

**BASIC ASSESSMENT REPORT AND ENVIRONMENTAL
MANAGEMENT PROGRAMM REPORT FOR THE APPLICATION
OF A PROSPECTING RIGHT WITHOUT BULK SAMPLING
SITUATED ON PORTION 2&3 OF THE FARM ZANDFONTEIN
132, THE FARM DRAAIBANK 467 AND THE REMAINING
EXENT OF THE FARM BRAKFONTein 147, IN THE
MAGISTERIAL DISTRICT OF ZASTRON, FREE STATE**

FOR

TRIPLE 777 ENERGY (PTY) LTD

DMR REF. NO. FS 10671 PR

COMPILED BY: KEMU HOLDINGS (PTY) LTD

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mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT

AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

NAME OF APPLICANT: TRIPLE 777 ENERGY (PTY) LTD

PROJECT NAME: Portion 2&3 of the Farm Zandfontein 132, the Farm Draaibank 467 and the Remaining extent of the Farm Brakfontein 147

DATE: 20 April 2023

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FILE REFERENCE NUMBER SAMRAD: NC 30/5/1/2/2/ 13227 PR

ABBREVIATIONS USED IN THIS REPORT

DMR	:	Department of Mineral Resources
DRPW	:	Department of Roads and Public Works
DWS	:	Department of Water and Sanitation
ECO	:	Environmental Control Official
EIA	:	Environmental Impact Assessment
EMP	:	Environmental Management Programme
FS	:	Free State
IAPs	:	Interested and Affected Parties
LOM	:	Life of Mine
MPRDA	:	Minerals and Petroleum Resources Development Act
NEMA	:	National Environmental Management Act
SAHRA	:	South African Heritage Resources Agency

1. IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002, as amended), the Minister must grant a prospecting or mining right if among other the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

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

In terms of section 16(3) (b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17(1) (c) the Competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the Competent Authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorization for listed activities triggered by an application for a right or a permit submitted in the exact format of, and provide all 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 Authorization being refused.

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

2. Objective of the basic assessment process

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

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

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

3. Contact details of

a. Details of

i. Details of the EAP

Name of the Practitioner: Muneiwa Rakhalaru

Tel No.:084 880 9177

Fax No.:086 556 2568

Email address:muneiwac@gmail.com

ii. Expertise of the EAP

1) The qualifications of the EAP (with evidence)

Muneiwa Rakhalaru holds an Honours Degree in Mining and Environmental Geology from the University of Venda.

2) Summary of the EAP's past experience (in carrying out the Environmental Impact Assessment Procedure)

Muneiwa Rakhalaru has been carrying out Environmental Impact Assessment Procedure since 2015. In 2012, he joined a large mining consulting company in Kimberly called Breeze Court Investments 47 (Pty) Ltd (Geologist and Mining Consulting firm). This is where Mr Rakhalaru acquired in-depth experience and know how in the mining business by assisting the large to small scale mining companies to obtain mining right, prospecting rights, mining rights, technical co-operate permits, reconnaissance permits, exploration rights, production rights, integrated water use license, and environmental authorisation among other licenses. Rakhalaru has five years working experience in environmental management, geology and public participation process.

b. Location of the overall Activity.

Table 1: The Location of the Proposed Activity.

Farm name:	A portion of Portion 2&3 of the Farm Zandfontein 132, the Farm Draaibank 467 and the Remaining extent of the Farm Brakfontein 147
Application area (Ha):	1029.63 Ha
Magisterial district:	Zastron
Distance and direction from nearest town:	± 13.32 km SW of Zastron town
21 digit Surveyor General Code for each farm portion:	<p>Draaibank 467</p> <p>F04300000000046700000</p> <p>Zandfontein 132</p> <p>F04300000000013200002</p> <p>F04300000000013200003</p> <p>Brakfontein 147</p> <p>F04300000000014700000</p> <p>.</p>

Locality map (show nearest town, scale not smaller than 1:250 000)

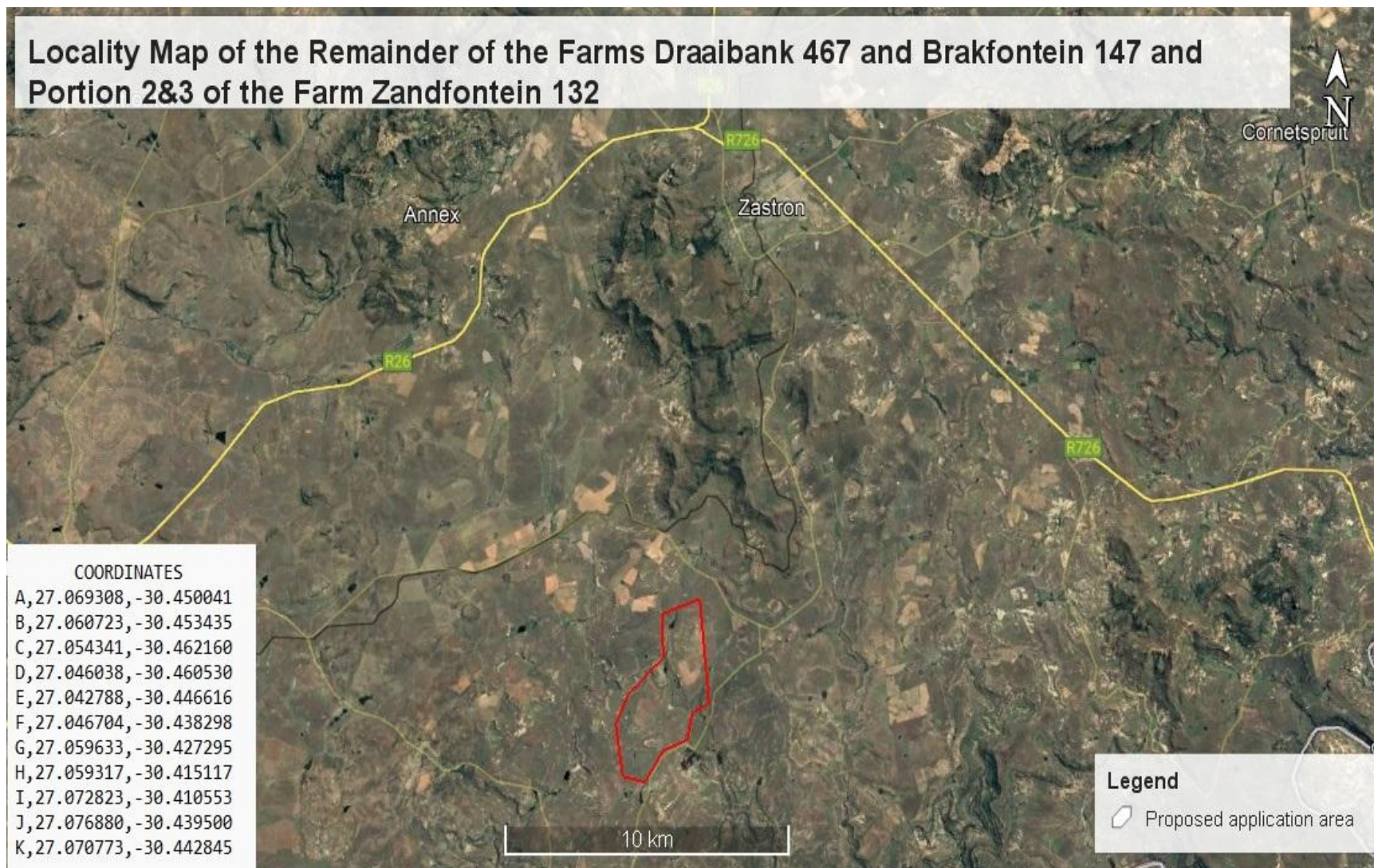


Figure 1: The locality Map.

c. Description of the scope of the proposed overall activity

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

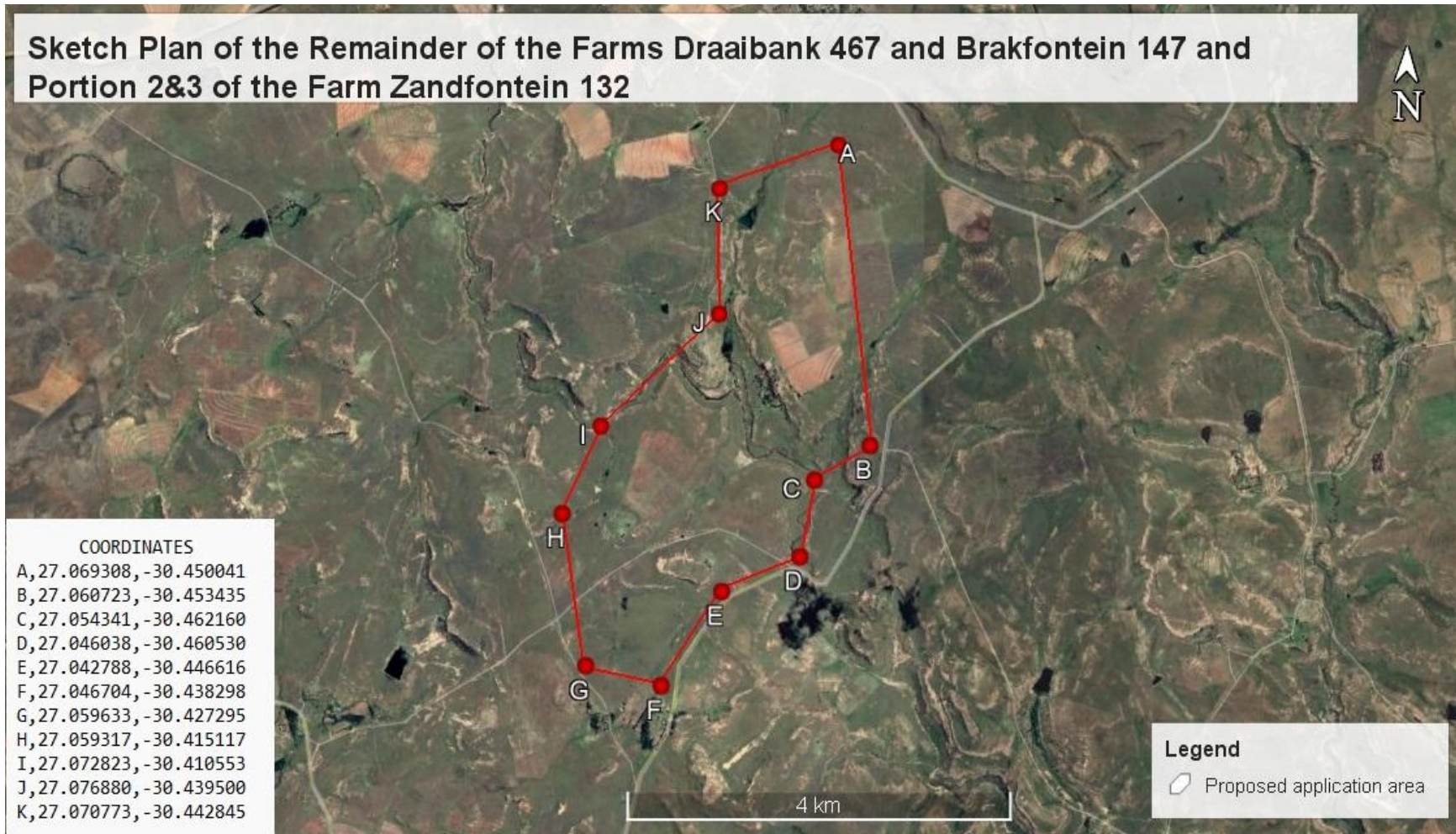


Figure 2: The area where the listed activated will take place.

i. Listed and specified activities

Table 2: Listed and specified activities

NAME OF ACTIVITY (E.g. For prospecting – drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc... E.g. for mining – excavation, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...)	AERIAL EXTENT OF THE ACTIVITY (Ha or m2)	LISTED ACTIVITY (Mark with an X where applicable or affected)	APPLICABLE LISTING NOTICE (GNR 544, GNR 545 OR GNR 546)
Establishment of prospecting site camps comprising of the drill site with sumps and parking for the drill rig, parking, equipment storage, geologist logging area, water storage, waste bins and portable toilets.	1029.63 Ha	X	GNR 324 (previously GNR 984 & 544) – Listing Notice 1 Activity No. 20

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

This application is for a Prospecting Right

Summary:

Prospecting activities will be conducted in phases as discussed below. The level of work to be completed during each phase will depend on the results of the preceding phase. The prospecting operation will commence with review of all available literature from which a mapping programme will be designed. During mapping, test pits will be excavated to confirm the occurrence of lithologies associated with the mineralized reefs. Mapping and pitting will be followed by discovery drilling of a few Gold ore core boreholes aimed at establishing the occurrence and depth of the mineralized ore body. Thereafter, a preliminary economic assessment will be conducted.

Should the assessment positive, further drilling will be conducted to define the resource. The final stage will be a pre-feasibility study to determine whether it will be economic to mine the resource.

Phase 1

Literature review

Initial Phase 1 work will include the collection and interpretation of all available data and the compilation of a Geographic Information Systems (GIS) database. The information to be collected will include aerial photos, ortho-photos, aeromagnetic data, topo-cadastral maps, geological maps, results of historic exploration programmes, and any other published literature and maps. The desktop study will aid in compiling a preliminary geological model of the area to be utilized in the planning geological mapping and sighting of drill holes.

Mapping

Mapping will involve ground thruthing the occurrence of the ore body within the proposed prospecting area; as shown in published geological maps. The Main Zone will be the target zone as it overlies the Critical Zone in which the ore body occurs. Mapping is completed that

meaningful structural and geological data may be derived from it and to confirm that the desktop study is accurate.

Test pitting

Test pitting will be conducted simultaneously with mapping to confirm the presence of Main Zone lithologies. The depth of test pits are likely to vary as all pits will be dug until natural outcrops are exposed. About five test pits each four square meters (4 m²) in size will be excavated.

Phase 2

Discovery drilling and sampling

The results of the Phase 1 will be used to assist in the ideal location of ten Gold ore drill holes at maximum depth of 1000 m. Initially, only four of the ten planned boreholes will be drilled. The objective of the initial drilling will be to confirm the occurrence of the Critical Zone within the proposed prospecting area. As a result of the known structural complexity of the area in which the proposed prospecting areas is located, initial boreholes will be widely spaced in order to increase the understanding of the overall geology. The expected depth of the Critical Zone will be guide by initial geological interpretation preexisting data, mapping and test pitting.

Sample analysis

The drill core will be sampled where a mineralized section is intersected. The core will be split into two halves, with one half of the core taken for assay purposes and the other half being retained. Each sample will be measured and weighed and the sample lengths will be recorded before dispatch for assays at a South African National Accreditation System (SANAS) accredited laboratory. Samples will be analyzed.

Phase 3

Preliminary economic assessment

A preliminary economic assessment is a study conducted to determine whether a project has the potential to be viable. At this stage, the mineralization, regardless of its quantity and quality, is always considered to be a mineral resource. This study is generally based on industry standards rather than derived from detailed site-specific data.

Phase 4**Resource drilling and sampling**

Subsequent to Phase 2 drilling, the results will be used to design a systematic drilling programme aimed at delineating a Mineral Resource on the Proposed Prospecting Area. The number of boreholes will depend greatly of the results of Phase 2 drilling; a minimum of five is planned thus far. This programme will be more focused more on parts on which the ore body were intersected.

Phase 5**Pre-feasibility study**

The pre-feasibility and feasibility studies are more detailed. By the time a decision is made to proceed with a pre-feasibility study, a preliminary mineral resource report has been finalized and an ore body model demonstrating its shape, tones, and grade is available. A resource cannot be converted to a reserve unless it backed up by at least a pre-feasibility study. Their results will show with more certainty whether the project is viable. At this point, the mineral resources, or a portion thereof, becomes a mineral reserve.

The activities associated with the Prospecting Work Programme (PwP.) will be scheduled over a period of 5 years.

d. Policy and Legislative Context

Table 3: Legislation Applicable to the Application.

<p>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</p> <p>(a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)</p>	<p>REFERENCE WHERE APPLIED</p>	<p>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT</p> <p>(E.g. in terms of the National Water Act a Water Use License has/has not been applied for)</p>
<p>National Environmental Management Act (NEMA), No. 107 of 198, as amended</p>	<p>Section 24</p>	<p>In terms of the National Environmental Management Act, an application for an Environmental Authorisation has been applied for.</p>
<p>Regulation 982. National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations, 2014</p>	<p>Regulation 19</p>	<p>In terms of the NEMA EIA Regulations a Basic Assessment Report (BAR) and Environmental Management Programme (EMPr) were prepared to submit to the competent authority.</p>
<p>Regulation 983. National Environmental Management Act (Act No. 107 of 1998): Listing</p>	<p>Regulation 20</p>	<p>In terms of NEMA EIA Regulations R.983, Listing notice 1, the activity triggers regulation 21 which refers to</p>

notice 1: List of activities and competent authorities identified in terms of sections 24(2) and 24D		a prospecting right application and therefore needs an Environmental Authorizations to proceed as well as follow procedures as prescribed in regulation 19 of R.982 (EIA Regulations, 2014).
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Section 16	In terms of the MPRDA, any person who wishes to apply for a prospecting right must lodge the application in the prescribed manner.
Mineral and Petroleum Resources Development Amendment Act (Act No. 49 of 2008)	Section 12	In terms of the MPRDA, any person who wishes to apply for a prospecting right must simultaneously apply for an environmental authorisation and must lodge the application to requirements contemplated by competent authority.

- e. Need and desirability of the proposed activities.** (Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location)

Exploration work is very important in coming up with a decision to open a mine. The planned surface work including drilling is important to be done on rocks that have potential to host the minerals to be explored.

Prospecting activities are needed to:

1. Confirm and obtain additional information concerning potential targets through non-invasive activities (e.g. desktop studies and ground geophysical surveys) and invasive (e.g. drilling) activities.
2. Assess if the resource can be extracted through future prospecting in an environmentally socially and economically viable manner.

Should prospecting activities prove that there are feasible minerals to allow for prospecting, a new mine may be developed which would generate extensive employment opportunities in an area where employment is needed.

- f. Motivation for the overall preferred site, activities and technology alternative.**

The study area has been transformed to some degree. Alternative land uses for the site would include grazing, farming activities. However, the study area is mineralised by cobalt, nickel, and copper which will be utilised to improve social and economic environments. Through implementing good practice environmental management measures and mitigation measures, it will ensure that both human and environment benefit from the development.

No location alternatives are applicable to this project since the Gold ore and other minerals as stated above is contained in the proposed prospecting area. Locating the development to another area will result in the minerals possibly not being found and the economy and society not benefitting from future proposed prospecting activities.

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

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

1. Details of the development footprint alternatives considered.

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

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

No alternatives are applicable to this project since the cobalt, nickel, and copperas stated above are contained in the proposed prospecting area. Locating the development to another area will result in the ore possibly not being found and the economy and society not benefitting from future proposed prospecting activities.

- 2. Details of the Public Participation Process Followed** (Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attend public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land).

Definitions:

'consultation' means a two way communication process between the applicant and the community or interested and affected party wherein the former is seeking, listening to, and considering the latter's response, which allows openness in the decision making process.

'community' means a group of historically disadvantaged persons with interest or rights in a particular area of land on which the members have or exercise communal rights in terms of an agreement, custom or law: Provided that, where as a consequence of the provisions of the Act negotiations or consultations with the community are required, the community shall include the members or part of the community, directly affected by prospecting or mining, on land occupied by such members or part of the community.

'Interested and affected' parties include, but are not limited to; –

- Host Communities
- Landowners (Traditional and Title Deed owners)
- Traditional Authority
- Land Claimants
- Lawful land occupier
- The Department of Land Affairs,
- Any other person (including on adjacent and non-adjacent properties) whose socio-economic conditions may be directly affected by the proposed prospecting or mining operation
- The Local Municipality,
- The relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project.

The following I&APs were contacted:

- Land owner/s
- Free State Department of Economic Development, Tourism, Environmental Affairs, and Small Business;
- Chief Director: Department of Rural Development and Land Reform (Free State);
- Mohokare Local Municipality– Municipal Office;
- Xhariep District Municipality– Municipal Office;
- Department of Water and Sanitation; and
- Other relevant parties or departments.

The identified I&APs were provided with information regarding the applied proposed prospecting. The final location of the planned excavations will be decided in consultation with the landowners during mining. All comments from the identified I&APs will be noted and taken into consideration.

After the directly affected land owner has been identified, these parties were consulted telephonically, per email or personally (whichever method is most convenient for the party concerned).

The public participation process mainly comprises engagement with Interested and Affected Parties (I&APs) and is of utmost importance in any environmental assessment process. The public participation process, *inter alia*, involves the following:

- Inform, raise awareness, educate and increase understanding of a broad range of environmental issues that might be arise with the proposed extension in the size of prospecting operation.
- Establish lines of communication between stakeholders, I&APs and the project team.
- Provide opportunity to all parties for the exchange of information and expression of views and concerns.
- Obtain contributions of stakeholders and I&APs and ensure that all views, issues, concerns and queries raised are fully documented.

- Identify all the significant issues associated with the proposed extension of project.

Kemu Holdings was appointed by **Triple 777 Energy (Pty) Ltd** as the independent consultant to conduct the public participation process as part of the Basic Assessment Report and Environmental Management Programme Report. As stipulated in Section 16 (5) (b) of the MPRDA (Act 28 of 2002) as amended by the MPRDA (Act 49 of 2008) and Regulations, Interested and Affected Parties (I&APs) need to be notified and consulted with, as part of a prospecting right application and extension thereof.

The public participation process aims to provide I&APs with objective information in order to assist them to:

- Raise issues of concern and make suggestions for enhanced benefits;
- Contribute local knowledge and experience;
- Verify that their issues have been captured;
- Verify that their issues have been considered; and
- Comment on the findings of the EMP.

An e-mail explaining the project and the background information will be sent to all other I&APs introducing the project. Specifically, the Free State Department of Economic Development, Tourism, Environmental Affairs, and Small Business responded that **Kemu Holdings** does not need to send them any information as the BAR and EMPr will be provided to them from the DMR once the BAR and EMPr is submitted.

The draft BAR and EMPr was made available for all the registered I&APs. The draft BAR and EMPr was made available to inform the I&APs of the activities, background information of the area, the possible impacts and mitigation measures and other relevant information, and to request input and comment on it.

Public Participation activities for the Application Process are summarized in the public participation report.

- i. **The Environmental attributes associated with the alternatives.** (The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects).

1. Baseline Environment

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

The environment on site relative to the environment in the surrounding area

The Mohokare Local Municipality is a Category B municipality situated within the Xhariep District in the south-eastern Free State. It is the smallest of three municipalities in the district, making up a quarter of its geographical area.

Zastron is perhaps the best-known of the three villages in this area. At the foot of the Aasvöelberg is the famous Eye of Zastron, a 9m-wide hole through a sandstone rock. Examples of Bushman art can be found on the various farms in the area. Zastron is very close to Lesotho and a great place to start exploring.



Figure 3: The location of Zastron within the Xhariep District Municipality and within the Mohokare Local Municipality.

1.1 Climate

Zastron has a Mid-latitude steppe climate (Classification: BSk). The district's yearly temperature is 21.83°C (71.29°F) and it is 0.61% higher than South Africa's averages. Zastron typically receives about 34.61 millimeters (1.36 inches) of precipitation and has 60.93 rainy days (16.69% of the time) annually.

1.2 Geology and Soils

The Karoo Supergroup rocks cover a very large proportion of South Africa and extend from the northeast (east of Pretoria) to the southwest (Nieuwoudville – Inverdoorn) and across to almost the KwaZulu Natal south coast. It is bounded along the southern margin by the Cape Fold Belt and along the northern margin by the much older Transvaal Supergroup rocks. Representing some 120 million years (300 – 183Ma), the Karoo Supergroup rocks have preserved a diversity of fossil plants, insects, vertebrates and invertebrates. During the Carboniferous period South Africa was part of the huge continental landmass known as Gondwanaland and it positioned over the South Pole. Meltwater sediments are known as the Dwyka Group. Overlying them are rocks of the Ecca Group that are Early Permian in age. Overlying the Ecca Group rocks are the Beaufort Group Rocks that are late Permian and early Triassic in age. There are six formations in the Beaufort Group but their distribution is not the same throughout the basin. The Adelaide Subgroup makes up the middle to upper Permian rocks and the Tarkastad Subgroup makes up the early and middle Triassic rocks. The Tarkastad Subgroup was deposited in the early Triassic. Two lower formations are recognised, the Katberg Formation west of the line of longitude 24°E and the Verkykerskop Formation in the Free State and KwaZulu Natal, with the former representing shallow, braided environment with pulsatory discharges. It also has abandoned channel fills and braidplain environments, and the latter just representing a braidplain environment (Catuneanu et al., 1998).

The upper part of the Tarkastad subgroup has the Burgersdorp Formation in the east and the Driekoppen Formation in the west. Both formations were deposited as mixed-load meandering rivers and floodplains with more suspended-load-dominated meandering river deposits in the Driekoppen Formation (ibid). The Stormberg Group forms the upper Karoo sequence and has been divided into three formations, the lower Molteno Formation, the Elliot formation and the upper Clarens Formation. These rocks were capped by the Drakensburg basalts that signalled the end of the Karoo sequence, as well as preserving much of the stratigraphy. The Molteno

Formation, of upper Triassic age, represents braided streams on a vast braid plain, rare coal deposits with a few filled in abandoned channel tracts and some ponded bodies of water (Catuneanu et al., 1998). It was a part of the ever-shrinking Karoo Basin and only occurs around the margins of the Drakensberg Mountains.

1.3 Biological Environment

1.4.1. Vegetation

Three major plant communities, of which one (major community 1) is not further divided into distinct communities and sub-communities, have been recognized and are illustrated in the phytosociological table (Table I). The hierarchical classification of these communities is summarized as follows:

1 Cliffortia nitidula-Rhus erosa Major Community

A plant community which was found to be restricted to the moderately steep east-facing footslopes of the Aasvoelberg Mountain, where Avalon soils are the most prominent. The Elliot and Molteno Formations are the most important geological formations with the Ca land type covering nearly 80% of the area. These areas are often disturbed by hikers and have a low species diversity (Table I). Species of species group A characterize this plant community with (*Cliffortia nitidula* (species group A) the most conspicuous, having high cover-abundance values. According to Coates Palgrave (1984), *C. nitidula* can reach six metres in height. However, the average height of *C. nitidula* in this major community did not exceed three metres. The only other conspicuous species present include the woody shrub, *Rhus erosa*. *R. erosa* is commonly found in the rocky areas in the southern Free State

2 *Stoebe plumosa*-*Leucosidea sericea* Major community

This vegetation unit is encountered on the moist, steep southerly facing slopes (30-60°), where also a higher species diversity is found to be present (Table I). The diagnostic species are those listed in species group J (Table 1). *Leucosidea sericea* is the only diagnostic tree species being abundant in some areas. The height of this tree varies from two to six metres and is widely dispersed in the mountainous areas, especially in kloof forests and on mountain slopes in the

Free State (Venter & Joubert 1985). The exotic rose, *Rosa eglanteria* (species group J) has long pendulous branches which are spinose. This species often forms dense impenetrable stands. *Passerina montana* and *Sloebe pllll10sa* (species group J) are the only two other diagnostic species present. Seven distinct vegetation units were identified within this plant community.

3. *Olea europaea*-*Rhus burchellii* Major Community

This open woodland major community is associated with the ravines as well as moist south- and south-east facing slopes of hills. The habitat conditions here are drier than in the previous two major communities (major communities 1 and 2). The soil surface is rocky and of doleritic origin. Species of species group AB (Table I) are diagnostic. *Olea europaea* subsp. *africana* and *Leucadendron*; (species group AB) are the differentiating species with *Euclea crispa* subsp. *ovala* also abundant (Table I). Other widely distributed woody species include the tree *Diospyros lycioides* and the shrubs *D. austro-africana*, *Felicia* and *Rhus erosa*.

1.4.2. Fauna

Tracks and signs of mammals are present on the site but notably diminished from the natural condition. Due to the site being used as communal grazing and the proximity of urban areas it is highly likely that the site will no longer support a natural mammal population both in terms of diversity and population size. Furthermore, such communal grazing areas close to urban areas are often accompanied by a high number of feral and shepherd dogs and it is considered highly likely that these would have decimated the mammal population on the site. Trapping for food is common practise around urban areas and it is also anticipated likely that this would have significantly decreased the population. Some reptiles in the region which may be of conservation significance include the Common Crag Lizard (*Pseudocordylus melanotus*) (Bates 2007). Rocky outcrops on the site were specifically surveyed for these lizards but none could be observed. It is also considered likely that current levels of disturbance are preventing this species from establishing. The only reptile noted was the widespread and common Variable Skink (*Trachylepis varia*) which is not considered to be of significant conservation value. A few burrows of small unidentified mammals were observed although it was not apparent that they were inhabited. The proposed development will transform the majority of the vegetation on the site and thus also the available habitat to fauna. However, the current habitat is already degraded and mammal population already notably diminished and therefore this cannot be considered to be a high impact. It is also considered likely that several mammal species were overlooked during the survey but owing to the degraded condition of the site and proximity to urban areas it is considered highly unlikely that any rare or endangered species would occur on the site. In order to ensure no direct impact on the mammals on the site the hunting, capturing or trapping of mammals on the site should be strictly prohibited during construction as well as during operation of the cemetery. List of some Red Data terrestrial mammals that could occur in the region: South African Hedgehog *Atelerix frontalis* Aardwolf *Proteles cristatus* African Wild Cat *Felis lybica* Small-Spotted Cat *Felis nigripes* Bat-Eared Fox *Otocyon megalotis* Striped Weasel *Poecilogale albinucha* It is considered unlikely that any of these species would occur on the site due to the proximity of urban developments and degraded condition of the site.

1.4.3. Conservation areas

According to the National Environmental Management: Protected Areas (Act No 57 of 2003) the declaration of protected areas is:

- To protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected area;
- To preserve the ecological integrity of these areas;
- To conserve biodiversity in these areas;
- To protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa;
- To protect South Africa's threatened or rare species;
- To protect an area which is vulnerable or ecologically sensitive;
- To assist in ensuring the sustained supply of environmental goods and services;
- To provide for the sustainable use of natural or biological resources;
- To create or augment destinations for nature based tourism;
- To manage the inter-relationship between natural environment biodiversity, human settlement and economic development;
- Generally to contribute to human, social, cultural, spiritual and economic development; and
- To rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species.

The study area is not in close proximity to any conservation area.

2.1 Surface water

The South African National Biodiversity Institute (SANBI) compiled a National Wetland Inventory, which aims to map and classify (i.e. type) the major wetlands and water bodies in the country at a coarse spatial scale. A wetland classification system is required for application to the National Wetland Inventory, so that different types of wetlands can be distinguished for management and conservation purposes. This classification system is intended to be used throughout the country for a number of different applications, largely with a view to facilitating common usage of terminology amongst wetland scientists and managers. However, at the same time, it is envisaged that further refinements to the classification system may be

necessary in the future, to address problems that may be encountered in its application by a wide range of different users for a number of different purposes. As such, the classification system presented in this report should not be seen as the final word but, rather, as a “living” work in progress that will be continuously improved. This system also identifies and classifies various rivers and their tributaries.

There are no water resources located close to the proposed development.

2.2 Socio-economic setting

Mohokare Local Municipality, in the Xhariep District is situated in the south-eastern Free State. The district is made up of (3) local municipalities, namely Letsemeng Local Municipality, Kopanong Local Municipality and Mohokare.

Mohokare Local Municipality is made up of three (3) towns in the municipal area, namely Zastron – Matlakeng, Rouxville – Roleleathunya and Smithfield – Mofulatsepe.

According to Census 2016, Mohokare Local Municipality has a total population of 35,840 people.

Mohokare’s population growth rate according to Statistics South Africa, is **1.06%**, this is indicative of the fact that during the Census survey conducted in **2011**, the total estimated population was **+ 34146**, which has now increased to **+35 840** according to **2016** Community Survey

Distribution of population by gender

Population group	Gender		Total
	Male	Female	
Black African	15015	17580	32595
Coloured	204	93	297
Indian/Asian	58	37	96
White	1245	1608	2853
Total	16523	19317	35840

Data source: Statistics South Africa, Community Survey 2016 (2016 municipal boundaries)

Distribution of population by age group and gender

Age	Gender		Total
	Male	Female	
00-04	1523	1854	3377
05-09	1946	1863	3809
10-14	1650	1557	3207
15-19	2136	2349	4485
20-24	1164	1748	2912
25-29	1687	1815	3502
30-34	1269	1446	2715
35-39	996	1076	2071
40-44	930	1000	1931
45-49	711	937	1648
50-54	565	762	1327
55-59	561	707	1268
60-64	466	578	1044
65-69	387	732	1119
70-74	326	280	606
75-79	96	205	301
80-84	67	295	361
85+	44	114	158
Total	16523	19317	35840

Data source: Statistics South Africa, Community Survey 2016 (2016 municipal boundaries)

Distribution of population aged 5 years and older by highest level of education gender

Highest level of education	Gender		Total
	Male	Female	
No schooling	936	1075	2011
Grade 0	644	591	1235
Grade 1/Sub A/Class 1	601	620	1221
Grade 2/Sub B/Class 2	431	346	778
Grade 3/Standard 1/ABET 1	811	958	1769
Grade 4/Standard 2	807	1003	1810
Grade 5/Standard 3/ABET 2	855	924	1779
Grade 6/Standard 4	1080	1185	2265
Grade 7/Standard 5/ABET 3	908	1375	2283
Grade 8/Standard 6/Form 1	1241	1191	2431
Grade 9/Standard 7/Form 2/ABET 4/Occupational certificate NQF Level 1	1207	1260	2468
Grade 10/Standard 8/Form 3/Occupational certificate NQF Level 2	1120	1690	2810
Grade 11/Standard 9/Form 4/NCV Level 3/ Occupational certificate NQF Level 3	659	1232	1891
Grade 12/Standard 10/Form 5/Matric/NCV Level 4/ Occupational certificate NQF Level 3	3010	3115	6125
NTC I/N1	-	-	-
NTCII/N2	29	13	42
NTCIII/N3	20	-	20
N4/NTC 4/Occupational certificate NQF Level 5	47	69	116
N5/NTC 5/Occupational certificate NQF Level 5	14	116	129
N6/NTC 6/Occupational certificate NQF Level 5	13	40	53
Certificate with less than Grade 12/Std 10	16	-	16
Diploma with less than Grade 12/Std 10	-	19	19
Higher/National/Advanced Certificate with Grade 12/Occupational certificate NQF	51	69	120
Diploma with Grade 12/Std 10/Occupational certificate NQF Level 6	109	122	231
Higher Diploma/Occupational certificate NQF Level 7	70	112	182
Post-Higher Diploma (Master's	45	38	83
Bachelor's degree/Occupational certificate NQF Level 7	66	75	141
Honours degree/Post-graduate diploma/Occupational certificate NQF Level 8	-	72	72
Master's/Professional Master's at NQF Level 9 degree	32	-	32
PHD (Doctoral degree/Professional doctoral degree at NQF Level 10)	-	55	55
Other	34	-	34

Data source: Statistics South Africa, Community Survey 2016 (2016 municipal boundaries)

Education

- In 2011 only 39.81% of the population completed education at levels higher than primary school.
- Higher levels of education are required. Only 3.77% of population have a tertiary education and there is Motheo satellite campus in Zastron.
- Ensure that new schools are erected in line with the NSDP principles, i.e. The Primary School is currently constructed in Matlakeng at Refengkhotso Location, but not completed.

- Transport opportunities, for example, cycleways, need to be provided to assist in providing learner access to schools.
- Given the low education levels, skills development is needed to empower people to be employable and to generate their own income.
- There is an over provision of all types of educational facilities given the Education standards, in each of the settlements. However, this assessment is not based on walking distances but is purely based on population thresholds.
- Given the need to access facilities with 1km walking distance, the following educational facilities are required in the following areas:

Primary Schools:

- Zastron: southeast of Zastron (west of the railway line); and north of Matlakeng
- Rouxville: none; and,
- Smithfield: Smithfield town.

Secondary Schools:

- Zastron: between Zastron and Matlakeng; and south of Matlakeng;
- Rouxville: none; and,
- Smithfield: Mofulatshepe

Employment, Occupation and Income Levels

- About 73% of the population earn below R3200/month.
- Of the three main settlements, Zastron has the highest income levels.
- The highest unemployment rate is experienced in the three main settlements.
- The total economically active population declined between 2001 and 2011 by 8%.
- Initiatives should be created where manufacturing; wholesale and retail and community, social and personal services are grown as these are the sectors currently contributing the most to employment generation.
- The fastest growing sectors for GVA (average annual percentage growth) between 2001 and 2011 are:
 - Electricity gas and water (22.55%);
 - Manufacturing (10.39%); and,
 - Finance, insurance, real estate and business services (9.98%)

- Similarly, the following tertiary sectors should also be supported as they are the highest sector contributors to the GVA of the area:
 - Finance, insurance, real estate and business services (25.53%);
 - Government services (17.24%); and,
 - Community, social and personal services (15.23%).
- The GVA of the municipality is mostly generated by the tertiary sector. This sector contributes 75.73% to the GVA, is currently growing and should be encouraged to grow.
- Given the decline of the GVA contributions in primary sectors and a growth in the secondary and tertiary sectors, more emphasis from the former to the latter is observed in the economy. This has implications for the lower skill level employees who now need to improve their skills levels to stay competitive in the secondary and tertiary job markets, or look for work elsewhere.

1.6.8 Cultural/Heritage Environment

The historical significance of the Springbok area which indicates that before the Blue Mine in Springbok there was previously mined in South Africa. We therefore question the acknowledgment and that it should be enjoyed as an inheritance area, as it is only the first Post-Colonial commercial mine in South Africa but not the first. According to research and correspondence from SAHRA the proposed development was never formally been earmarked as a heritage site.

However, the Applicant is comfortable linking themselves to a range of conditions to ensure that through the proposed mining activities, they will:

- Create an attraction that will include a centre that the community will be able to visit the history of the Blue Mine, the role it played in developing mining in the area, the role of the Khoi San in Copper Mining etc.
- A tourism attraction will be after we have stopped mining activities.
- The Applicant will not be using explosives or equipment that will make noise as the community is close to the mine area.
- Use mining materials that are environmentally friendly.
- Children's amusement park or other activities can be developed that can be utilized by the surrounding communities after mining has stopped.

The area is currently looking unpleasant and is dangerous for the people of the town as well as tourism who want to visit it. The Applicant will appoint a Landscape Architect to make suggestions that can be considered and recommended by the various stakeholders, which will then be used as a guideline in the area of mine and rehabilitation so that it will eventually look better and much more functional as it currently looks. By the nature of the case we will allocate an amount to make the above possible.

The granting of the Prospecting Right will create jobs in an area where it is very scarce. Not only at the proposed mine but also at the Plant in Okiep. The Applicant is minimizing the use of machinery to create the maximum number of jobs and minimize noise and inconvenience to any party. Their interests as a previously disadvantaged Klein Myner Company's interests should

also be considered. The socioeconomic impact our operations will have in the larger Mohokare area will also support the viability of the other small mine permit areas we also applied for. The Applicant is further prepared if their proposals are not sufficient to engage with the relevant Heritage Representatives as well as the owners of the land to discuss a consensus win - win agreement for all.

Description of the current land uses

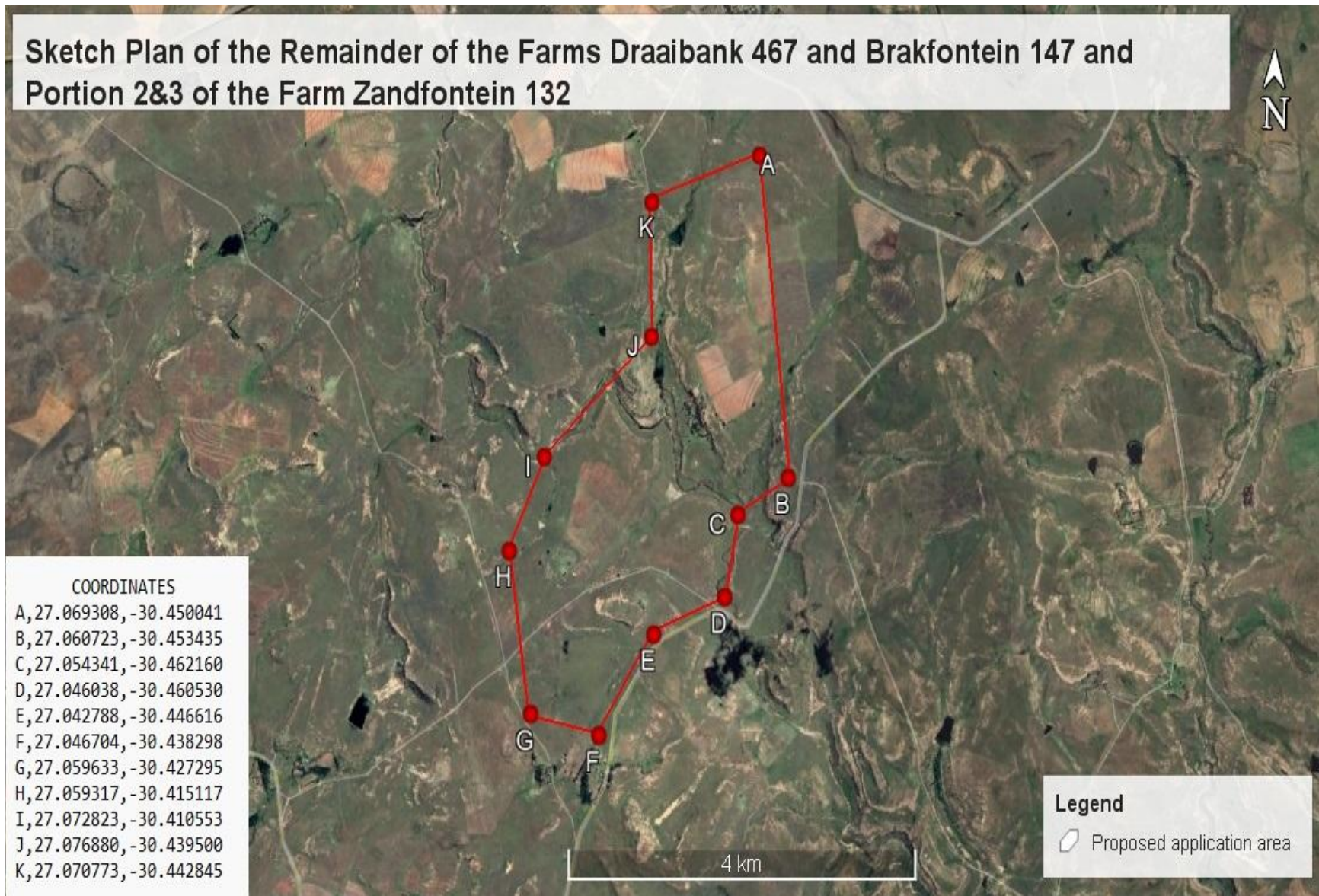
The study area has been transformed to some degree. Alternative land uses for the site would include grazing, farming activities.

Description of specific environmental features and infrastructure on the site

The prospecting activities are not expected to affect any existing infrastructure, beyond requiring the use of existing farm access roads. As the invasive activities of this application include drilling of the resources that may occur in open land, these areas will not be disturbed. A safe 100 m buffer will be placed around existing infrastructure and no drilling activities will take place within this buffer area.

Environmental and current land use map (Show all environmental and current land use features)

It should be noted that while the whole of the prospecting right application area of 3 373 hectares are depicted on the maps, way less than that amount of space will be disturbed as a result of invasive prospecting activities.



4. **Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of impacts, including the degree to which these impacts** (Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impact of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of these impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources and can be avoided, managed or mitigated).

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

Table 4

NO	ACTIVITY	IMPACT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE RATING	
1	Site Preparation	Loss of vegetation	3	5	10	80	High
		Habitat Destruction	3	5	10	80	High
		Visual scarring	3	4	8	56	Medium
		Soil erosion	3	4	6	42	Low
	Drilling	Noise	2.5	5	10	75	high
		Visual Scarring	3	4	8	56	medium
		Soil erosion	3	4	6	42	low

Potential cumulative impacts

Since there may be agricultural or mining activities, the expected cumulative impact will be noise and dust.

Potential impact on heritage resources

No heritage sites may be present on the site, which may be disturbed and/or damaged during mining.

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

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

Expectations could be created that numerous job and business opportunities will become available during prospecting. All Interested and Affected Parties (I&APs) need to be informed throughout the prospecting process.

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

The draft BAR and EMPr was made available to the interested and affected parties for comment and input. The list of potential impacts was included in the draft BAR and EMPr.

Confirmation of specialist report appended (Refer to guideline)

Both Heritage and Ecological studies were conducted for this BAR and EMPr. The baseline information contained herein is based on a desktop study and one site visit.

5. **Methodology used in determining and ranking nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;** (Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which they initial site layout needs revision).

Criteria of assigning significance to potential impacts

The significance of the impacts was determined through the consideration of the following criteria:

Table 5: Criteria of assigning significance to potential impacts.

Probability:	Provides a description of the likelihood/probability of the impact occurring
Extent:	Describes the spatial scale over which the impact will be experienced
Duration:	The period over which the impact will be experienced
Intensity:	The degree/order of magnitude/severity to which the impact affects the health and welfare of humans and the environment
Significance:	Overall significance of the impact on components of the affected environment and whether it is a negative or positive impact

The impacts were individually described and assessed using the criteria drawn from the Environmental Impact Assessment (EIA) Regulations, published by the DEA in terms of the NEMA (Act 107 of 1998).

The significance of each impact is assessed using the following formula (before and after mitigation):

$$\text{Significance Point (SP)} = (\text{Probability} + \text{Extent} + \text{Duration}) \times \text{Intensity}$$

The maximum value is 150 SP. The impact significance will then be rated as follows:

Table 6

SP > 75	Indicates high environmental significance	An impact that could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 – 75	Indicates moderate environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP < 30	Indicates low environmental significance	Impacts with little real effect and which should not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.
Probability (P)		
None (N)	1	The possibility of the impact occurring is none, due either to the circumstances, design or experience (0%).
Possible (P)	2	The possibility of the impact occurring is very low, due either to the

		circumstances, design or experience (25%).
Likely (L)	3	There is a possibility that the impact will occur to the extent that provisions must therefore be made (50%).
Highly likely (H)	4	It is most likely that the impacts will occur at some stage of the development and plans must be drawn up before carrying out the activity (75%).
Definite (D)	5	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on (100%).
Extent (E)		
Footprint (F)	1	The impact area extends only as far as the activity which occurs within the total site area.
Site (S)	2	The impact could affect the whole site or a significant portion of the site.
Regional (R)	3	The impact could affect the area including the neighboring farms, the transport route and/or the adjoining towns.
National (N)	4	The impact could have an effect that expands throughout the country.
International (I)	5	Where the impact has international ramifications that extend beyond the boundaries of the country.
Duration (D)		
<i>The period over which the impact will be experienced</i>		

Temporary (T)	1	0 – 3 years (or confined to the construction period).
Short term (S)	2	3 – 10 years (or confined to the construction and part of the operational period).
Medium term (M)	3	10 – 15 years (or confined to the construction and whole operational period).
Long term (L)	4	For the whole life of mine (including closure and rehabilitation period).
Permanent (P)	5	Beyond the anticipated lifetime of the project.
Intensity (I)		
Insignificant (I)	2	Will have a no or very little impact on the health and welfare of humans and environment
Low (L)	4	Will have a slight impact on the health and welfare of humans and environment
Moderate (M)	6	Will have a moderate impact on the health and welfare of humans and environment
High (H)	8	Will have a significant impact on the health and welfare of humans and the environment
Very high/ don't know (V)	10	Will have a severe impact on the health and welfare of humans and the environment

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

The preferred location is the only location plan currently under investigation. Due to the location and presence of the potential mineral resources, the initial site layout is the only alternative considered; however, as prospecting progresses through the aforementioned phases, the preliminary site layout may be slightly adjusted. The final locations of the drill holes can only be established once the geophysical survey has been completed in the noninvasive; Phase 1, of the activity and once agreements has been discussed and signed with the relevant landowners, and this can only be done once the PR right has been approved.

Until such time the preliminary layout remains the preferred layout. The identified potential impacts range from air pollution such as dust, noise pollution, soil pollution, waste pollution, water pollution, Fauna and Flora impacts, Visual impacts and socio-economic impacts. All these will be properly managed. None of these impacts will be significant since the proposed prospecting activities will be of small scale, short term, mitigation measures will be adhered to and concurrent rehabilitation will take place. Please refer to table 3 and table 4 which reviews the significance of impacts by taking the proposed mitigation measures into consideration.

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

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

WASTE DISPOSAL

- All personnel must be instructed to dispose of waste in a proper manner in the correct designated areas.
- Suitable receptacles shall be available at all times and conveniently placed for the disposal of waste.
- No waste shall under any circumstance be disposed of in the veld. No burning of

waste is permitted on site and the proposed prospecting area should be protected from illegal dumping of waste.

- All used oils, grease or hydraulic fluids shall be placed in appropriate impervious containers and these receptacles will be removed from the site on a regular basis for disposal at a registered or licensed disposal facility or sent for recycling/reuse with a registered facility.
- Spills should be cleaned up immediately by removing the spillage together with the polluted soil and by disposing of them at a recognized facility. In areas where the spills are some, an absorbent agent can be used and the area treated
- Contaminated materials and residues from machinery maintenance and other sources contaminated with hazardous waste should be stored in proper containers that avoid seepage to ground.
- The “reduce, reuse, recycle” waste management philosophy will be used where possible.
- Only authorized registered waste disposal contractors should be hired for collection of waste for all waste streams

SOCIAL IMPACTS

- Effective two-way public disclosure and public consultation should be implemented to allay community perceptions. There should be an opportunity provided for the resolution of grievances or complaints received and recorded from individuals in the community.
- Community should be adequately informed of activities being done at the proposed prospecting that are likely to affect them.
- Labour recruitment should occur in a manner that is objective, transparent, and wherever possible, provide opportunities for people from the local area.
- The activities of contractors, consultants, and company employees should be routinely reviewed to ensure good community relations are being maintained.

The project proponent should use its influence as employer to encourage responsible behavior among employees

EQUIPMENT USED ON SITE

- Only well-maintained vehicles and equipment should be operated onsite and all machinery should be serviced regularly during the proposed prospecting operation.
- The maintenance of vehicles and some equipment used for any purpose during the proposed prospecting operation will take place only in the maintenance workshops which are not located on the borrow pit. No vehicle may be extensively repaired in any place other than in the maintenance yard
- A maintenance schedule should be prepared in order to ensure that equipment is in its best form so as to not cause unnecessary pollution such as noise, emissions and makes effective use of energy.
- Equipment used in the proposed prospecting process must be adequately maintained so that during operations it does not spill oil, diesel, fuel, or hydraulic fluid.
- Machinery or equipment used on the proposed prospecting area must not constitute a pollution hazard. No equipment leaking oil should be used. Drip tray should be used to prevent pollution.

NOISE

- Construction activities required outside normal working hours must be approved by the Project Manager, and where necessary, advance warning provided to adjacent residents.
- Noise levels exceeding 85dB shall only be permitted where approved and with appropriate advanced warning to adjacent residents (minimum of 2 days) being provided.
- Noise that could cause a major disturbance should only be carried out during

daylight hours and with advance warning provided as above.

- Adequate ear protection should be provided to employees in noisy areas
- No amplified music shall be allowed at the site.
- Construction vehicles and plant to be in good working order.

8. **Motivation where no alternative sites were considered**

No location alternatives are applicable to this project since the Gold is contained in the proposed prospecting area. Locating the development to another area will result in the ore possibly not being found and the economy and society not benefitting from future proposed prospecting and possible prospecting activities. The proposed site for the proposed prospecting is located within an area which is already severely disturbed as a result of Gold prospecting activities.

9. **Statement motivating the alternative development location within the overall site.** (Provide a statement motivating the final site layout that is proposed.)

Each phase is dependent on the preceding phase and results thereof. The preferred location is thus the only location assessed. It should be noted that prospecting is a “locality bound” industry (it has to take place where the resources are) thus no alternative locations for prospecting can be assessed. However, alternative locations for infrastructural components of the project that are not locality bound can be considered. In this case however, the only infrastructural component of the proposed project is the location of the site camp. This location for this will be dependent upon landowner negotiations and thus as a result cannot be determined prior to the prospecting right being granted. Until such time the preliminary layout remains the preferred layout. The preliminary locations have however allowed for safe buffers around sensitive identified features.

- i. **Full description of the process undertaken to identify, assess and rank the impacts and risks of the activity will impose on the preferred site (In respect to the final site layout plan) through the life of the activity.** (Including (i) a description of all the environmental issues and risks that were identified during the environmental impact assessment

process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

An activity mapping exercise was conducted for the proposed activity, then potential environmental impacts were identified. The Department of Environmental Affairs (DEA) impact assessment matrix was used. The impact with medium to high significance requires mitigation/control measures, the following are the possible impacts the project will have on the environment:

- Dust generated during excavation, loading, transportation and offloading of Gold ore and dust generated by movement of vehicles from prospecting site to construction site causing air pollution.
- Noise generated by machinery during Gold ore prospecting and vehicles while transporting Gold ore from prospecting site to construction site
- Vegetation destruction due to clearing of the site for prospecting purposes.
- Ecosystem disturbance due to vegetation clearing.
- Erosion causes by removal of vegetation and stripping of top soil to extract the Gold ore
- Visual impact due to prospecting activities, pits will be enlarged and machinery around the site will disturb the natural visual landscape.
- Exposure of children to open pit filled with water resulting in drowning and death
- Open pits a danger to animals falling in and breaking limbs
- Improper disposal of waste resulting in land pollution
- Fuel and oil leakages causing ground and surface water pollution

All impacts were identified by a combination of the following:

- Desktop analysis
- Consultation process with landowners and I&APs
- A site visit

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

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANC E	MITIGATION TYPE	SIGNIFICANCE
<p>(E.g. For prospecting – drill site, site camp, ablation facility, accommodation, equipment storage, sample storage, site office, access route etc...</p> <p>E.g. For mining – excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablation, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...)</p>	<p>(Including the potential impacts for cumulative impacts)</p> <p>(E.g. dusts, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...</p>		<p>(In which impact is anticipated)</p> <p>(e.g. Construction, commissioning, operational, decommissioning, closure, post-closure)</p>	(If not mitigated)	(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...)	(If mitigated)
<p>Site Establishment activities (fencing, signage, access formation, etc)</p>	<p>Loss of vegetation</p>	<p>Visual character, Land use</p>	<p>Pre-prospecting</p>	<p>Medium</p>	<p>Remedy through rehabilitation, Limit footprint</p>	<p>Low</p>

	Habitat Destruction	Visual character	Pre-prospecting	Medium	Remedy through rehabilitation, Limit footprint	Low
	Visual scarring	Visual character	Pre-prospecting	Medium	Remedy through rehabilitation	Low
	Soil erosion	Visual character, Land use	Pre-prospecting	Medium	Remedy through rehabilitation, Limit footprint, Control through storm water control	Low
	Soil erosion	Land use	Operational Phase	Medium	Control through soil conservation techniques, Stop through appropriate storage of topsoil	Low
	Soil erosion	Land use	Operational Phase	Low	Remedy through the rehabilitation of already worked areas, Control through slope control, Stop through appropriate storage of topsoil	Low
Waste Disposal and	Soil contamination	Land	Operational Phase	Low	Avoidance	Low

Material storage		degradation				
	Water pollution	Water	Operational Phase	Low	Avoidance	Low
	Increased risk of fire	Safety	Operational Phase	Low	Avoidance	Low
Material handling, hauling and transportation	Dust	Air quality	Operational Phase	Low	Control through dust control measures	Low
	Increased risk of accidents	Safety	Operational Phase	Low	Stop through site management protocols	Low
	Noise	Noise	Operational Phase	Low	Control through noise control measures	Low
	Soil contamination from oil/fuel leaks	Land degradation	Operational Phase	Low	Stop through operational control measures e.g. drip trays and use of well serviced machinery	Low

	Dust	Air quality	Decommissioning and closure	Low	Control through dust Control measures	Low
	Soil contamination from oil/fuel	Land degradation	Decommissioning and closure	Low	Stop through operational Control measures, e.g. drip trays and use of well serviced machinery	Low
	Disruption of surface drainage	Water movement	Decommissioning and closure	Low	Control through storm water controls, remedy through rehabilitation	Low
Community and labour relations management	Community conflicts and tensions	Community relations	Operational	Low	Control through Site Management protocols	Low
	Increase risk of fire	Fire risk	Operational	Low	Control through Site Management protocols	Low
	Reduced security on area	Safety Issues	Operational	Low	Control through Site Management	

					protocols	
	Improved employment Improved skills	Community relations Community relations	Operational	Low	Control through Site Management protocols	Low

k. Summary of specialist reports

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

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

*Attach copies of Specialist Reports as appendices.

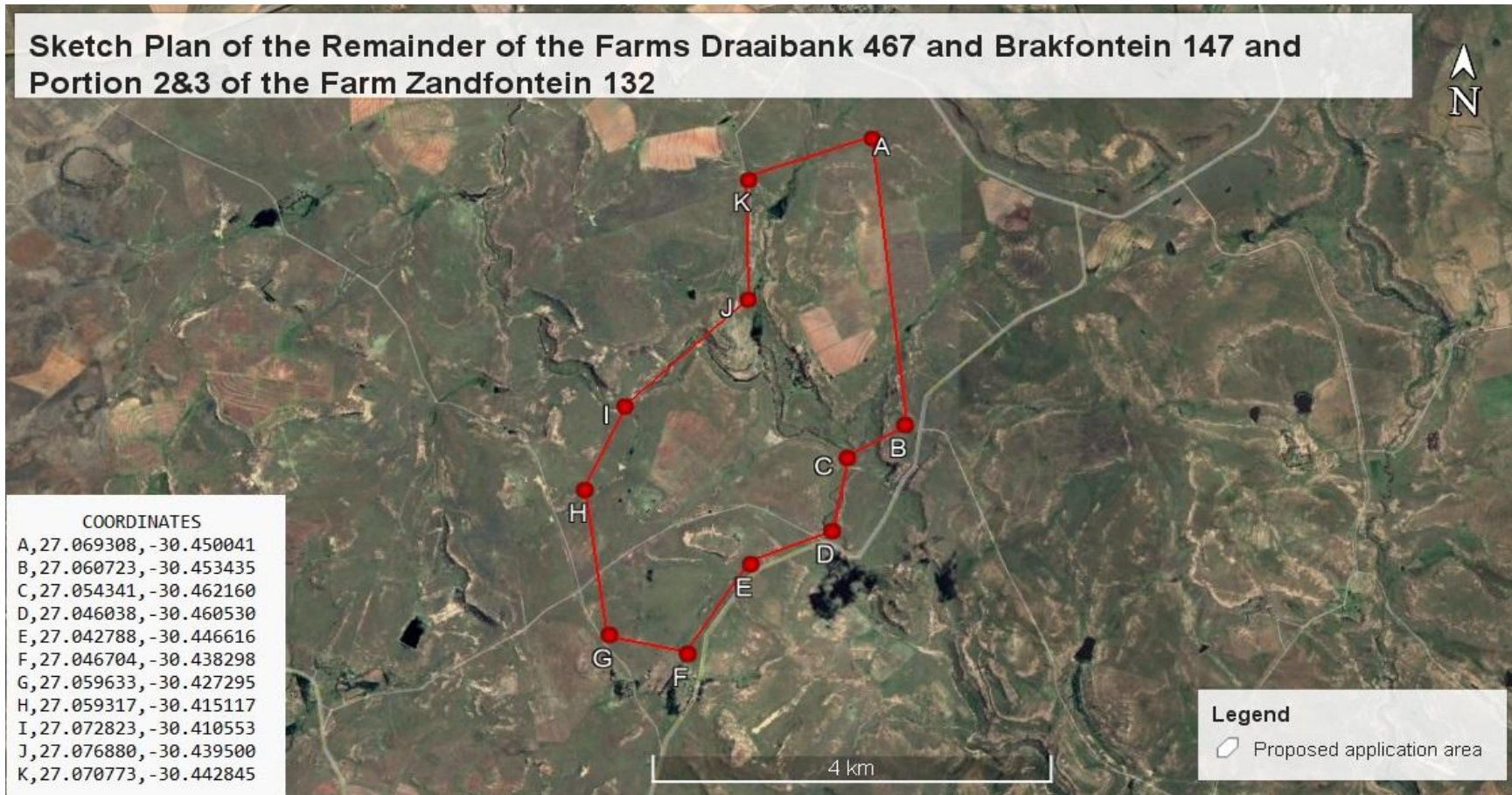
I. Environmental impact statement

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

If suggested mitigation measures are implemented and due to the small scale short term nature of the prospecting activities and the fact that the area will be rehabilitated back to its original state (i.e. agricultural land/grazing areas), it is unlikely that the proposed development will create any long-term negative impacts of high significance. On the contrary, the development will allow for business for local service companies and job creation in the short term. The majority of the negative impacts identified can be mitigated to low significance.

- ii. **Final Site Map** (Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers)

Attach as Appendix C



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

The identified potential impacts for the preferred alternative range from air pollution such as dust, noise pollution, soil pollution, waste pollution, water pollution, Fauna and Flora impacts, Visual impacts and socio-economic impacts. All these will be properly managed. None of these impacts will be significant since the proposed prospecting activities will be of small scale, short term, mitigation measures will be adhered to and concurrent rehabilitation will be practiced.

m. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr;

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

Air pollution

- Dust abatement by wetting down exposed areas at drill and camp sites where required.
- Vehicles will stay on the approved or available tracks as far as practically possible.
- Low speed limits will be set to avoid the creation of dust (40km/hr).
- All the equipment and vehicles will be equipped with the manufactures stock standard exhaust systems which will minimize the amount of emissions and noise from their engines.
- No burning of waste will be allowed on site.
- Fire extinguishers and other fire safety equipment will be available.
- Drilling locations as set out by the final layout plan will be adhered to.
- Excavations and other clearing activities will only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighboring areas.
- Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor.

Noise pollution

- The activities will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulations as well as other applicable legislations regarding noise control.
- Employees will be supplied with ear plugs. All prospecting vehicles will be maintained in a road worthy condition.
- All work will be limited to daylight hours i.e. between 6am and 6pm.

Waste pollution

- Scavenger proof bins will be made available to avoid windblown litter.
- Bins will be emptied on a regular basis.
- No burying and/or burning of waste is allowed.
- All waste bins and domestic waste will be removed from site on a regular basis.

Water pollution

- Prospecting activities will not be conducted within 32 m of a watercourse or drainage line or within 500 m of a wetland. Should this become a requirement, the relevant permits will have to be obtained from DWS prior to drilling taking place. All preliminary drill hole locations are placed to NOT occur within these buffer zones.
- Limited amounts of water (approximately 2000 liters / day) will be used during drilling. Water will be trucked to site.
- Enviro-loo ablution facilities will not be placed within 32 m of any water body.
- No construction footprint will be placed inside or within 32 m of any water body or within 500 m of a wetland.

Hazardous materials

- Use and /or storage of materials, fuels and chemicals which could potentially leak into the ground will be controlled in a manner that prevents such occurrences.
- All storage tanks containing hazardous materials will be placed in bunded containment areas with sealed surfaces.
- The bund wall will be high enough to contain 110% of the total volume of the stored hazardous material with an additional allocation for potential high runoff storm water events.

- Any hazardous substances will be stored at least 100 m from any of the water bodies on site.
- Contaminated wastewater will be managed by the Contractor to ensure existing water resources on the site are not contaminated. All wastewater from general activities in the camp will be collected and removed from the site for appropriate disposal at a licensed commercial facility.

Soil pollution

- Dust abatement by wetting down exposed drill site and camp areas where required.
- Stockpiles will be below the 1.5 m height restriction.
- The use of oil drip trays under drilling equipment to ensure no spillage of oils and fuels onto the ground.
- Where possible, no major vehicle repairs will be done on site.
- Oils and fuel will be stored on bunded areas to avoid spillages.
- Any spillages which may occur will be investigated and immediate action will be taken. In the event of significant spills (in excess of 35 litres) of any hazardous substance, this will be recorded and reported to the environmental personnel, Department of Water and Sanitation (DWS), DMR and any other relevant authorities. In such cases the contaminated soil will be excavated and disposed at a suitably licensed and registered landfill.
- An emergency plan for spillages will be available on site.
- Storm water runoff in and around drill holes will be controlled.
- Wind screening and storm water control will be undertaken to prevent soil loss from the site.
- All erosion control mechanisms will be regularly maintained.
- Re-vegetation of disturbed surfaces will occur immediately after the construction and prospecting activities are completed.
- Rehabilitation will be undertaken progressively.

Fauna and flora

- Only demarcated areas for drilling will be cleared to the minimum level required for access and adjacent and/or other areas will not be disturbed. No trees will be removed.

- Place temporary facilities on already disturbed land as far as possible to limit impacts on vegetation.
- No firewood harvesting will be allowed.
- No fires will be made on site. Cooking will only be allowed on gas-stoves at designated areas.
- No hunting will be allowed.
- All equipment will be removed from site.
- No cigarette butts may be disposed of on the relevant properties.
- Rehabilitation will be done in such a manner that the site is in the original state prior to prospecting.

Rehabilitation

- Prior to rehabilitation of the site, all remnants of foreign debris shall be removed from the site.
- All holes will be covered first with subsoil and then with topsoil (minimum of 10cm deep). Topsoil will be spread to the original depth (30cm where possible).
- As topsoil will contain all cleared vegetation, no additional treatment will be required.
- The soil must cover all the roots and be well firmed down to a level equal to that of the surrounding in situ material.
- Control weeds by means of extraction, cutting or other approved methods.
- Monitoring will be undertaken once a month or until rehabilitation has been deemed successful.
- Follow up inspections will be conducted every two months to remove upcoming seedlings of alien vegetation.
- Continued monitoring throughout the life of the project will be required as the risk of alien plant species invasion is never eliminated.
- A single permanent marker will be required to mark the location of the drill hole for future reference. The siting of such a marker shall be cleared with the landowner.
- All rehabilitation referred to in this environmental management programme will be done concurrent to prospecting operations as set out in the MPRDA. Best practice methods will be used.
- Continuous monitoring of possible soil erosion will be required.

Cultural/Heritage

- The applicant will before commencing any prospecting activity, ascertain whether the designated site does not include a heritage site.
- Any heritage sites/artifacts found will be reported to SAHRA.
- National heritage sites will not be destroyed, damaged, excavated, altered, or defaced without a permit.
- Demolishing of buildings older than 60 years is subjected to approval - National Heritage Resources Act, 1999 (Act No 25 of 1999).
- Invasive activities will not be allowed within 100m from farm houses.
- Local museums as well as the South African Heritage Resource Agency (SAHRA) will be informed if any artifacts are uncovered in the affected area and mitigation measures recommended by SAHRA should be followed.
- The contractor will ensure that his workforce is aware of the necessity of reporting any possible historical or archaeological finds to the ECO so that appropriate action can be taken.
- Any discovered artifacts will not be removed under any circumstances. Any destruction of a site will only be allowed once a permit is obtained and the site has been mapped and noted.
- All health and safety aspects will be adhered to.

Hunting and livestock areas

- Mitigation alternatives are limited to timing of the flyovers which may affect aspects such as hunting activities.
- Site activities will be restricted to daylight hours between 6am and 6pm.
- Vehicles will remain on the existing tracks.
- Prospecting activities will be fenced off and will not be conducted within 100 m of pens or stalls.

Socio-economic

- Local labour and service companies will be used where possible.
- Prospecting Rights do not supersede property rights hence the applicant will comply with all reasonable requirements to minimize the impact of prospecting on landowners and agricultural activities

- All relevant mitigation measures as set out in Table 16 above.

Environmental Training

All site personnel will have a basic level of environmental awareness training. Topics covered should include;

- What is meant by “Environment”
- Why the environment needs to be protected and conserved
- How construction and prospecting activities can impact on the environment
- What can be done to mitigate against such impacts
- Awareness of emergency and spills response provisions
- Social responsibility during construction and prospecting e.g. being considerate to local residents

The need for a “clean site” policy also needs to be explained to the workers.

- n. Aspects for inclusion as conditions of Authorization.** Any aspects which must be made conditions of the Environmental Authorization.

EMPr must be on site

- The contractor and key personnel must get an understanding of the EMPr.
- An Environmental Control Officer must be appointed to ensure that environmental controls are being implemented, and quarterly reports must be forwarded to the Competent Authority (DMR among others).
- The proponent and contractor must be made aware that they are responsible for rehabilitating the environment they damage to the pre-state of which they found it to be.
- Upon getting done with the prospecting activity, closure report must be submitted to the competent authority

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

(Which relate to the assessment and mitigation measures proposed)

Specialists were engaged, however, some impacts could have been missed.

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

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

Based on the analysis and findings as discussed throughout the report, there is no reason why the project should not be authorised. There are no environmental fatal flaws and all impacts can be effectively mitigated. The spatial extent of disturbance related to this activity is minimal and short term. The implementation of effective rehabilitation will ensure that the site is returned back to its original state and that the impacts are reversed. In addition to this the activity should be authorised in order for a better understanding of the mineral potential in the area to be obtained. Once a deposit is defined, a better understanding of its economic value will be achieved and this will then provide a better platform for making an informed decision about the potential for mining operations in this area.

ii. Conditions that must be included in the authorization

EMPr must be on site;

- The contractor and key personnel must get an understanding of the EMPr
- An Environmental Control Officer must be appointed to ensure that environmental controls are being implemented, and quarterly reports must be forwarded to the Competent Authority.
- The proponent and contractor must be made aware that they are responsible for rehabilitating the environment they damage to the pre-state of which they found it to be.
- Upon getting done with the mining activity, closure report must be submitted to the competent authority.

q. Period for which the Environmental Authorisation is required

The authorisation is required for the duration of the prospecting right which is an initial 5 years plus a potential to extend the right by an addition to this at 3 years. In addition to this the period should allow for a further 2 years for the application period. Thus a total of 10 years.

r. UNDERTAKING

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

<p>Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises BAR and EMPr compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Basic Assessment Report and Environmental Management Programme as proposed.</p>	
<p>Full Names and Surname</p>	<p>Muneiwa Rakhalaru</p>
<p>Identity Number</p>	<p>8905016068084</p>

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

This financial provision assessment focused on the existing and proposed mining activities and was calculated by means of the Department of Mineral Resources' (DMR) standard method for assessment of mine closure and the Financial Provisioning Regulations, 2015. The cost for rehabilitation and closure of the proposed site according to the DMR Guideline is R 70 003.18 for the full LoM.

i. Explain how the aforesaid amount was derived.

The closure cost assessment is done in accordance with the requirements of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended and associated regulations. These Regulations provide that the holder of a Prospecting right must make full financial provision for rehabilitation of negative environmental impacts. The methodology used was based on the Department of Mineral Resources (DMR) "Guideline Document for the Evaluation of the Quantum of Closure-related Financial Provision provided by a Mine" (DME, 2005), as per the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA).

The financial provision must guarantee the availability of sufficient funds to undertake the following:

- Rehabilitation of the adverse environmental impacts of the listed or specified activities;
- Rehabilitation of the impacts of the prospecting or mining activities;
- Decommissioning and closure of the operations;
- Remediation of latent or residual environmental impacts which become known in the future;
- Removal of building structures and other objects; and

- Remediation of any other negative environmental impacts.

The closure cost assessment has been developed in line with these requirements. The DMR Guideline format makes use of a set template for which defined rates and multiplication factors are used. The multiplication and weighting factors which ultimately define the rate to be used are determined by amongst others the topography, the classification of the mine according to mineral prospected, the risk class of the mine and its proximity to build up or urban areas.

The DMR Guideline Document for the Evaluation of the Quantum of Closure Related Financial Provision Provided by a Mine (DME, 2005), classifies a mine according to a number of factors which allows one to determine the appropriate weighting factors to be used during the quantum calculation.

The following factors are considered:

- The mineral prospected;
- Environmental sensitivity of the prospecting area;
- Type of prospecting operation; and
- Geographic location.

The financial provision for the Life of Mine of the Mine is calculated to be R 70 003.18 based on the DMR method of calculation. The total cost includes contingencies, Preliminary and General (P&Gs) and is inclusive of VAT at 15%.

Table 17 presents the detailed forecast of the expected increase in financial provision as Triple 777 Energy (Pty) Ltd continues to progress through the construction phase into the operational phase in Year 2023. Triple 777 Energy (Pty) Ltd annually conducts a reassessment of their financial provision based on actual disturbances and it is

recommended that this forecast be updated as the progress against the planned construction schedule can be verified.

Table 17: The calculated quantum.

Applicant: Evaluator(s)		Triple 777 Energy - FS 10671 MP Engedi Minerals and Energy (Pty) Ltd			Location: Date:		Zastron Apr-23
No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	21	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	287	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	424	1	1	0
3	Rehabilitation of access roads	m2	0,10	51	1	1	5,1
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	499	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	272	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	575	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	301350	1	1	0
7	Sealing of shafts adits and inclines	m3	0	154	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0,1	200900	1	1	20090
8 (B)	Rehabilitation of processing waste deposits and evaporative ponds (non-polluting potential)	ha	0	250217	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporative ponds (polluting potential)	ha	0	726749	1	1	0
9	Rehabilitation of subsided areas	ha	0	168223	1	1	0
10	General surface rehabilitation	ha	0,19	159147	1	1	30237,93
11	River diversions	ha	0	159147	1	1	0
12	Fencing	m	0	182	1	1	0
13	Water management	ha	0	60512	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	21179	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
Sub Total 1							50333,03
1	Preliminary and General		6039,9636	weighting factor 2 1			6039,9636
2	Contingencies			5033,303			5033,303
Subtotal 2							61406,30
VAT (15%)							8596,88
Grand Total						R	70 003,18

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

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

Financial provision has been made available through the company's cash reserves. The reserves provide for sufficient funds for premature and planned closure of the prospecting operation. The quantum for financial provision for rehabilitation will be re-assessed on an annual basis and arrangement to fund shortfalls will be made.

t. **Specific information required by the Competent Authority**

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

1. **Impact on the socio-economic conditions of any directly affected person.** (Provide results of investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial Gold oreprospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix** .

Safety of people even animals if the open pits are not fenced off and guarded. If water accumulates after rain, there is a risk of drowning and death. The open pits are also a risk to animals falling in and breaking limbs. The high vehicle movement to and from the drilling and pitting site a risk to accidents. Socio-economic impact will be due the job creation and revenue generation for the Mohokare Local Economic Development.

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

No historical or cultural sites were identified. In case any human remains are excavated during operation, work should be stopped and a report made to the police and SAHRA for removal of the human remains.

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

The proposed drilling activities requested as part of this authorisation is the only current viable manner in which a mineral deposit can be identified and used to generate a South African Mineral Reporting Codes (SAMREC) compliant resource which is a minimum requirement to determine whether it is viable to invest in a future mine.

PART A: APPENDIXES

APPENDIX A:**THE CURRICULUM VITAE OF THE EAP/ECO**

190 Scheiding street

Pretoria, 0001

Cell: 079 724 3719

Muneiwa Rakhalaru

Current: Environmental Assessment Practitioner at Mundy Holdings Pty Ltd

Previous: Environmental Geologist at CEI Africa Pty Ltd

Education: BSc (honours) Environmental Geology

Cell no: 079 724 3719

Email: muneiwac@gmail.com

Core competence and area of expertise:

- Application for Prospecting Rights
- Compilation of Prospecting work Programme
- Drafting exploration budgets
- Geological field exploration
- Compilation of GIS maps and modelling
- Writing of the EMP
- Application for Water Use License (Section C and I)
- Compilation of Basic Assessments
- Compilation of Environmental Impact Assessments and Management Plans
- Lead Public Participation practitioner
- RC logging and sampling
- DD logging and sampling

3 Computer skills

ArcGIS 10.2 and previous versions

Basics of Leapfrog

Surfer

Microsoft Suite (Excel, word, PowerPoint, project)

Windows XP, Vista, 7, 8

Personal details

ID 890501 6068 084

Nationality : South Africa

Gender : Male

License : Code 10 (Valid)

Passport : Valid

Availability : Negotiable

Relocation : Willing to relocate

Marital status : Married

Professional Experience

1. Mundy Holdings Pty Ltd
May 2015- Present

Environmental Assessment Practitioner

Responsibilities

- Project management
- Lead environmental practitioner
- Compilation of Basic Assessments
- Compilation of integrated Water Use Licenses
- Lead public participation practitioner
- Geological field exploration
- Compilation of GIS maps and modelling
- Financial quantum calculations

2. Lurco Coal, Rivonia
August 2014 - Present

Environmental Geologist

Responsibilities:

- Writing of Prospecting Work Programme
- Project management
- Lead environmental practitioner
- Compilation of Basic Assessments
- Compilation of integrated Water Use Licenses
- Lead public participation practitioner
- Geological field exploration
- Compilation of GIS maps and modelling
- Financial quantum calculations
- Compilation of Maps using ArcGIS 10.2
- Drafting of budgets
- Compilation of desktop studies
- Compilation of floor elevation map
- Drawing of borehole data cross-section
- Geological Mapping
- Geological desktop studies
- Core Logging (Lithological, structural logging and mineralization)
- Drafting and tracking project schedule plan
- Sourcing and sampling chrome feeds (ROM and fines)

3. CEI Africa, Midrand, Kyalami- Formerly known as Boboko Investments
05 May 2013- August 2014

Junior Exploration Geologist

Achievements:

- Swartwater Iron Ore project in Beitbridge Complex
- Vanadium project in Bushveld Complex (working with GeoActiv)
- Musina Magnetite project (working with GeoActiv)
- Map compilation for different projects for CEI Africa
- Geological mapping for Magnetite Project in Limpopo Mobile Belt.

Responsibilities:

- Geological Mapping
- Geological desktop studies
- Core Logging (Lithological, structural logging and mineralization)
- RC Logging and sampling
- Map Compilation using ArcGIS
- Updating and maintenance of GIS Projects
- Mentoring of other junior geologists on software issues
- Rigs supervision
- Data capturing and validation

4. Breeze Court Investment, Kimberley, Windsorton
01 July 2012 to 30 April 2013

Junior Geologist and GIS Specialist

Achievements:

- Responsible for all Applications and Prospecting Work Programme for all the clients such as Wedberg Communal Property (CPA) and others
- Conducting Environmental Performance Assessment and writing of Performance Assessment Report for all the projects

Responsibilities:

- Map compilation using ArcGIS
- Writing of EMP (Plans and Programme) and EIA
- Application for Prospecting Right, Prospecting Right and Prospecting Permits
- Writing of Prospecting Work Programme
- Application for Water Authorization
- Geological Desktop Studies
- Data capturing

Education

University of Venda, Limpopo, Thohoyandou

Bachelors of Earth Science in Mining and Environmental Geology (Hons)

Completed: December 2011

References

1. Madyibi Lihle

Exploration Manager at CEI Africa PTY

LTD Email: madyibigeotech@live.com

Cell: 082 934 6019/ 074 828 8870

2. Amos Jacob Davids

Managing Director at Breeze Court Investments 47 PTY LTD

Cell: 082 707 3239

Email: breezecourt@hotmail.co.za

3. Mpai Motloung

Technical Director at Lurco Group

Cell: 071 610 9639

UNDERTAKING AND DECLARATION UNDER OATH AS EAP

As refer to the subject of the matter above;

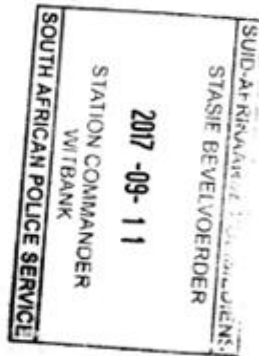
I am hereby to confirm that all the information contained in this report is true and correct
And I, **Rakhalaru Muniwa**, an environmental Geologist Consultants at Mundy Holdings (Pty) Ltd (Reg. No, 2015/186260/07) of Identity number: 8905016068084, I am an Environmental Assessment Practitioner (EAP) and I am capable to compile Environmental reports in support of permits and rights application with Department of Mineral Resource (DMR) and Environmental authorisation with the Department of Environmental Affairs (DEA).

This was done and signed at Witbank on the ...!!..... Day of September 2017.

Yours sincerely



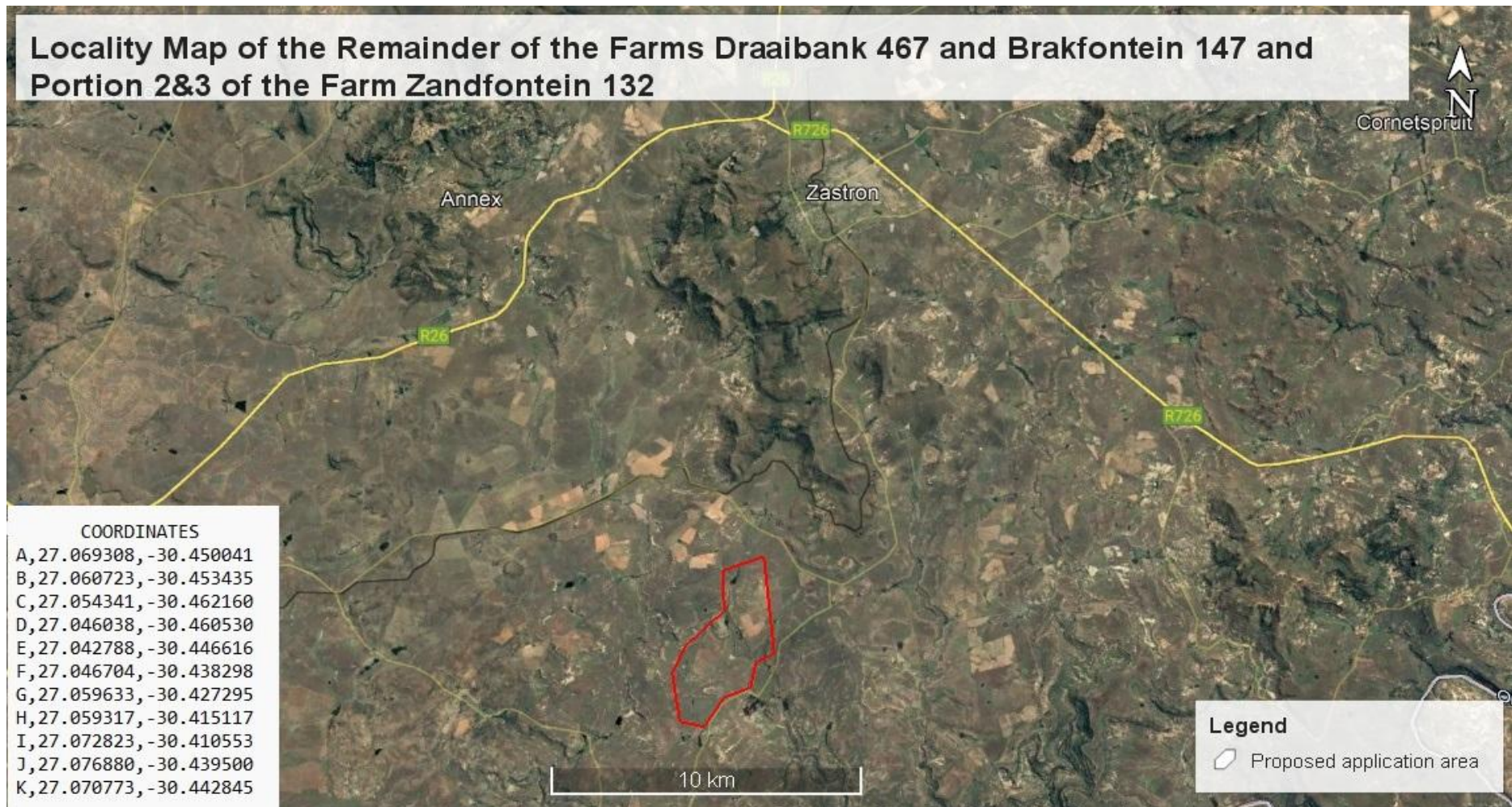
M. Rakhalaru
Mundy Holdings Pty Ltd (Consultant)



Witbank 2017/9/11
H. Muniwa
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H. Muniwa

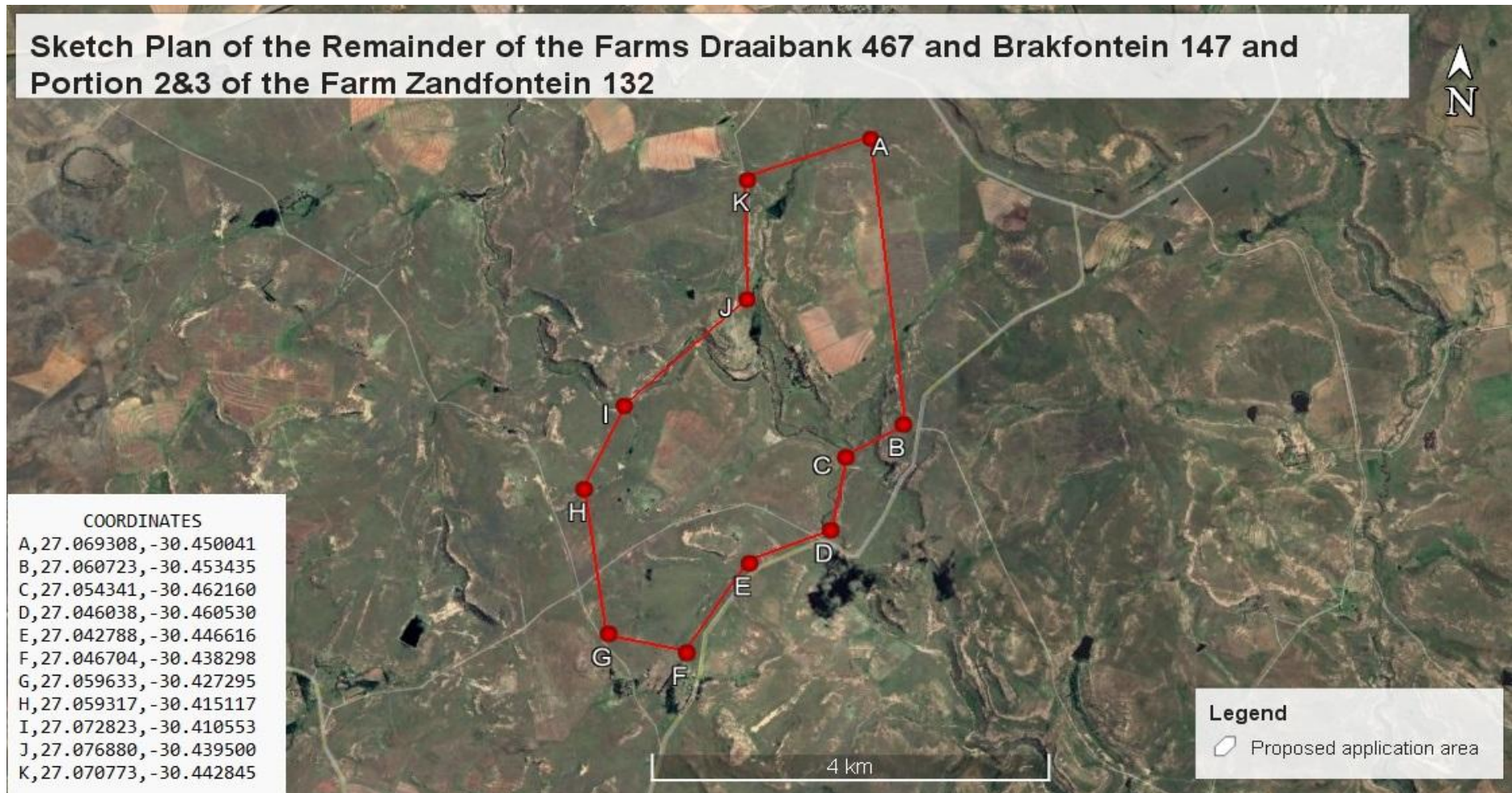
APPENDIX B:

LOCALITY MAP



APPENDIX C:

THE SITE PLAN



PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1) Draft environmental management programme.

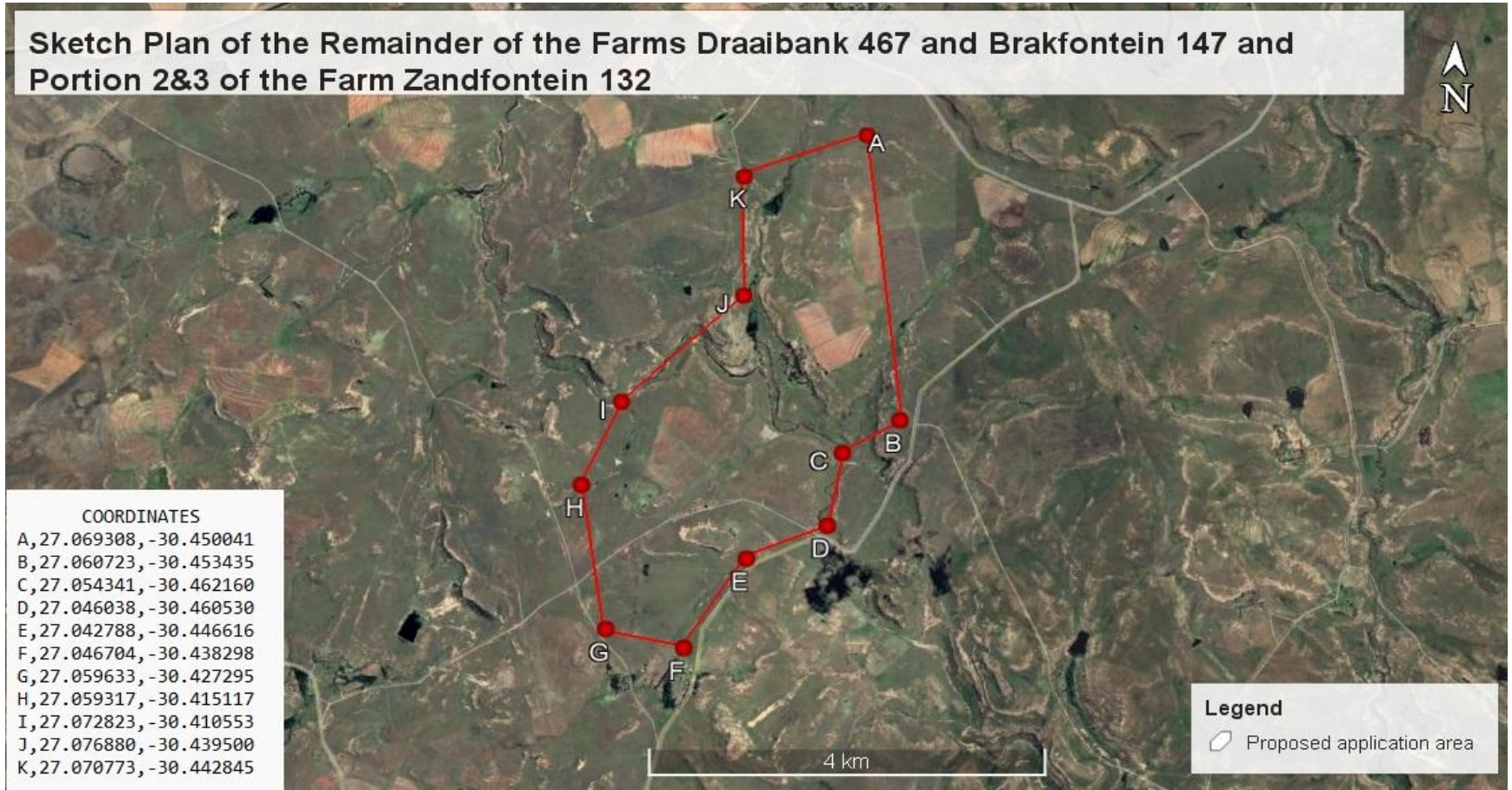
- a. Details of the EAP,** (Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

Muneiwa Rakhalaru has been carrying out Environmental Impact Assessment Procedure since 2015. In 2012, he joined a large mining consulting company in Kimberly called Breeze Court Investments 47 (Pty) Ltd (Geologist and Mining Consulting firm). This is where Mr Rakhalaru acquired in-depth experience and know how in the mining business by assisting the large to small scale mining companies to obtain mining right, prospecting rights, mining rights, technical co-operate permits, reconnaissance permits, exploration rights, production rights, integrated water use license, and environmental authorisation among other licenses. Rakhalaru has five years working experience in environmental management, geology and public participation process.

- b. Description of the Aspects of the Activity** (Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).

I, Muneiwa Rakhalaru, hereby confirm that the requirements to describe the aspects of the activity that are covered by the draft environmental management programme are already included in PART A, section 1(h) herein.

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



d. Description of Impact management objectives including management statements

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

The closure objectives provided below are to ensure that the closure of the site is compliant with the legislature and that the environment will be left in a state which is sustainable and not harmful.

Closure objectives include but are not limited to:

- To ensure closure complies with the Mineral and Petroleum Resources Development Act 28 of 2002.
- To ensure that the prospecting footprints are rehabilitated to an acceptable standard, where there is ecosystem functioning and that all environmental and social risks have been reduced and do not pose any threat to the environment.
- To ensure that the goals which were specified in the rehabilitation section of this report have been met and that the land may have a sustainable use.
- To implement management strategies that will ensure that the negative impacts (risks) associated with proposed prospecting are eliminated or minimized to acceptable standards.
- To leave the area in a manner that is environmentally safe and does not pose any health risks to the neighboring communities.

The objective of closure and rehabilitation for this area will be to leave the area in a functional state and returned to its pre-prospecting condition i.e. agricultural land (hunting and livestock grazing).

ii. Volumes and rate of water use required for the application.

The drilling activities will use between 2 000 L per day which falls within “small industrial user” where the use is less than twenty cubic metres per day for prospecting. Therefore the water that will be used for the prospecting activities will be sourced on agreement from an existing authorized water user (e.g. local municipality).

The department responsible for water resources shall be consulted with regards to any water related agreement with either the land owner or local municipality prior to drilling. No water will be abstracted in terms of section 21(a) of National Water Act, 1998 (Act no. 36 of 1998).

iii. Has a water use license been applied for?

A water use license has not been applied for. This is based on the limited amount of water required and the fact that no abstraction will be done. In addition, no drilling will take place within 32 m of any watercourse or within 500 m of a wetland.

iv. Impacts to be mitigated in their respective phases

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

ACTIVITIES	PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
<p>(E.g. For prospecting – drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc</p> <p>E.g. For mining – excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p>(Of operation in which activity will take place.</p> <p>State; Planning and design, Pre-Construction, Construction, Operational, Rehabilitation, Closure, Post closure)</p>	<p>(volumes, tonnages and hectares or m²)</p>	<p>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)</p>	<p>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard Rehabilitation, therefore state either –</p> <ul style="list-style-type: none"> • Upon cessation of the individual activity <p>Or</p> <ul style="list-style-type: none"> • Upon cessation of mining, bulk sampling or alluvial Gold oreprospecting as the case may be.

<p>Site Establishment activities (fencing, signage, access formation, etc.)</p>	<p>Start-up</p>	<p>± 0.1ha</p>	<p>See appendix</p>	<p>Issues of compliance with standards will be incorporated into the day to day business activities at the proposed prospecting. The work methods used the monitoring and measures done and the review processes will be aimed at ensuring that legal thresholds as set out in the environmental standards are complied with.</p> <p>This will include compliance with standards as per COLTO 1998, the standards as per Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, National Water Act regulations.</p> <p>COLTO 1998 Refers to - Standard Specification for Road and Bridge Works for State Road Authorities by the South African Committee of Land Transport Officials.</p>	<p>During start up, operational phase</p>
<p>Drilling</p>	<p>Operational</p>	<p>As needed</p>	<p>See appendix</p>	<p>This will be achieved by clearly outlining the environmental standards to be achieved and the Thresholds which are not to be exceeded in the management system used at the site. This will include compliance with standards as per COLTO 1998, Explosive Act regulations, Mine</p>	<p>Operational Phase (when necessary)</p>

				Health and Safety Act Regulations and the Hazardous Substances Act	
Waste Disposal and Material storage	Operational	Undetermined	See appendix	The waste management hierarchy and the proximity principle will be used in ensuring that the environmental standards as set out in COLTO 1998 and the National Environmental Management Waste Act regulation and National Water Act regulation, are complied with.	Operational Phase
Community and labour relations management	Operational	N/A	See appendix	Will comply with standards as per COLTO 1998, Basic Conditions of Employment Act regulations, Employment equity Act, Labour Relations Act and Skills Development Act	During Operational Phase

- e. **Impact Management Outcomes** (A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph)

ACTIVITY (whether listed or not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc...etc...)	ASPECTS AFFECTED	PHASE In which impact is anticipated (e.g. Construction, commissioning, operational, decommissioning, closure, post-closure)	MITIGATION TYPE (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc...etc...)	STANDARD TO BE ACHIEVED (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives etc...etc...etc...)
Site Establishment activities (fencing, signage, access formation, etc.)	Loss of vegetation	Visual character, land use	Start-up	Remedy through rehabilitation Limit footprint	Impact managed effectively, Rehabilitate to a self-sustaining environment
	Habitat Destruction	Visual character, land use	Start up	Remedy through rehabilitation Limit footprint	Impact reduced
	Visual scarring	Visual	Start up and	Remedy through rehabilitation	Impact managed

		character	operational		effectively
	Soil erosion	Visual character, land use	Start up and operational	Remedy through rehabilitation, Storm water control. Limit footprint, Control through storm water control	Impact avoided
	Slope instability	Topography	Operational Phase	Control with slope management controls	Stable surfaces established
	Noise	Noise	Operational Phase	Control with Noise control measures	Noise reduced to acceptable levels
	Visual Scarring	Visual Character	Operational Phase	Rehabilitation	Impact managed effectively, residual impact reduced
	Soil erosion Land	Land use	Operational Phase	Rehabilitation, use slope management control	Impact levels avoided
	Destruction of heritage	Heritage issues	Operational Phase	Avoidance	Impact Avoided
Drilling	Noise and vibrations	Noise	Operational Phase	Control with blast control measures	Noise levels reduced to acceptable levels
	Dust	Air quality	Operational Phase	Control with dust control measures Control with blast control	Particulates reduced to acceptable levels
	Fly rock	Safety, Land degradation	Operational Phase	Control with blast control measures	Fly rock minimized

Waste Disposal and Material storage	Soil contamination	Land degradation	Operational Phase	Avoidance, Operational control measures	Impact Avoided
	Water pollution	Water	Operational Phase	Avoidance, Operational control measures	Impact Avoided
	Increased risk of fire	Safety	Operational Phase	Avoidance, Operational control measures	Impact avoided or managed to low levels
Community and labor relations management	Community conflicts and tensions	Community relations	Operational	Control using site management protocols	Reduction in complaints and incidences of conflict
	Increased risk of fire	Fire risk	Operational	Control using site management protocols	Fires avoided and risk reduced
	Reduced security on area	Safety Issues	Operational	Control using site management protocols	Improvement in security and elimination of theft incidences
	Improved employment	Community relations	Operational	Control using site management protocols	Increase in number of people employed
	Improved skills	Community relations	Operational	Control using site management protocols	Improvement in skills level

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

<p>ACTIVITY (whether listed or not listed)</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p>POTENTIAL IMPACT</p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc...etc...)</p>	<p>MITIGATION TYPE</p> <p>(modify, remedy, control, or stop) through</p> <p>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc...etc...)</p>	<p>TIME PERIOD FOR IMPLEMENTATION</p> <p>Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard Rehabilitation, therefore state either –</p> <ul style="list-style-type: none"> • Upon cessation of the individual activity <p>Or</p> <p>Upon cessation of mining, bulk sampling or alluvial Gold oreprospecting as the case may be.</p>	<p>COMPLIANCE WITH STANDARDS</p> <p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities).</p>
<p>Site Establishment activities (fencing, signage, access formation, etc.)</p>	<p>Habitat Destruction</p>	<p>Limit footprint</p>	<p>Start-up</p>	

	Soil erosion	Limit footprint	Start up and operational	
	Destruction of flora and habitat	Remedy through rehabilitation	Operational Phase	
	Loss of agricultural potential	Soil conservation techniques, Limit footprint of the proposed prospecting	Operational Phase	
	Soil erosion	Remedy through rehabilitation, Storm water control	Operational Phase	
Drilling	Drainage disruption	Control with Storm water controls	Operational Phase	Management of legal compliance will be incorporated into normal business activities. This means that particular responsibilities need to be clearly defined for the identification of relevant issues and delivery of compliance. This will help to ensure that adequate resources are available to support these activities. Environmental standards as set out in COLTO 1998, Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act
	Slope instability	Control with slope management controls	Operational Phase	
	Noise	Control with Noise control measures	Operational Phase	
	Visual Scarring	Rehabilitation	Operational Phase	
	Soil erosion	Rehabilitation, use slope management control	Operational Phase	
	Destruction of heritage resource	Avoidance	Operational Phase	

	Noise and vibrations	Control with blast control measures	Operational Phase	
Waste Disposal and Material storage	Dust	Control with dust control measures Control with blast control measures	Operational Phase	This will be achieved by clearly outlining the environmental standards to be achieved and the thresholds which are not to be exceeded in the management system used at the site. This will include compliance with standards as per COLTO 1998, Explosive Act regulations, Mine Health and Safety Act Regulations and the Hazardous Substances Act
	Soil contamination	Avoidance, Operational control measures	Operational Phase	
Community and labour relations management	Dust	Control with dust control measures	Decommissioning and closure	The recommendations will incorporate factors that include the elimination or the minimization of negative impacts in the work methodologies used during decommissioning so as to comply with the standards as per COLTO 1998, Mining and Petroleum Resources Development Act
	Soil contamination from oil/fuel	Control with operational control measures	Decommissioning and closure	
	Disruption of surface drainage	Control with storm water controls	Decommissioning and closure	

	Community conflicts and tensions	Control using site management protocols	Operational	regulations, Mine Health and Safety Act regulations and the National Environmental Management Act.
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g. Financial Provision

1. Determination of the amount of Financial Provision.

a. Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation

The closure objectives provided below are to ensure that the closure of the site is compliant with the legislature and that the environment will be left in a state which is sustainable and not harmful.

Closure objectives include but are not limited to:

- To ensure closure complies with the Mineral and Petroleum Resources Development Act 28 of 2002.
- To ensure that the prospecting footprints are rehabilitated to an acceptable standard, where there is ecosystem functioning and that all environmental and social risks have been reduced and do not pose any threat to the environment.
- To ensure that the goals which were specified in the rehabilitation section in this report have been met and that the land may have a sustainable use.
- To implement management strategies that will ensure that the negative impacts (risks) associated with proposed prospecting are eliminated or minimized to acceptable standards.
- To leave the area in a manner that is environmentally safe and does not pose any health risks to the neighboring communities.

The objective of closure and rehabilitation for this area will be to leave the area in a functional state and returned to its pre-prospecting condition i.e. agricultural land. The extent of the proposed site is approximately 1029.63 hectares. Based on the anticipated amount of drill holes (i.e. 25 phased over a 5 year period), storage area, the total disturbed extent equates to approximately 3 000 hectares.

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

Yes it is confirmed.

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

Rehabilitation plan

The exact location and extent of the prospecting activities, including the need for construction of new access tracks, will be determined once all available information has been evaluated. It is therefore not possible to include a rehabilitation plan showing the areas and aerial extent of the main mining activities, including the anticipated prospected area at the time of closure. The extent of the proposed mining area is however shown in.

The following environmental controls will be implemented during mining to aid or reduce rehabilitation:

- The environment will be returned to its original state, as far as possible. No physical infrastructure will be left on the site.
- Vegetation cleared from each excavations development will be stored within / adjacent to the excavations site for final rehabilitation.
- Topsoil will be stripped within the excavations site, to a depth of 300mm, and placed separately within the excavations site. All topsoil removed will be appropriately protected from erosion for use during rehabilitation.
- Where vegetation has been removed, they shall be re-established systematically where they used to be.
- The area will be level and even, and in a natural state containing no foreign debris or other materials and to ensure ecological, hydrological and topographical integrity.
- All excavations created will be capped and sealed. Where necessary, excavations will be labelled for future use and for reference purposes.

- Mining activities will be restricted to the designated prospecting sites and agreed upon access tracks. No further disturbances will be permitted.
- Following rehabilitation the site will blend suitably with the surrounding environment.

Rehabilitation of excavations.

- Progressive rehabilitation will be undertaken during prospecting (Concurrent rehabilitation). Each excavations and associated disturbed areas will be rehabilitated when excavations is completed at each excavations site.
- Once the excavations has been refilled with rocks and coarse natural materials and profiled with acceptable contours and erosion control measures, the topsoil will be replaced across the disturbed area and shaped to allow a free draining surface. No ponding on the disturbed area will be allowed.
- Cleared vegetation will be used as brush-cut packing on the disturbed areas after rehabilitation to prevent erosion while natural vegetation re-establishes. NO alien plant material will be used for this purpose.
- In cases where native vegetation has been removed or damaged and where re-vegetation is required, species endemic to the area will be re-established.
- An inspection will be held after rehabilitation to determine alien and invasive species growth and the necessary corrective action will be implemented.

Closure objectives and their extent of alignment to the pre-prospecting environment

The following closure objectives will be applicable for rehabilitation:

- Disturbed land will be rehabilitated to a stable and permanent form suitable for subsequent land use.
- There will be no adverse environmental effect outside the disturbed area and the affected area will be shaped to ensure effective drainage and prevent ponding on site.
- The disturbed area will not require any more maintenance than that in or on surrounding land after mining is completed.

If the commitments in this BAR are adhered to and rehabilitation is undertaken as described above, it is not anticipated that there will be any long-term management or maintenance required for areas disturbed during prospecting.

d. Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

Rehabilitation measures have been designed to meet closure objectives as stipulated in various sections of the report.

The objectives of rehabilitation and closure are:

- To ensure that vegetation clearing is done in an appropriate manner.
- To leave the site in a safe state for humans and animals, as it was originally.
- To remove all equipment, excess topsoil and any waste generated.
- To backfill drill holes adequately.
- Ensure that the water resource and underground water is not affected by prospecting or rehabilitation activities.

Prospecting area establishment, access footpaths, roads and tracks

- Ensure that the prospecting area is placed in an already disturbed area to limit vegetation disturbance. Ensure all equipment; fuel and waste have been removed from site.
- Place a natural barrier at the junction to the footpath/track/road being rehabilitated e.g. rocks to prevent further access.
- Loosen compacted soil on tracks when tracks are not needed again.
- Seeding to be done where required with appropriate seed.
- Daily site access will occur by the required vehicles.
- As far as possible, existing roads will be used. Consultation with the relevant landowner will be done where this is not possible.
- No new access roads will be constructed however should there be a need to establish access roads, these will be constructed in such a way that vegetation clearance is limited, and existing structures such as fence lines are followed as far as possible.

- No fences will be cut and all access gates will be left in their original state.

Drilling sites

- Prior to drilling a photographic record of the site will be established.
- Drill sites will be selected based on geological information. These locations will be discussed with the relevant landowner.
- Drill sites will be marked with pegs that will be removed once the activity is complete. All drill sites will be screened for species of conservation concern.
- Vegetation removed must include the 1st upper 30cm, where possible, of soil and stockpiled (topsoil).
- Topsoil and subsoil will be separated. Topsoil will be used in the rehabilitation phase.
- Since the plant material removed from the site are to be mixed into the topsoil to supplement the organic nutrient content of the soil, no further soil conditioning in terms of fertilising is deemed necessary.
- All cleared invasive alien vegetation will be removed from site.
- If drilling is required in grazing areas, consultations will be held with the relevant landowners to discuss consent and compensation.
- Backfilling will be done via raking of the suitable material over the disturbed areas.
- Drill holes will be plugged, capped and marked.
- All litter will be removed from site and the surrounds.
- Severely compacted soil will be loosened / scarified to allow water and seed penetration.
- Enviro-loo ablution facilities will be used and will be removed and the contents disposed of at an approved facility.
- Fires are prohibited on site.
- Where possible, no major servicing of vehicles will be allowed on site.
- Photographs of the site; file information with dates and notes when first monitoring is due as imperative.

Waste Disposal

- Scavenger proof waste bins will be available for waste disposal.

- All generated waste and litter will be removed from site on a weekly basis.
- Enviro-loo ablution facilities will be outsourced, maintained and serviced on a regular basis by a licensed service provider.
- All spills / leaks will be contained in an appropriate manner and removed from site to a licensed facility.

Rehabilitation

- Prior to rehabilitation of the site, all remnants of foreign debris shall be removed from the site.
- All holes will be covered first with subsoil and then with topsoil (minimum of 10 cm deep). Topsoil will be spread to the original depth (30 cm where possible).
- As topsoil will contain all cleared vegetation, no additional treatment will be required.
- The soil must cover all the roots and be well firmed down to a level equal to that of the surrounding in situ material.
- Control weeds by means of extraction, cutting or other approved methods.
- Monitoring will be undertaken once a month or until rehabilitation has been deemed successful.
- Follow up inspections will be conducted every two months to remove upcoming seedlings of alien vegetation.
- A single permanent marker will be required to mark the location of the drill hole for future reference. The siting of such a marker shall be cleared with the landowner.
- All rehabilitation referred to in this environmental management programme will be done concurrent to prospecting operations as set out in the MPRDA. Best practice methods will be used.
- Continuous monitoring of possible soil erosion will be required.

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

f. Confirm that the financial provision will be provided as determined.

Yes, it is confirmed.

Applicant:
Evaluator(s)

**Triple 777 Energy - FS 10671 MP
Engedi Minerals and Energy (Pty) Ltd**

Location:
Date:

Zastron
Apr-23

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	21	1	1	0
2(A)	Demolition of steel buildings and structures	m2	0	287	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	424	1	1	0
3	Rehabilitation of access roads	m2	0,10	51	1	1	5,1
4(A)	Demolition and rehabilitation of electrified railway lines	m	0	499	1	1	0
4(A)	Demolition and rehabilitation of non-electrified railway lines	m	0	272	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	575	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	301350	1	1	0
7	Sealing of shafts adits and inclines	m3	0	154	1	1	0
8(A)	Rehabilitation of overburden and spoils	ha	0,1	200900	1	1	20090
8(B)	Rehabilitation of processing waste deposits and evaporative ponds (non-polluting potential)	ha	0	250217	1	1	0
8(C)	Rehabilitation of processing waste deposits and evaporative ponds (polluting potential)	ha	0	726749	1	1	0
9	Rehabilitation of subsided areas	ha	0	168223	1	1	0
10	General surface rehabilitation	ha	0,19	159147	1	1	30237,93
11	River diversions	ha	0	159147	1	1	0
12	Fencing	m	0	182	1	1	0
13	Water management	ha	0	60512	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	21179	1	1	0
15(A)	Specialist study	Sum	0			1	0
15(B)	Specialist study	Sum				1	0
Sub Total 1							50333,03
1	Preliminary and General		6039,9636		weighting factor 2		6039,9636
					1		
2	Contingencies			5033,303			5033,303
Subtotal 2							61406,30
VAT (15%)							8596,88
Grand Total							R 70 003,18

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

- g) Monitoring of Impact Management Actions.
- h) Monitoring and reporting frequency.
- i) Responsible persons.
- j) Time period for implementing impact management actions.
- k) Mechanism for monitoring compliance.

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Site Establishment activities (fencing, signage, access formation, etc.)	Loss of vegetation, Habitat destruction, Visual scarring, Soil erosion	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Drilling	Noise and vibrations, Dust, Fly rock	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Waste Disposal and	Soil contamination, Water	Visual checks, monitoring	Appointed Contractor	At start and as and when

Material storage	pollution, Increased risk of fire	incidences of non-compliance, recording of key parameters		required. Record incidences of non-compliance monthly.
Community and labour relations management	Community conflicts and tensions, Increase risk of fire, Reduced security on area, Improved employment rates, Improved skills	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.

h) Indicate the frequency of the submission of the performance assessment/environmental audit report.

The BAR and EMPr will be audited by an independent party on an annual basis to determine the level of compliance. The results of this audit will be used to improve environmental management procedures, where required. The audit report will also be submitted to the Department of Mineral Resources (DMR) upon completion.

i) Environmental Awareness Plan

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

Induction (including environmental awareness) training will be conducted on all people involved in the prospecting programme, including truck drivers, mine managers crew and relevant technical services, prior to the commencement of any work; according to the relevant legislation, **Kemu Holdings (Ltd) Pty** Standard Operational Procedures (SOPs) and this EMP. **Kemu Holdings (Ltd) Pty** will do in-house training, should it be necessary to its personnel on site. The mining contractor will be responsible for training its mining crew and supervisor.

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

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)

It is essential that people involved in the mining programme know how to respond in the event of an environmental emergency situation in order to avoid significant environmental degradation or injury to human health. Ideally such incidents should not occur. If people involved in the mining programme implement all management measures outlined in this EMPr, the likelihood of such incidents occurring is greatly reduced. However, despite the best intentions and the best environmental management practices, it is impossible to ensure that no incidents will ever occur during prospecting activities. Therefore, it is vital to ensure that all personnel are aware of the management measures to be undertaken in the event of an accident.

Two emergency incidents have been identified:

- Hydrocarbon spills.
- The outbreak of fire.

Emergency incident procedures are outlined below. An Environmental Officer will be appointed to the project to manage all environmental related aspects of the prospecting programme.

Emergency planning

- The site and all people involved in the prospecting mining programme are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993).
- Potentially hazardous areas are to be cordoned off and clearly marked at all times.
- No unauthorized firearms are permitted on site.
- Adequate emergency facilities (e.g. first aid kit) must be provided for the treatment of an emergency on site.
- Emergency contact numbers are to be displayed conspicuously.
- Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all personnel working on site (e.g. hard hats, safety boots, ear plugs, masks, etc.).
- All vehicles and equipment used on site must be operated by appropriately trained and/or licensed individuals in compliance with all safety measures.

Management of fire risks

- Each mining site will be cleared of vegetation.
- “No Smoking” signs must be prominently displayed.
- Fires will only be allowed within a facility especially constructed for the purpose of keeping warm and for cooking.
- No burning of refuse or vegetation is permitted.
- Fire equipment must be easily accessible.
- Fire equipment must be serviced, full and in good working order.

Management of spills

- Ensure that a proper spill-kit is available on site. The kit must include absorptive material that can handle all forms of hydrocarbon.
- Ensure that any hydrocarbon spills are cleaned up as soon as possible.
- At least one person on site must receive formal training in the use of the spill control kit.
- Equipment is to be required immediately upon developing leaks.
- A drip tray, a thin concrete slab or a PVC lining shall be used to prevent soil and water contamination.
- All spills on site must be reported to the Environmental Officer.
- Spread absorbent sand on areas where oil spills have occurred. Oil-contaminated soils are to be removed to a contained storage area and disposed of appropriately.
- Non-degradable waste must be collected and disposed of at a registered waste site.

Incident reporting

- The supervisor on site must take corrective action to mitigate an incident appropriate to the nature and scale of the incident, immediately after the occurrence of the incident.
- Residual environmental damage that remains after having taken corrective action must be rehabilitated.
- Change operating procedures where necessary to prevent recurrence of similar incident.
- All incidents must be recorded in an Environmental Incident Report, within 24 hours of the incident occurring. Additional documents, including photos must be appended to the incident report to provide a comprehensive record of the incident and the corrective and preventative action taken.
- All incidents will be investigated in collaboration with the Environmental Officer. The focus of these investigations shall not be to apportion blame to specific employees, but to ascertain the root cause of the incident and to prevent a recurrence of similar incidents.

3.1 Environmental awareness training

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

A number of key elements must be addressed during an environmental awareness training session, since it is recognised that the majority of employees are generally not informed about the environment. The following key elements must be addressed:

- An explanation of the basic key concepts;
- The importance of the environment, including the management thereof;
- Examples of environmental degradation;
- The role that the employees have in protecting the environment;
- Examples of pollution;
- Simple, easy-to-follow rules to protect the environment; and
- South African laws which protect the environment.

All people involved in the mining programme must receive environmental awareness training, to ensure that they are aware of their responsibilities and are competent to carry out their work in an environmentally acceptable manner. The training must also contain all relevant sections of the EMPr and must be presented in a clear, understandable manner. Relevant sections of the EMPr include:

- Access, including use of roads, tracks, gates, etc.;
- Control measures required to manage excluded and exempted areas;
- The handling, storage and disposal of waste;
- Emergency response procedures;
- Control of alien and invasive plant species;
- Fire prevention;
- Sediment and erosion control;
- Control measures to be implemented with regards to the management of water, noise and dust; and
- Rehabilitation of excavations sites and access tracks.

This training may take the form of a PowerPoint presentation, information posters or pamphlets, and other easily accessible methods of information communication.

- j) **Specific information required by the Competent Authority** (Among others, confirm that the financial provision will be reviewed annually).

The BAR and EMPr will be audited by an independent party on an annual basis to determine the level of compliance. The results of this audit will be used to improve environmental management procedures, where required. The audit report will also be submitted to the Department of Mineral Resources (DMR) upon completion.

TRIPLE 777 ENERGY (PTY) LTD will undertake rehabilitation to minimise negative impacts on the environment.

2) UNDERTAKING

The EAP herewith confirms:

- a) The correctness of the information provided in the reports
- b) The inclusion of comments and inputs from stakeholders and I&APs;
- c) The inclusion of inputs and recommendations from specialist reports where relevant ; and
- d) That the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein.

X
X
X



Signature of the environmental assessment practitioner:

Kemu Holdings

Name of company:

20 April 2023

Date:

-END-