting a desktop study of the property the next subsequent activity will entail a field mapping the area to determine various rocks and minerals that have an economic potential a detailed mapping programme needs to be undertaken so as to identify the rock and mineral where there is ore (Gold, Chrome, Nickel, Manganese and Platinum ore) mineralization present.

This might include the following mapping techniques such as:

- Identifying various rock and mineral lithologies.
- Mapping geological structures that might be of economic importance.
- Mapping alteration processes that might be of economic importance such as weathering, leaching, dissolution and enrichment processes

#### 5.2.5 Structural Mapping

The programme will determine the dip of the ore body and the strike of the ore body. Furthermore, structure such as faulting and folding will be mapped out from the mapping exercise all areas that need to be drilled will be properly sited on site.

#### 5.2.6 Location of Suitable boreholes

##### Drilling

As we are targeting shallow and open-castable, drilling will be limited to a depth of 50 metres. Exact number of boreholes will be determined after geophysical surveys have been conducted, with consideration of the existing infrastructure, water bodies found within the affected farm area which will be avoided. The orientation and dip of the drill holes will depend mainly on the strike and dip of the rocks. They will be planned in a manner to ensure that the ore body is intersected.

##### Size of the boreholes



Due to the geological setting of the affected farm, which is characterised by The Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) of which the prospecting right area is situated in the middle. The northern boundary is the sub-crop against the pre-Karoo basement rocks of the Waterberg sandstones and the south is a prominent pre-Karoo basement ridge. The proposed drilling diameter that would be suitable to the affected prospecting area is explained on the below table.

- Diameter (0,036m)
- Depth ( 50 m)

**Table 5-2: calculations of the size (area) of a borehole**

<b>A</b>	$\pi$	$r^2$	<b>M</b>
Area	Pie	radius	Metres
$A = \pi r^2$ $A = \pi \times (0,018m)^2$ $A = 1.01 \times 10^{-3} m^2$ (size of each borehole)			

### 5.2.7 Types of equipments that is going to be used during the operation

Drilling of holes- Standard Diesel powered drilling rig will be used for the holes. Site visit - Standard 4x4 Bakkie.

## 6. Description of the process followed to reach proposed preferred alternatives within the site

### 6.1.1 Details of the development footprint alternatives considered

#### ANALYSIS OF ALTERNATIVES

In terms of the NEMA EIA Regulations one of the criteria to be taken into account by the competent authority when considering an application is “any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment”. Alternatives are defined in the Regulations as “different means of meeting the general purpose and requirements of the activity”. It is therefore necessary to provide a description of the need and desirability of the



proposed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity.

### 6.1.2 Property alternative

The prospecting sites will be determined by the location of the ore body using dataset collected during geophysical surveys, which will aid in identifying sensitive environments which will be avoided.

### 6.1.3 Technology alternative

There are available drilling types that are used for prospecting activities namely

#### ➤ Percussion drilling

It is a manual drilling technique in which a heavy cutting or hammering bit is attached to a rope or cable is lowered in the open hole or inside a temporary casing.

#### ➤ Rotary core drilling

It is a drilling technique that uses sharp and rotational drill bits to create holes in the earth's crust.

#### ➤ Multi-combination rigs

It is a drilling technique that uses both the percussion and rotary drilling techniques.

Trenching can also be an alternative prospecting method but at the same time produces significant environmental impact on the site where prospecting will be conducted. It involves excavation of a deep narrow hole as opposed to a drill rig which will utilize about a 100m<sup>2</sup> in size.

### 6.1.4 No-go alternative

The no-go alternative will hinder development within and around the area and will not provide sufficient evidence of possible mine development within the farm properties as it was investigated from previous studies done.

## 7. Details of the Public Participation process followed



## 7.1 Confirmation of consultation

(Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties).

The interested and affected parties have been confirmed to this matter. Site Notices were placed on and around the site. A newspaper advertisement was published on the **23 September 2021** on the **Polokwane Review** newspaper to inform interested and affected parties of the prospecting activities. (See attached **Appendix D**).

Discussions have been held with the relevant landowner and lawful occupiers to inform them of the proposed prospecting during the consultation site visits and meetings. Any possible concerns in terms of possible impacts were communicated directly to the proponent. As directed on the acceptance letter from the competent authority, the applicant has informed and requested comments from landowners. See **Appendix D**

## 7.2 Record of the public participation and the results thereof

### 7.2.1 Identification of interested and affected parties

Landowner and their contact details were identified through a Title Deed search and through the public participation for the properties falling within the proposed prospecting area. Newspaper advert was placed to allow members of the surrounding community to comment on the proposed prospecting application. **See Appendix D**

## 7.3 The details of the engagement process

### 7.3.1 Description of the information provided to the community, landowners, and interested and affected parties

The following information was provided to the landowner and interested and affected parties through meeting, emails and telephones:

Setleng Mining (Pty) Ltd is planning as part of the prospecting work to conduct drilling operations on the availability of the vacant site provided by the landowner, which will be rehabilitated. The aim of the prospecting is to determine whether there is any viable Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General)





to be extracted in the long term. Should the prospecting study provide enough information in terms of a feasible long term mining project, an application will be made to the Department of Mineral Resources for an either a Mining permit or right. Should this be the case, the option of purchasing some of the properties can be investigated and negotiated with the various owners.

The landowners will be informed that should a Mining Right be applied for, it will be for an opencast mine, and no underground section will be required due to the shallow depth of the Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) within the area. Setleng Mining (Pty) Ltd requested the landowners for their co-operation during the prospecting process of which currently only the landowner of the affected farm has been informed of the proposed prospecting activities applied for. **See Appendix D**

**7.3.2 List of which parties identified in above that were in fact consulted, and which were not consulted**

**Table 1.10.1:** Landowners and I&APs of the proposed area have been consulted.

Name of Interested /affected parties	Contact Details	How did the Consultations take place?	What were His /her concerns about The operation?
Landowner  Mathabatha Traditional Council (Kgosi MM Mathabatha)	P O Box 201 Mathabatha 0733  Tel: 071 532 2626/ 065 700 1269	Documents were submitted and meetings were held.	Received comments.
Lepelle-Nkumpi Local Municipality	170 BA Civic Centre Lebowakgomo 0737	Documents were submitted	We are still waiting for response



Department of Rural Development and Land Reform (Affected Party)	61 Biccard street, Polokwane, Private Bag X9552 Polokwane 0700  Tel: 015 284 6301	Emails were sent	Received comments.
Department of Economic Development, Environmental and Tourism	20 Hans Rensburg Street, Polokwane Central, 0700	Documents were submitted	We are waiting for responses
Department of Water Sanitation	Azmo Place, 49 Joubert Street, Private Bag X9506, Polokwane,0700  Tel: 015 290 1200	Documents were sent	We are still waiting for response

**7.3.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment.**

The drilling plan will avoid areas such as graves, buildings and indigenous or endangered species flora and fauna. According to the information provided by the landowner and lawful occupiers of the farm, the department of Rural Development have been notified of our application with regard to any land claims that might be pending, we are still awaiting a response from the Land Restitution section of the department, but if a claimant arises during the application phase the competent authority will be informed due course.

The department of Rural Development and Land Reform has been notified of the application on the said farm, local people and businesses with appropriate skills will be identified and included in the project tender process by Setleng Mining (Pty) Ltd. It is committed to employ local people and businesses during the project, where possible.

Due to the nature of prospecting, employment opportunities will be minimal. The prospecting crew is small (5 people) with specialized skills. Were possible, local



people will however be employed during the project. Compensation for damages will be negotiated with the lawful occupiers (in accordance with the Arbitration Act of 1965 (Act No.42 of 1965) the before any drilling can be initiated on the farm. This will be based on the merits of each case.

#### **7.3.4 List of views raised by consulted parties on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation**

The interested and affected parties did not raise any issues relating to the socio-economic and biophysical environment.

#### **7.3.5 Other concerns raised by the aforesaid parties.**

#### **7.3.6 Confirmation that minutes and records of the consultations are appended.**

See attached **Appendix D**.

#### **7.3.7 Information regarding objections received.**

No objections have been registered to date.

### **7.4 The manner in which the issues raised were addressed**

The interested and affected parties were given an opportunity to raise their concerns. Consultation was done through meetings and information was provided over site visit within the prescribed timeframes to allow the landowner sufficient time to respond and raise issues. See attached **Appendix D**

## 8. Summary of issues raised by I&APs

Interested and Affected parties List the names of persons consulted in this column Mark with an X where who must be consulted were in fact consulted		Date comments received	Issued raised	Eap 's response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues or responses were incorporated
<b>Affected parties</b>					
<b>Landowner/s</b>	<b>X</b>				
Mathabatha Traditional Council Kgosi MM Mathabatha		26/03/2020	They gave the applicant permission to prospect and apply for a mining right on their land to do business at Ga-mathabatha village on the farms which falls under their jurisdiction and leadership.	The EAP acknowledged their comments.	<b>Appendix D</b>
<b>Lawful occupier/s of the land</b>					
	<b>X</b>				

<b>Landowners or lawful occupiers of adjacent properties</b>					
N/A					
<b>Municipal Councillor</b>					
N/A					
<b>Municipality</b>					
Lepelle-Nkumpi Local Municipality	X		Still waiting for response		<b>Appendix D</b>
<b>Organ of state(Responsible for infrastructure that may be affected Roads department, Eskom, Telkom, DWA</b>					
Department of Water and Sanitation	X		Still waiting for response		<b>Appendix D</b>
<b>Communities</b>					
N/A					

<b>Department of Land Affairs</b>					
Department of Rural Development and Land Reform	X	06/10/2021	The department confirmed that as at the date of the letter submitted to them, no land claims appeared on their database in respect of the properties.	The EAP acknowledged the comments.	<b>Appendix D</b>
<b>Traditional Leaders</b>					
N/A	X				
<b>Department of Environmental Affairs</b>					
Department of Economic Development, Environmental and Tourism	X		Still waiting for response		<b>Appendix D</b>
<b>Other Competent authorities affected</b>	N/A				
<b>Other affected parties</b>					
	X				

<b>Interested parties</b>	N/A				



## 9. Environmental Attributes associated with the alternatives

### 9.1 Baseline environment

#### 9.1.1 Type of environmental affected by the proposed activity

##### Climate

The area falls within the Limpopo Province's Lowveld Climatic Zone which experiences typical subtropical, summer rainfall climatic conditions with hot summers and relatively warm winters. The area can experience periods of high humidity, particularly in the first half of the year. The humidity averages between 80% and 85% from January to June and reduces to between 76% and 80% for the remainder of the year. Maximums of 97% have been recorded. The rainy season is from November to March with maximum rainfall in January. The area is characterised by relatively low rainfall and the mean annual rainfall is 513 mm. Rainfall varies from 250 mm – 700 mm per annum in low-lying areas and rapidly increases up to 2000 mm per annum as the altitude increases in the escarpment region of the Lowveld. The summer tend to be extremely hot and humid with temperatures often exceeding 35 degrees Celsius between the months of October and March, while the winters tend to be warm during the day and cool to cold at night and in the early mornings.

##### Topography

The terrain within the study area varies greatly. Parts of the area in the south-east and north consists of steep ridges, with slopes exceeding 100% (45°) in many places. However, most of the middle part of the corridor follows drainage valleys, which are relatively flat (Alternative 1), or the broad Sekhukhune plain (Alternatives 2 and 3), generally with slopes around 2-10%. Altitude above sea level is around 1 000-1 200 m for most of the corridors, rising to around 1 400 m on the top of the ridges and falling to around 850 m in the lowest parts.

#### 9.1.2 Description of the current land uses

The study area is currently vacant area which consist of tall trees, shrubs and grasses. The current land-use activities will be avoided during the drilling phase of the programme. The applicant intends to prevent impacts on the valleys, as we have assessed and identified species and habitats that will be potentially impacted by the proposed activities. In order to enable to characterization of the environment as well as flora and fauna species that may be impacted by the proposed prospecting activities.





### 9.1.3 Description of specific environmental features and infrastructure on the site

#### Fauna and Flora

The existing Witkop substation is located in an area characterised by the Petersburg Plateau Grassveld type of vegetation while the Maphutha substation is situated in an area characterised by mixed bushveld. The general vegetation along the study area is Acocks vegetation which consists of mixed bushveld, northeastern mountain sourveld, north-eastern sandy highveld, Pietersburg plateau grassveld, sourish mixed bushveld; springbok flats turf thornveld and north-eastern mountain grassland.

### 9.1.4 Environmental and Current land use Maps



Figure: 9.2: Aerial map

See attached **Appendix A**

**10. Impacts and risks identified including the nature, significance, consequences, extent, duration and probability of the impacts, including the degree to which these**

## **10.1 POTENTIAL IMPACTS OF THE PROPOSED PROSPECTING OR MINING OPERATION ON THE ENVIRONMENT, SOCIO-ECONOMIC CONDITIONS AND CULTURAL HERITAGE.**

### **10.1.1 The main prospecting activities (e.g. access roads, topsoil storage sites and any other basic prospecting design features)**

#### **Topsoil**

Topsoil shall be removed from all areas where physical disturbance of the surface will occur. Topsoil is to be replaced by direct return where feasible (i.e. replaced immediately on the area where construction is completed, rather than stockpiling it for extended periods. Topsoil shall be adequately protected from being blown away or being eroded.

#### **Land Capability**

Land capability will be negatively impacted on an area where soil is disturbed. The significance is low, the disturbance of grazing land will be restricted (kept to a minimum) to the planned prospecting site only and useful infrastructure needs to be identified.

Management action is required to ensure the rehabilitation plan is expanded to include mitigation measures. Develop closure documentation to record the rehabilitation plan and post-closure features. Will identify and negotiate with the post-closure land user, which useful post-closure structures must remain. All unsafe area to be safe as designs and approved rehabilitation closure plan.

#### **Surface Water**

Surface water is likely to be impacted on during this phases, despite stringent precautions. This would also be the case during the prospecting activities in most cases however; the nature of pollutants/ spillage would not lead to toxicity just soils (Suspended solids) and vegetative waste.

#### **Ground Water**



It is not expected that the prospecting activity will impact on the groundwater quality. The drilling machine that we will use is a reverse circulation rig that does not contaminate ground water.

### **Air Quality**

It is not expected that amount of dust will be generated during the drilling phase. The impact will be insignificant and will be controlled with water carts where needed. The majority of the processing is undertaken in a wet state with little possibility of dust or air quality impacts.

#### **10.1.2 Plan of the main activities with dimensions**

Please refer to the Prospecting Work Programme for a plan depicting all possible activities that will take place as part of the prospecting.

#### **10.1.3 Description of construction, operational, and decommissioning phases.**

##### **➤ Construction Phase**

The Campsite will be established as close as possible to existing dwelling places with proper infrastructure such as tents or Caravans will be provided for employees. Clearing of vegetation will be avoided during the establishment of the campsite.

Detailed site survey and investigation will involve demarcating sensitive and protected areas by geophysical survey of the proposed area by a suitably qualified person. A Handheld proton magnetometer will be used to perform the magnetic survey over the proposed prospecting.

All exploration boreholes sites will be staked by the suitably qualified person. The sites will thereafter be plotted on a plan drawn to an appropriate scale.

##### **➤ Operation Phase**

Prospecting phases are designed to be completed in annual periods allowing for compilation of results in statutory reporting. Each part of each phase is dependent



on the success of the previous set of work (Please refer to the Prospecting Works Programme for details on these various phases). Programmes are by their nature not rigid and may be varied in response to results, which would result in an adjustment of expenditure as set out in the proposed budget.

The diamond drilling will be utilised to drill boreholes on a predetermined grid, during drilling of the each borehole, a sump of approximately 1.0 × 1.0 m will be excavated for storing water from the drilling operation. The top and sub-soil removed from the sump and drilling boreholes will be stockpiled in close proximity to the sump. The sump will be backfilled manually by a spade, once the drilling and sampling of boreholes is completed. The samples on the core taken from the desired horizons will be sent to the laboratory for analysis hence; concurrent rehabilitation of the disturbed areas will be undertaken as drilling takes place.

### ➤ **Decommissioning Phase**

Decommissioning of an area commences after the cessation of prospecting in the area and terminates with closure. In the intervening period between the commencement of decommissioning and closure of aftercare and or maintenance may be imposed. A closed certificate will be applied for, once the primary decommissioning activities of demolition, rehabilitation and re-vegetation have been completed. The re-vegetation area must be self- sustaining. The drill sites are rehabilitated. Drilling material, liquid spills and refuse are cleared and transported to the relevant municipal dump site.

During final rehabilitation, Except for farm roads, no trucks and infrastructures related to the prospecting operation will remain in place after the decommissioning phase. Where tracks have resulted in more damage, such tracks will be ripped at 90o to the inherent slope, and seeded with the recommended seed mix. The sumps will be rehabilitated in such a manner to return the area to as close as possible to its pre-drilling environment.

Post closure, the prospecting area will consist of the re-vegetated areas with vegetation cover comparable to the surrounding areas. No prospecting related infrastructure will remain on the prospecting site. The area will conform to the pre-prospecting topography. The areas affected by the prospecting will be stable and erosion free.

Feasibility study will involve compiling the final geological report, reserve determination, pre-feasibility studies, mining feasibility study, market research, sales agreement etc.



After closure phase, the rehabilitated area will be monitored on a quarterly basis to ensure that the site returns to an acceptable state, in the event that is not happening naturally, the area will be seeded. After the decommissioning of the site and if it can be determined that the site is stable, an environmental authorisation for the decommissioning of the site and a closure certificate will be applied for in terms of the relevant laws.



**10.2 Listed activities (in terms of the NEMA EIA regulations)**

The proposed prospecting of Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General).

Activity 20” ***Any activity the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resource Development Act, 2002 (Act 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the MPRDA”***, listing notice 1 of the NEMA EIA regulations 2014, 8 December 2014 as amended.

**10.2.1 Identification of potential impacts**

(Refer to the guideline)

Table 3-1 below shows potential impacts per activity and listed activities.

Table 10-1: Potential Impacts

Activity	Impact
<ul style="list-style-type: none"> <li>• Drilling programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of Topsoil</li> <li>• Impact on vegetation</li> <li>• Dust from roads and land</li> <li>• Waste Disposal</li> <li>• Noise</li> </ul>

Site of geological importance will be avoided. Sensitive grassland, dusters of indigenous trees and shrubs or similar climbing that may contain a large biodiversity of threatened and endangered species will be avoided. Farmlands actively used for crop farming preferably are avoided especially where the drilling would be located in land. Access road to and around the farm regarded as preferential drilling sites where the drilling position must be structured in manner that will still allow traffic to continue normally. Heritage resources, including archaeological or paleontological site may not be disturbed without a permit from the heritage specialist.

**10.2.2 Potential cumulative impacts**

Loss of wetlands, but the impact on wetland has only been identified through online research as we were not given access to investigate the farm area significant since

the prospecting area does not consist of wetlands within the application area and any wildlife value will be avoided in consultation with the landowners.

### 10.2.3 Potential impact on heritage resources

Potential heritage sites will be identified during the planning phase to ensure that such areas are avoided. Each prospecting site will be visited prior to any work starting to identify possible heritage sites. Local knowledge will be used to identify and confirm heritage sites. Where boreholes are sited in proximity to heritage sites and depending on the proximity to the drilling site, appropriate measures such as flagging, pegging or installation of temporary fencing will be undertaken to ensure that the site is not impacted on during prospecting. The prospecting programme will be designed to avoid disturbance of heritage sites.

### Potential impacts on communities, individuals or competing land uses in close proximity

There are no impacts on communities, individuals or competing land uses in close proximity to the prospecting areas, due to the limited impact of the drilling machines at any specific point in time.

We will ensure that during the prospecting activities we do not disturb the heritage site, trees, vegetation and other sensitive area in the property applied for. The interested and affected parties have identified that access roads should be the site where the drilling of hole will take place. Where the land is used for farming should be avoided. Animals should be kept protected at all times.

(If no such impacts are identified this must be specifically stated together with a clear explanation why this is not the case)

### 10.2.4 Confirmation that the list of potential impacts has been compiled with the participation of the landowner and interested and affected parties,

The landowner requested to be sent information regarding the application before we can be allowed access to the farm, which was handed to them. See attached **Appendix D**.

### 10.2.5 Confirmation of specialist report appended.

(Refer to guideline)



There are no specialist reports that were conducted as part of the Prospecting period.

**11. Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of environmental impacts and risks**

**11.1.1 Potential impact of each main activity in each phase, and corresponding significance assessment**

The undertaking of a screening level environmental risk assessment consist of the identification of all possible environmental risks, including those which appear to be insignificant based on the input from existing data, and the qualitative ranking of the impacts identified.

The significance of the identified impacts on the various environmental components as part of the closure phase will be determined using the approach outlined below. This incorporates two aspects for assessing the potential significance of impacts (terminology from the Department of Environmental Affairs Guideline document on EIA Regulations, April 1998), namely occurrence and severity, which are further sub-divided as on table 3.2 below:

Table 11-1: Occurrence and Severity

Occurrence		Severity	
Probability of occurrence	Duration of occurrence	Magnitude (severity) of impact	Scale / extent of impact

In order to assess each of these factors for each impact, the following four ranking scales will be used:

Table 11-2: Methodology for Impact Assessment

Probability		Duration	
5	Definite/don't know	5	Permanent
4	Highly probable	4	Long-term
3	Medium probability	3	Medium-term
2	Low probability	2	Short-term
1	Improbable / None	1	Immediate
0			
Scale		Magnitude	



5	International National Regional	10	Very high/don't know
4	Local	8	High Moderate Low
3	Site only	6	Minor
2		4	
1		2	

Once these factors have been ranked for each impact, the significance of the two aspects, occurrence and severity, will be assessed using the following formula:

$$SP \text{ (Significance points)} = (\text{Magnitude} + \text{Duration} + \text{Scale}) \times \text{Probability}$$

The maximum value is 100 significance points (SP). Risks are identified as potentially significant (High, >60 SP), Moderate (30 – 60 SP) or insignificant (Low, <30 SP).

In some instances risks can be rated as uncertain or unknown. Risk management strategies will be identified for the potentially significant risks, while the uncertain risks will be re-evaluated after a data collection and analysis programme.

Table 11-3: Impact 1 – Loss of top soil

Activity			Impact	
Drilling Programmes			Loss of Topsoil	
Magnitude	Duration	Scale	Probability	Significance
2	1	1	5	Low (30)

Table 11-4: Impact 2 – Impact on vegetation

Activity			Impact	
Drilling Programmes			Impact on vegetation	
Magnitude	Duration	Scale	Probability	Significance
2	1	1	2	Low(8)

Table 11-5: Impact 3 – Dust from Road

Activity			Impact	
Drilling Programmes			Dust from Road and Land	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	3	Low (18)

Table 11-6: Impact 4 – Waste Disposal

Activity	Impact
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Drilling Programmes			Waste Disposal	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Table 11-7: Impact 5 – Noise

Activity			Impact	
Drilling Programmes			Noise	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Table 11-8: Impact 6 – Water uses

Activity			Impact	
Drilling Programmes			Water Uses	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Assessment of potential cumulative impacts

Table 11-9: Impact 1 – Dust from road and land

Activity			Impact	
Drilling Programmes			Dust from Road and Land	
Magnitude	Duration	Scale	Probability	
2	2	2	3	
Significance				
Low (18)				

Table 11-10: Impact 2 – Noise from drilling programme

Activity			Impact	
Drilling Programmes			Noise from Drilling Programme	
Magnitude	Duration	Scale	Probability	
2	2	2	3	
Significance				
Low (18)				



Review or assessment of cumulative impact analysis will be done early in the process. Information that will be presented will be commensurate with the impact of the project. Greater detail will be provided for potentially serious impact, in all phases.

Proposed mitigation measures to minimise adverse impacts.

Significant cumulative impacts will be identified that may affect resources of concern and suggest measures that will avoid and minimize adverse effect to the environment.

List of actions, activities, or processes that have sufficiently significant impacts to require mitigation

Table 3-12 overleaf shows the List of actions, activities, or processes that have sufficiently significant impacts to require mitigation.

Table 11-11: List of actions, activities, or processes that have sufficiently significant impacts to require mitigation

Significant Impact	measures	Negative impacts on the environment be mitigated or managed
Dust	Low	Vehicle will be instructed to drive at low speeds Access roads will be swept regularly Prospect activities will mainly occur during season of low wind gust
Noise pollution	Low	All rigs are fitted with silencers to minimize noise Rigs will not be allowed to operate at night close to communities
Minor Exhaust Smoke	Medium	The machine will be services regularly to avoid minor smoke
Topsoil disturbance	Low	Topsoil is normally not disturbed in the process. Where topsoil is removed it is stored for later replacement i.e. for digging of drill sumps.



Oil spills	Low	Any spillage onto the ground will be dug and disposed of in designated landfill operation

**Associated list of appropriate technical or management options**

The best technical option is rehabilitation and the best management option to rehabilitation is adherences to a couple of important aspects by management to ensure concurrent rehabilitation to take place and the plan is continuously to reflect the latest development.

The following management options will be taking place on site, irrespective of the significance of the ratings above:

**Topsoil**

Topsoil shall be removed from all areas where physical disturbance of the surface will occur. The topsoil removed, shall be stored in a bund wall on the high ground side of the mining/prospecting area outside the 1:50 flood level within the boundaries of the prospecting area. The topsoil stored in the bund wall shall be adequately protected from being blown away or being eroded.

**Dust control on the access roads**

The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. The speed of trucks and other vehicles must be strictly controlled to avoid dangerous conditions, excessive dust or excessive deterioration of the road being used.

**Noise**

Work will only be performed during daylight hours. Proper design and maintenance of equipment, including silencers and mufflers. Regular checks on the noise emissions of equipment in operation should be performed. All equipment to be used during the construction and operational phases is to be kept in good working condition. This is of particular importance for the exhaust systems of the diesel earthmoving equipment. Should complaints about the noise be received from the community, the mine needs to assess the situation and make appropriate recommendations to reduce the noise impacts on nearby residents and, where necessary, a noise specialist.



## Establishing the drilling site

Drilling sites shall be sited on a practical basis after consultation with the landowner. The area required for long-term drilling sites shall also be determined after consultation with the landowner and kept to a minimum. Activities shall be restricted to the agreed area. In order to contain non-biodegradable oil and fuel spills, drip pans or PVC lining shall be provided for mobile drills and drip pans or a thin concrete slab and/or with a PVC lining shall be installed before stationary drill rigs (long term) are erected. In the case of a need for a water supply pipeline to be laid to a site, it shall be done in consultation with the landowner and in such a manner that the surface and natural vegetation are not unduly disturbed.

Proper and frequent maintenance shall be done to minimize unnecessary spillage. In the case of long-term drilling operations, each drill hole shall have adequate measures to prevent pollution of groundwater, drainage systems or topsoil by effluent during the drilling operation. Separate pits shall be excavated and constructed for waste water and grease and oil polluted fluid. When excavating these pits, the topsoil and the subsoil shall be stored separately. These pits shall be lined with an impermeable layer of concrete or PVC to prevent pollution. The pit shall be surrounded by an earth wall of at least 50mm in height and be constructed to withstand the impact of heavy rainfall. The contents of pits and drip pans must be disposed of at a recognized facility. Any spill should be cleaned up immediately by removing the spill together with the polluted soil and disposing of it at a recognized dumping facility. On completion of prospecting, the drilling site shall be rehabilitated. Pits shall be pumped dry and the contents disposed of as described above. Linings must be removed and disposed of in the same manner. After all foreign matter has been removed from the pits, the excavations shall be backfilled with subsoil, compacted and levelled with previously stored topsoil. No foreign matter such as cement or other rubble shall be introduced into such backfilling.

All boreholes shall be covered and made safe by means of a concrete cap, unless otherwise determined. On cultivated land, where practicable, a concrete cap shall be installed at least 1 metre below the surface. Boreholes shall be backfilled and compacted with appropriate inert material and soil. No foreign matter such as rubble or waste material shall be introduced into the hole. Where drilling sites (long-term operation) have been denuded of vegetation/grass or where soils have been compacted or crusts formed, the surface shall be ripped or ploughed and if necessary appropriately fertilized to allow vegetation to grow rapidly. If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, it may be required that the soil be analysed and any deleterious



effects on the soil arising from the prospecting operation, be corrected and the area be seeded with a seed mix to a certain specification.

### **Waste disposal**

Designated areas will be planned and established for the disposal and temporary storage of all wastes on site. The necessary bins will be provided for the collection of waste. Domestic waste will be removed from site weekly by an independent waste disposal contractor to a registered or licensed disposal facility. Any hazardous waste will be stored separately in approved waste containers and removed from the site by an independent waste disposal contractor to a registered or licensed disposal facility. Waste from the drilling operation will be placed within the dumping area as indicated on the Plan and removed by subcontractors for further utilisation. Responsible waste management practices will be implemented

### **Surface Water**

A 100m buffer zone will be placed around the existing wetland passing through from western boundary of the farm of the affected property. No drilling or any other activity will take place within this buffer zone. The surface water resource will only be crossed at designated established crossing areas. No run-off water from the drilling programme will be allowed to run into the surface water resource.

Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration)

All the significance impact identified has a low rating.

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

### **12.1 Positive impacts**

#### **12.1.1 Economic development**

- The Project will create an income stream for the business that operates within the proposed area and the surrounding areas and the beneficiaries of the project especially the Lepelle-Nkumpi municipalities residents as well



as those of the municipalities around.

- Contribution of the business to the coffers of Tax of the Government of the Republic of SA.
- Acceleration of infrastructural developments in the area and the other rural under developed areas.

### 12.1.2 Job Creation

- If the prospecting is granted, the applicant will lodge an application for a mining right or permit which will stimulate the following
- Communities will benefit from the selection, appointment of casual employment that will take place as a result of construction of the project.
- This employment will be executed in line with the necessary skills required during construction, from the beginning to the completion of construction. Labour-force requirements include (artisans, engineers, builders, plumbers, construction engineers, electricians, various trades men, etc.).

Permanent jobs shall be available at the completion of the Project, when the township is operational such as domestic work within households

## 12.2 Negative impacts

There are minimal negative impacts that will be envisaged at this phase, due to the nature of the activity to be conducted.

### For drilling phase

- Loss of Topsoil
- Impact on vegetation
- Dust from roads and land
- Waste Disposal
- Noise
- Water use
  
- Reduction of arable land for agricultural activities

## 13. Mitigation measures that could be applied and the level of risk

Significant potential impacts that were identified for the prospecting phase includes the following

- Loss of vegetation



- Soil erosion
- Spillage of drill fluid
- Disturbance of daily farming activities affecting production yield of the farm.

Mitigation measures that could be applied

- Dust suppression
- Revegetation to prevent soil erosion
- Avoiding watercourse and wetlands using buffer zones
- Conduct drilling on duration provided by the landowner.

#### 14. Motivation where no alternative sites were considered

Since 2001, there has been a large increase in mining activities in Lepelle-Nkumpi Local Municipality. This has been brought about by investor confidence in mining and positive commodity prices. Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) mining is also an enormous economic contributor to the area, and promotes economic growth and employment creation in the town. The majority of towns within the municipality used to be an activity node rendering a service mainly based on the railway, catering for the surrounding farming community and Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) mining industry. With the closure of Mining the early 1 9905 railway activities have seized. The prospecting methods to be used will minimize potential impacts to the preferred site. Although the applicant has applied for a size approximately 3633.04 Ha area, it is only the specified drilling points that will be disturbed. Some of the prospecting methods will provide that drip pans be used in order to contain non-biodegradable oil and fuel spills for mobile drills to reduce spillages.

#### 15. Statement motivating the alternative development location within the overall site

It is the most suitable site to prospect for Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) on the proposed site. Geological setting of the area indicates that there is abundance of Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General) reserve deposits around the area. Residences are located far from the proposed prospecting area, as a result impact on human beings will be minimal.





The prospecting area to be utilised is minimal and only specified site for drilling will be used or disturbed. Sensitive areas such as watercourses and wetlands will be avoided with buffers. As indicated above prospecting phase will not require any permanent infrastructure to be constructed on site, as a result small portion of the site will be disturbed and dose areas impacted will be rehabilitated.

#### **16. Description of the process undertaken to identify, assess, rank the impacts and risks the activity will impose on the preferred site.**

The prospecting methods that will be applied for drilling are non-invasive as such, there is minimal expectations of impacts for the proposed activity on the preferred site. Prospecting phase due its nature of operation provides impacts on a small scale and dose impacts identified will be adhered to and monitored during and after the project phase.

## 17. Assessment of each identified significant impact and risks

Table 1.1

Name of Activity	Potential impact	Aspects affected	Phase	Significance	Mitigation type	Significance (if mitigated)
<b>Site Clearance</b>	Dust generation	Air quality	Establishment phase	Minimal negative impact	Dust suppression	Negligible negative
	Loss of topsoil	Soils	Establishment phase	Minimal negative impact	Soil stripping	Negligible negative
	Loss of fauna & flora	Fauna & flora	Establishment phase	Minimal negative impact	Limited infrastructure footprint	Negligible negative
	Sedimentation of wetlands	Wetlands	Establishment phase Operational phase	Minimal negative impact	Buffer zones	Negligible negative
	Sedimentation & contamination of surface watercourses	Surface water	Operational phase	Minimal negative impact	Limited infrastructure footprint	Negligible negative
	Groundwater contamination	Groundwater	Operational phase	Minimal negative impact	Avoidance and spillage attention	Negligible negative
	Noise generation	Noise	Decommission phase	Minimal negative impact	Adhering to operating hours	Negligible negative
	Soil compaction and erosion	soils	Decommission phase	Minimal negative impact	Vegetation, restrict access	Negligible negative

<b>Drilling of prospecting boreholes</b>	Sedimentation of wetlands	wetlands	Decommission phase	Minimal negative impact	Buffer zones	Negligible negative
	Contamination of groundwater	Groundwater	Decommission phase	Minimal negative impact	Consent from landowners from water usage	Negligible negative
<b>Rehabilitation</b>	Sedimentation of surface watercourses	Surface water	Decommission phase	Minimal negative impact	Rehabilitation of sumps	Negligible negative
	Soil compaction & erosion	Soils	Decommission phase	Minimal negative impact		Negligible negative
	Dust generation	Air quality	Decommission phase	Minimal negative impact	Dust management plan, vegetation	Negligible negative

## 18. Summary of specialists reports

Table 1.2

List of studies undertaken	Recommendations of specialists reports	Specialists recommendations that have been included in the EIA report	Reference to applicable sections where specialists recommendation have been included in the EIA report
<b>Soil Impact Assessment</b>	Significance of impacts & Mitigation measures	x	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities
<b>Fauna &amp; flora</b>	Significance of impacts & Mitigation measures	X	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities
<b>Wetlands Impact Assessment</b>	Significance of impacts & Mitigation measures	X	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities



<b>Surface water impact assessment</b>	Significance of impacts & Mitigation measures	X	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities
<b>Groundwater impact assessment</b>	Significance of impacts & Mitigation measures	X	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities
<b>Heritage impact assessment</b>	Significance of impacts & Mitigation measures	X	Individual specialist reports were not conducted due to the minimal impacts of the proposed activities



## 19. Environmental impact statement

### 19.1 Summary of the key finding of the environmental impact assessment

Table 1.3

Project phase	Receiving environment	Impact description	Pre-mitigation significance	Post-significance
<b>Establishment phase</b>	social	Nuisance impacts due to heavy vehicles	Insignificant negative	Insignificant negative
	Soil, land capability	Loss of topsoil resources and capability	Minor negative	
	Fauna & flora	Loss of fauna & flora	Minor negative	
	Surface water	Sedimentation & contamination of surface water	Minor negative	
	Groundwater	Groundwater contamination	Negligible negative	
<b>Operational phase</b>	social	Nuisance impact due to drilling, earthworks, heavy vehicles	Minor negative	
	Soil, land-use & capability	Soil compaction	Minor negative	
	wetland	Contamination of wetlands	Minor negative	
	Surface water	Contamination of surface watercourses	Minor negative	
<b>Decommission phase</b>	Air quality	Elusive dust generation	Minor negative	
	Soil, land-use & land capability	Soil contamination, restoration of land capability		
	Fauna & flora	Destruction of suitable habitat		
	Surface water	Contamination & sedimentation of surface watercourse		

## 19.2 Final site Map

See attached final site Map **Appendix A**

## 19.3 Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Impacts resulting from establishment phase

- Clearance of site through removal of vegetation and topsoil
- Exposed area become prone to soil erosion
- Wetland deterioration

Impacts resulting from operation phase

- Nuisance of heavy vehicles
- Dust generation by heavy vehicles

## 20. Proposed impact management objectives and impact management outcomes

Compilation of the Final EMPr assist in determining the manner in which impact realised and suggest mitigation, monitoring and management strategies in turn developing greater outcomes of the proposed project

Recommendations that derived from the impact management

- Avoidance of detrimental negative impacts of the sensitive areas
- Prevention of long term effect/impacts from the proposed project
- Restore the proposed areas of interest to its natural form

## 21. Aspect for inclusion as conditions of authorisation

The proposed strategies ranging from mitigation measures, monitoring and management systems should be part of the conditions of the authorisation.

## 22. Description of any assumption, uncertainties and gaps in knowledge



The prospecting phase which largely involves a minimal impact approach to the environment, having said that the information provided in this report will assist the competent authority to arrive with an appropriate conclusion to the proposed activity in question.

## **23. Opinion as to whether the proposed activity should or should not be authorised**

### **23.1 Reasons why the activity should be authorized or not**

The proposed activity should be authorised considering the need and desirability of the activity relevant to the location of the area where the proposed activity is to be conducted on. The end result of the proposed activity is to determine type, amount and value of the commodity applied for due to the demand of that commodity to the global market and the economic benefits notwithstanding the recommendations and measures to be put in place to monitor impact response and minimisation.

### **23.2 Conditions that must include in the authorisation**

As discussed above the recommendations, mitigation measures proposed in the Final EMPr will suffice as conditions.

## **24. Period for which the environmental authorisation is required**

The prospecting right will expire in five years' time, similarly the authorisation should active until the right expires, as contents of the authorisation will no longer serve value when prospecting phase has ended that is after including rehabilitation has been concluded.

## **25. Undertaking**

Project team confirms that the undertaking that is applicable to the basic assessment report and Final EMPr is made available at the last section of the report.



## 26. Financial provision

In accordance with the requirements of regulation 54(i) of the Mineral and Petroleum Resource Development Act, 2002 (Act 28 of 2002) Setleng Mining (Pty) Ltd has calculated the environmental closure liability for the proposed project according to the financial provision.

### 26.1 Explain how the aforesaid amount was derived

### 26.2 Quantum calculations

(Provide a calculation of the quantum of the financial provision required to manage and rehabilitate the environment, in accordance with the guideline prescribed in terms of regulation 54 (1) in respect of each of the phases referred to)

The Guidelines as prescribed by the Department indicates that a rate per hectare is required in terms of the class of mine (C class) as well as the environmental sensitivity of the mine.

#### 26.2.1 Commodity type and saleable mineral by-product

According to Tables B.12, B.13 and B.14

Commodity type	Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General)
Saleable mineral by-product	Bituminous Aggregate, Chrome, Copper, Andalusite, Gold Ore, Iron ore, Limestone, Manganese, Nickel, Platinum Group Metals and Silica Sand (General)

#### 26.2.2 Risk ranking

According to Tables B.12, B.13 and B.14

Primary risk ranking (either Table B.12 or B.13)	C (Low risk)
Revised risk ranking (B.14)	N/A





### 26.2.3 Environmental sensitivity of the prospecting area

#### According to Table B.4

Environmental sensitivity of the prospecting area	Low
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### 26.2.4 Level of information

#### According to Step 4.2:

Level of information available	Limited
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### 26.2.5 Identify closure components

#### According to Table B.5 and site-specific conditions

Component No.	Main description	Applicability of closure components (Circle Yes or No)	
1	Dismantling of processing plant and related structures (including overland conveyors and power lines)		No
2(A)	Demolition of steel buildings and structures		No
2(B)	Demolition of reinforced concrete buildings and structures		No
3	Rehabilitation of access roads	Yes	
4(A)	Demolition and rehabilitation of electrified railway		No
4(B)	Demolition and rehabilitation of non-electrified railway lines		No
5	Demolition of housing and facilities		No
6	Open rehabilitation including final voids and ramps	Yes	
7	Sealing of shafts, adits and inclines		No
8(A)	Rehabilitation of overburden and spoils	Yes	
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing)		No
8©	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich)		No
9	Rehabilitation of subsided areas		No
10	General surface rehabilitation, including	Yes	

	grassing of all denuded areas		
11	River diversions		No
12	Fencing		No
13	Water management (Separating clean and dirty water, managing polluted water and managing the impact on groundwater)		No
14	2 to 3 years of maintenance and aftercare		No

### 26.2.6 Unit rates for closure components

According to Table B.6 master and multiplication factors for applicable closure components.

Component No.	Main description	Applicability of closure components (Circle Yes or No)	
1	Dismantling of processing plant and related structures (including overland conveyors and power lines)		
2(A)	Demolition of steel buildings and structures		
2(B)	Demolition of reinforced concrete buildings and structures		
3	Rehabilitation of access roads	42,72	1
4(A)	Demolition and rehabilitation of electrified railway		
4(B)	Demolition and rehabilitation of non-electrified railway lines		
5	Demolition of housing and facilities		
6	Open rehabilitation including final voids and ramps	242 984,15	1
7	Sealing of shafts, adits and inclines		
8(A)	Rehabilitation of overburden and spoils	166 847,44	1
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing)		
8©	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich)		
9	Rehabilitation of subsided areas		
10	General surface rehabilitation, including grassing of all denuded areas	132 171,31	1
11	River diversions		
12	Fencing		
13	Water management (Separating clean and dirty water, managing polluted water and managing		

	the impact on groundwater)		
14	2 to 3 years of maintenance and aftercare		

**26.2.7 Determine weighting factors**

**According to Tables B.7 and B.8**

Weighting factor 1: Nature of terrain/accessibility	1.1
Weighting factor 2: Proximity of urban area where goods and service are to be supplied	1.05

**26.2.8 Calculation of closure costs**

**Table B.10 Template for level 2: “Rules-based” assessment of the quantum for financial provision (see attached calculation)**

The amount that will be necessary for the rehabilitation of damages caused by the operation, both sudden closures during the normal operation of the project and at final, planned closure gives a sum total of **R34 029,71 (see Appendix F)**



### **26.3 Confirm that this amount can be provided for from the operating expenditure**

The amount of financial provision will be paid by Setleng Mining (Pty) Ltd immediately after the Environmental Management Plan has been approved.

### **27. Specific information required by the competent authority**

#### **27.1 Compliance with the provision of section 24(4)a and b read with section 24(3) and 7 of the National Environmental Management Act(107 of 1998).The EIA report must include**

##### **27.1.1 Impact on the socio-economic conditions of any directly affected persons**

There will be minimal impact on the socio-economic status of the persons directly affected as the prospecting phase consist of fairly marginal labour to complete the project. Potential negative impacts will be addressed in consultation with the I&APs to avoid violation of any person rights.

##### **27.1.2 Impact on any national estate referred to in section 3(2) of the National Heritage Resource Act**

Heritage sites within the proposed prospecting area have been identified in consultation with the landowners and appropriate measures have been proposed to protect such sites from the impact arising from the project

##### **27.1.3 Other matters required in terms of section 24(4) a and b of the Act**

The report compiled together with the information includes proof of consultations, site visits pictures and minutes etc.



# Environmental Management Programme Report



## 28. Details of EAP

Details of the Environmental Assessment Practitioner has been included in **Part A (section 1)**

## 29. Description of the aspect of the activity

Description of the aspect of the activity has been included in **Part A (section 1)**

## 30. Composite Map

A Map containing all the required information regarding the proposed prospecting site. **See Appendix A**

## 31. Description of the impact management objectives including management statement

### 31.1 Determination of closure objectives

The closure objectives for the proposed prospecting activity include the following:

- Rehabilitation of the prospecting sites
- Reduction of the visual impact of the prospecting sites
- Information provision to the competent authority
- Submit monitoring results to the relevant competent authority

### 31.2 Volume and rate of water use required

Water usage will be limited to the following activities

- For drill bits to control overheating
- Dust suppression for heavy vehicles

Rate will be determined during the operation depending on the source of water available.

### 31.3 Has a water use licence been applied for ?

Water use licence has not been applied for due to the fact that site specific drill points are still to be determined. At a given point that a water use is triggered a



licence will be applied for in terms of section 21 of the National Water Act, 1998 (Act 36 of 1998)

## 32. Impact to be mitigated in their respective phase

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

Table 1.5

Activities	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation
<b>Site Clearance</b>	Dust generation	Air quality	Establishment phase	Minimal negative impact	Dust suppression
	Loss of topsoil	Soils	Establishment phase	Minimal negative impact	Soil stripping
	Loss of fauna & flora	Fauna & flora	Establishment phase	Minimal negative impact	Limited infrastructure footprint
	Sedimentation of wetlands	Wetlands	Establishment phase Operational phase	Minimal negative impact	Buffer zones
	Sedimentation & contamination of surface watercourses	Surface water	Operational phase	Minimal negative impact	Limited infrastructure footprint
	Groundwater contamination	Groundwater	Operational phase	Minimal negative impact	Avoidance and spillage attention
	Noise generation	Noise	Decommission phase	Minimal negative impact	Adhering to operating hours
<b>Drilling of prospectin</b>	Soil compaction and erosion	Soils	Decommission phase	Minimal negative impact	Vegetation, restrict access

<b>g boreholes</b>	Sedimentation of wetlands	Wetlands	Decommission phase	Minimal negative impact	Buffer zones
<b>Rehabilitation</b>	Contamination of groundwater	Groundwater	Decommission phase	Minimal negative impact	Consent from landowners from water usage

## 32.2 Impacts to be mitigated in their respective phases

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

Table 1.6

Activity	Aspects Affected	Phase	Size and Scale of Disturbance	Mitigation Measure
Column 1	Column 2	Column 3	Column 4	Column 5
<b>Site Clearance</b>	Social Nuisance	Establishment Phase	Limited to the prospecting site ▪	Keep soils moist to suppress possibility of dust;
				▪ Site clearing to take place during daylight hours only
				Vehicles and machinery will be properly maintained to minimise operating noise
				Ensure that dust suppressants are applied to



				gravel or unpaved roads that are in use;
	Soils	. Establishment Phase	100 m2	Ensure topsoil is stored in one dedicated stockpile, less than 1 m high, and within the demarcated prospecting site; and ▪
				Topsoil stockpiles will be covered with a plastic liner during windy and rain conditions so as to prevent erosion (October to March). ▪
				Only remove vegetation when and where necessary;
	Fauna and	Establishment	100 m2	▪ Minimise the size of the prospecting drill sites as far as



	Flora	Phase		possible
				Indigenous trees will not be removed
				Drainage lines, and indigenous vegetation will be avoided
				Use existing access roads
	Wetlands	Establishment Phase	Local	Ensure site clearing is limited to the designated areas
				All watercourses will be avoided and the stipulated buffer will be implemented
	Surface water	Establishment Phase	Local	Berms must be constructed around the periphery of the prospecting site to separate clean and dirty water

				<p>Water within the prospecting site must be diverted to the water sump</p>
				<p>All watercourses will be avoided and the stipulated buffer will be implemented</p>
	Groundwater	Establishment Phase	Local	<p>All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</p>
				<p>Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills;</p>

				All vehicles and machinery to be serviced in a hard park area or at an offsite location
	Noise	Establishment Phase	Site Specific	Site clearing to take place during daylight hours only
				Vehicles and machinery will be properly maintained to minimise operating noise
				Vehicles will obey speed limits
<b>Drilling of Prospecting Boreholes</b>	Social Nuisance	Operational Phase	Limited	Maintain drilling equipment and, if possible, fit silencing equipment
				Drilling will only take place during daylight hours
				Use a dust suppressant and keep access roads

				moist
				Cover stockpiles with a plastic liner in windy and rain conditions so as to prevent topsoil from eroding
	Noise	Operational Phase	Site Specific	Maintain drilling equipment and, if possible, fit silencing equipment
	Fauna and Flora	Operational Phase	100 m2	Remove alien invasive species as and when they occur
Maintain drilling equipment and, if possible, fit silencing equipment				
All personnel are to remain on the prospecting drill site only				
to prevent the footprint of the site expanding and further vegetation loss				



	Soil	Operational Phase Decommissioning Phase	Site Specific	Immediately cease drilling and contain and cleanup any hydrocarbon spillages as they occur
Ensure the spill cleanup kits are readily available in the event of a spillage				
Machinery and vehicles must be serviced and maintained off site at a workshop and drip trays must be in place to capture the spillage				
	Surface Water	Operational Phase	Local	Topsoil stockpiles will be covered with a plastic liner during windy and rain conditions
				Berms on the periphery of the prospecting site will be inspected daily and maintained to ensure runoff

				from within the
				prospecting site does not report to the catchment
	Groundwater	Operational Phase	Local	Emergency spill response plan required to handle any unplanned spillages
				Daily inspection of the drill rig must be undertaken prior to the commencement of drilling and routine maintenance must be
				undertaken to prevent the likelihood of fluid dispersing and breakdowns
<b>Decommission phase</b>	Surface Water	Operational Phase Decommission phase	Local	The site and access roads will be kept moist to avoid the creation and disturbance



				of dust
				The sumps must be pumped empty and the oil and sludge must be disposed of at a registered waste facility
	Soil	Operational Phase Decommissioning Phase	100 m2	Sumps will be backfilled and the site levelled immediately after drilling has concluded
				All compacted areas will be ripped to loosen the soils during rehabilitation
	Fauna and Flora	Decommissioning Phase	100 m2	Remove alien invasive species as and when they occur
				An alien invasive management plan must be established
				All compacted areas will be ripped to loosen the soils during rehabilitation



				and seeded with an appropriate seed mixture

### 33. Impact management outcomes

Table 1.7

Activity	Potential Impact	Aspects Affected	Phase
Column 1	Column 2	Column 3	Column 4
<b>Establishment Phase</b>			
	Fugitive dust generation	Air Quality	Establishment Phase
	Loss of topsoil resources and land capability	Soils	Establishment Phase
	Loss of fauna and flora species	Fauna and Flora	Establishment Phase
	Sedimentation of	Wetlands	Establishment

	wetlands		Phase
<b>Operational Phase</b>			
	Sedimentation and contamination of surface water resources	Surface water	Establishment Phase , Operational Phase
	Groundwater contamination	Groundwater	Establishment Phase
	Noise generation	Noise	Establishment Phase, Decommissioning Phase
	Soil contamination and degradation	Soil	Operational Phase, Decommissioning Phase
<b>Drilling of Prospecting Boreholes</b>	Alternation of visual environment	Topography and Visual Environment	Operational Phase
	Soil compaction	Soils	Operational Phase
	Sedimentation of wetlands	Wetlands	Operational Phase
	Sedimentation of surface water resources	Surface Water	Operational Phase
	Contamination of groundwater and reduction in groundwater quantity	Groundwater	Operational Phase, Decommissioning Phase
	Elusive dust generation	Air Quality	Decommissioning Phase

**34. Impact management actions**

**Table 1.8**

<b>Activities</b>	<b>Potential Impacts</b>	<b>Aspects Affected</b>	<b>Mitigation Type</b>	<b>Time Period for Implementation</b>	<b>Compliance with Standards</b>
The list of activities for the Project are displayed in Table 1.1	The potential impacts associated with each activity are outlined in Table 1.3	The aspects affected as a result of the potential impact are outlined in Table 1.5	The mitigation types of each of the potential impacts are outlined in Table 1.4	The time periods for each of the potential impacts are outlined in Table 1.4	The compliance with the standards for the potential impacts are outlined in Table 1.1

**35. Financial provision**

**35.1 Determination of the amount of financial provision**

**35.1.1 Alignment of rehabilitation with the closure objectives**

(Describe and ensure that the rehabilitation plan is compatible with the closure objectives determined in accordance with the baseline study as prescribed).

The following closure objectives will be applicable for rehabilitation:

- Land disturbed will be rehabilitated to a stable and permanent form suitable for subsequent land use. The final land use will be agriculture, forestry or



subsistence farming, depending on where the prospecting site is located within the project area.

- There will be no adverse environmental effect outside the disturbed area and the affected area will be shaped to ensure effective drainage.
- The disturbed area will not require greater maintenance than that in or on surrounding land after closure.
- It is required that all exploration holes be re- rehabilitated, which is conducted on an ongoing basis.
- Boreholes sunk in agricultural lands will have the casings removed, or cut to a minimum depth of 2m below surface, then a plug inserted at a minimum of 5m below surface and filled with concrete to 2m below surface.
- The remainder of the hole will be filled with top soil.
- Boreholes outside agricultural lands will be rehabilitated similarly and marked with a concrete beacon.

### **35.1.2 Confirm specifically that the environmental objectives in relation to closure have been consulted with the landowners**

The landowners together with the I&APs have been consulted with regard to the closure objectives as they initially requested the closure objectives before allowing access to the proposed site, which will be provided to them on request.

### **35.1.3 Provide a rehabilitation plan that describes and shows the aerial extent of the main mining activities**

The prospecting sites will be rehabilitated immediately following the commencement of the drilling activities. The rehabilitation process is summarised as follows:

- The drill rig and core will be removed from site
- The sumps will be pumped empty and the oil and sludge disposed of at a registered disposal facility
- The waste water will be removed from site and treated at a registered water treatment facility;
- All waste will be removed from site and disposed of accordingly;
- The sump liner will be removed and reused at another site, following the inspecting of the liner, or disposed of at a registered disposal facility;
- The sumps will be backfilled and levels;



- The site will be levelled and ripped to ensure there is no compaction.
- The topsoil will be spread over the site and the site vegetated with indigenous vegetation; and;
- The site will be monitored for the success of the rehabilitation;

**35.1.4 Explain why the rehabilitation is compatible with the closure objectives**

The rehabilitation plan has been compiled in support of the primary closure objective which is to rehabilitate the prospecting sites to their natural or predetermined state, or to land use that conforms to the generally accepted principles of sustainable development through restoration, remediation, rehabilitation and stabilisation remediation of the impact land to a post-mining land use capable of supporting grazing activities.

**35.1.5 Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guidelines**

**Quantum calculations**

(Provide a calculation of the quantum of the financial provision required to manage and rehabilitate the environment, in accordance with the guideline prescribed in terms of regulation 54 (1) in respect of each of the phases referred to)

The Guidelines as prescribed by the Department indicates that a rate per hectare is required in terms of the class of mine (C class) as well as the environmental sensitivity of the mine.

In terms of the area where the prospecting will be taking place, the land can be classified as:

- Biophysical: Low – Medium
- Social: Medium
- Economic: Medium

In accordance with the above, the rate per hectare is therefore prescribed as indicated.

**Table 1.9:** Environmental sensitivity of mine area

	Low	Medium	High
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Rate per hectare to determine the quantum (rands)	200 0	500 0	800 0
Minimum amount	10 000.00		

Provision to be made

The calculation of financial as stated above is based on the exploration to be conducted as part of the exploration work programme. The exploration will be conducted with a phased approach. After the desktop study and geological analysis of phase 1 of the exploration work programme, one borehole will be drilled. Upon notice of successful results from the drilling of the first borehole, we will make the decision to commence with the rest of the exploration work programme. The EMP as well as the financial provision for the rehabilitation of the Project area will be adjusted accordingly.

Exploration work programme will commence with Phase 1 which does not involve drilling or any other invasive exploration activities. There will be significantly less requirements for rehabilitation in the first year of the exploration programme, and financial provision that should be made is there less. It is recommended that the financial provision to cover the first year of exploration be set out at R10 000.

**35.1.6 Confirm that the financial provision will be provided as determined**

The amount of financial provision will be paid by Setleng Mining (Pty) Ltd immediately after the Final BAR and Environmental Management Plan has been approved.

**Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting**

**35.1.7 Monitoring of Impact Management Actions**

**List of Identified Impacts Requiring Monitoring Programmes**

The identified impacts that require monitoring programmes includes the following:

- Site clearing and establishment:
- Removal of vegetation; and
- Soil erosion.



- Drilling;
- Soil erosion;
- Dust and noise;
- Water generated; and
- Groundwater levels and quality.
- Heritage landscape;
- Hydrocarbon spillages;
- Domestic waste; and Fires.
- Wetlands, pans and dams will be avoided during the prospecting activities

### **Roles and Responsibilities for the Execution of the Monitoring Programmes**

Supervisors must be appointed to monitor the potential impacts of the above mentioned activities and Project Managers will foresee that all of the management plans are implemented. Once the prospecting activities have been completed, RPM will appoint an independent environmental officer to conduct a site visit to audit the rehabilitation and a report will be compiled and submitted to the DMR.

#### **35.1.8 Monitoring and reporting frequency**

Monitoring and reporting frequency were discussed on the monitoring sections.

#### **35.1.9 Responsible Persons**

Roles and responsibilities with respecting to the monitoring programme were discussed on the monitoring section.

#### **35.1.10 Time Period for Implementing Impact Management Actions**

This was discussed on the impact management action section table

#### **35.1.11 Mechanism for Monitoring Compliance**



The method of monitoring the implementation of the impact management actions, the frequency of monitoring the implementation of the impact management actions were discussed on the monitoring phase, an indication of the persons who will be responsible for the implementation of the impact management actions, the time periods within which the impact management actions must be implemented and the mechanism for monitoring compliance with the identified impact management actions.

**36. Indicate the frequency of the submission of the performance assessment/environmental audit report**

A performance assessment report for the Project will be submitted on an annual basis to the DMR during proposed prospecting phase and on a two yearly basis during operation.

**37. Environmental Awareness Plan**

**37.1 Employee communication process**

(Describe how the applicant intends to inform his or her employees of any environmental risk which may result from their work).

Alarms will be set at all time to ensure that if there is any risk on site it should prevent employees to be endangered. The applicant will inform his or her employees of any risk on a daily basis should any such risk be identified. This will include Health and Safety as well as Environmental Risks.

**37.2 Description of solutions to risks**

(Describe the manner in which the risk must be dealt with in order to avoid pollution or degradation of the environment)

The table 8-1 overleaf shows general prospecting activity risk table

**Table 1.10:** General prospecting activity risks table

<b>Risk</b>	<b>Cause</b>	<b>Controls / Mitigation</b>
Veld fires	Smoking and discarding matches in the field	Maintain visual awareness of surroundings; smoking only in designated areas; keep a fire extinguisher on Site





Property damage	Reckless driving; driving over bushes and shrubs; driving over	Follow existing roads and / or tracks; maintain visual
Damage to field equipment and tools	Vehicles getting stuck in loose sands	Follow existing roads and / or tracks; maintain visual
Stock / agricultural produce theft / hunting by employees	Trespassing of employees onto agricultural land	Staff will not live on site, will be supervised at all times
Erosion of site	Trampling by employees and vehicles	Personnel will be restricted to 25 metre radius of each borehole, away from gullies, wetlands and river banks
Damage to vegetation	Off-road driving to borehole sites	Where off-road driving is necessary, attempts to follow fence lines and animal tracks will be made at every possible opportunity
Erosion of existing roads	More frequent use of roads	Speed limits of 40km/h will be maintained at all times by vehicles, dust suppression monthly
Noise disturbance to residents and indigenous fauna	Drilling operations and vehicle traffic	Drilling times will be minimised and kept to working hours when residents are at work / school (away from sites)

**37.3 Environmental awareness training**

(Describe the general environmental awareness training and training on dealing with emergency situations and remediation measures for such emergencies).



As part of the construction phase for the project, induction training will be conducted on all people involved in the prospecting project including geologists, drilling crew and relevant technical services, prior to the commencement of any work. Training will involve all the relevant components of the EMP including:

- Access, including use of roads, tracks, gates, etc.
- Control measures required to manage excluded and exempted areas.
- The handling, storage and disposal of waste.
- Weed control.
- Fire prevention.
- Sediment and erosion control.
- Control measures to be implemented with regards to the management of water, noise and dust.
- Rehabilitation of borehole sites and access tracks.

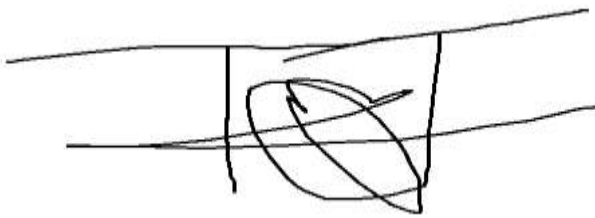
### **38. Specific information required by the competent authority**

The financial provision for the environmental rehabilitation and closure requirements of Mining operations is governed by National Environmental Management Act, 1998, Act 107 of 1998), as amended, (NEMA) which provides in Section 24P that the holder of a mining right must make financial provision for rehabilitation of negative environmental impacts. The financial provision will be reviewed annually.

## 39. Undertaking

### The EAP herewith confirms

- The correctness of the information provided in the reports
- The inclusion of comments and inputs from stakeholders and I&APs ;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- The acceptability of the Project in relation to the finding of the assessment and level of mitigation proposed.



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Signature of the Environmental Assessment Practitioner:

**Mr. Thato Jimmy Ramoraswi** (IAIAsa member)

Name of Company:

**TPR Mining Resources (Pty) Ltd**

Date: 07 February 2022

### 39.1 The following Appendixes are attached

- **Appendix A- Site Map**
- **Appendix B- Photographs**
- **Appendix C-Facility illustrations**
- **Appendix D- Consultation Report**
- **Appendix E- Quantum Calculation**
- **Appendix F- Screening Tool**
- **Appendix G- Other information**



