



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT

AND

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT 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:	DROOGFONTEIN MINING (PTY) LTD
TEL NO:	053 831 5839
FAX NO:	086 690 4778
POSTAL ADDRESS:	26A Heerengracht Street, Royldene, Kimberley, 8301
PHYSICAL ADDRESS:	26A Heerengracht Street, Royldene, Kimberley, 8301
FILE REFERENCE NUMBER SAMRAD:	NC 30/5/1/1/2/11913 PR

FILE REFERENCE NUMBER SAMRAD: NC 30/5/1/1/2/11913 PR

1. IMPORTANT NOTICE:

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

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

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in 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 application.

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 are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental 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 gathered 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 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 content within which the proposed activity is located and how the activity complies with the responds to the place and legislative context;
- (b) identify the alternatives considered , including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts –
 - (aa) can be reversed
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to –
 - (i) identify and motivate a preferred site, activity and technology alternative;
 - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
 - (iii) identify residual risks that need to be manage and monitored.



PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. Contact person and correspondence address

1.1 Details of

1.1.1 Details of the EAP

Name of the Practitioner: Lindie Wiehahn
Tel no: 072 141 4164
Fax No: 086 606 6315
e-mail address: lindie@liwico.co.za

1.1.2 Expertise of the EAP

1.1.2.1 The qualification of the EAP

Current qualifications in this field were obtained through short courses at the University of Potchefstroom, which is the following:

- Introduction to Environmental Management (2002)
- Environmental Impact Assessment (2002)
- The Legal Framework for Managing Water in South Africa (2002)

1.1.2.2 Summary of the EAP's past experience.

(In carrying out the Environmental Impact Assessment Procedure)

During the year 2002 Lindie assisted with two Environmental Impact Assessments for a Golf Course development in Modderivier (today known as the Magersfontein Memorial Golf Course) and a Cottage development on the farm Avoca in the Douglas district. Later the same year she successfully completed her first sole Environmental Impact Assessment for the development of a filling station on the N12 at Warrenton.

Lindie was employed at the company till 2012 as an Environmental Consultant. Experiences obtained during these years were the drafting of Environmental Management Programmes, Environmental Management Programme Reports, Environmental Monitoring and Compliance Reports and Environmental Risk Reports. She also conducted several Environmental Impact Assessments for Mining Rights on La Reysstryd 53 IO, Lichtenburg (2004), Longlands, Barkly West (2004) and Lohatla 673, Postmasburg (2009, 2011).

After the liquidation of Geo-Rock International, Lindie went into partnership with John H.R Loots till 2015. During these years she continued working as an Environmental Consultant and successfully completed an Environmental Impact Assessment on the farm Groot Derm 10, Alexanderbay (2012). From the year 2015 till date she undergone company name changes and is now consulting under LW Consultants.



Successful projects under the new DMR and NEMA regulations:

- EIA/EMPr - Mining Right ...Roodepan 70 (2015)
- BEAR/EMPr - Prospecting Right ... Bergplaats 502 (2016)
- BEAR/EMPr - Mine Permit ...Longlands 350 (2016)

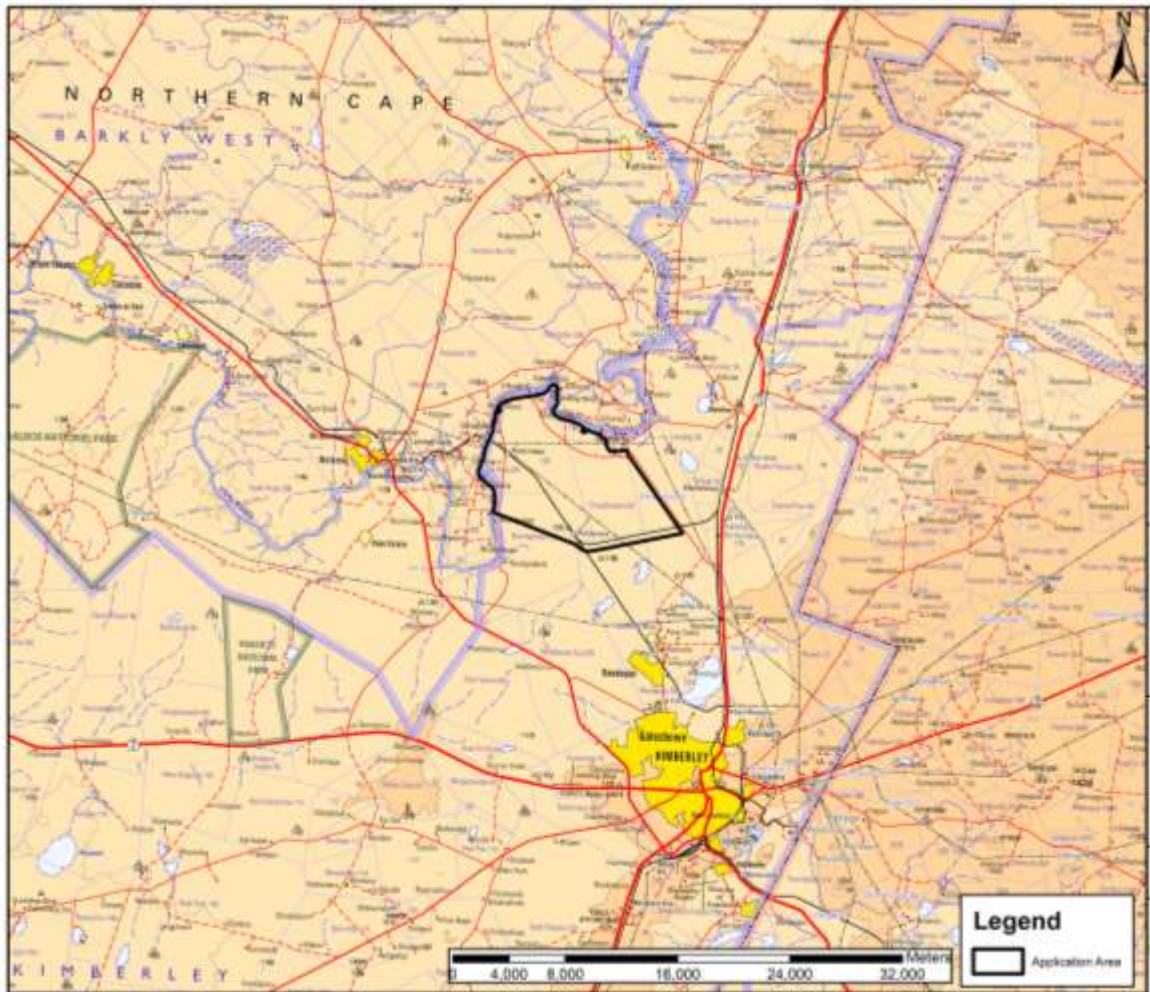
2. Location of the overall Activity

Farm Name	A portion of Portion 1, a portion of Portion 13 and a portion of the Remainder of the farm Droogfontein 62, Portions 2, 3 and 4 of the farm Kameel Draai 63, Portions 3, 5, 7, 8, 9, 10, 11, 15 and the Remainder of the farm De Hoop 65, Portions 2, 3, 4, a portion of Portion 6, Portion 7 and a portion of the Remainder of the farm Nooitgedacht 66, Portion 2 and a portion of the Remainder of Farm 193, the Remainder of farm Pax 195 and Farm 196
Application area (Ha)	9 560.02392 ha (Nine thousand five hundred and sixty comma zero two three nine two hectares)
Magisterial district:	Barkly West
Distance and direction from nearest town	The proposed project area is situated 7.1 km east of the town Barkly West and 19.75 km north of Kimberley
21 digit Surveyor General Code for each farm portion	<ul style="list-style-type: none"> • Portion 1, Droogfontein 62 - C03700000000006200001 • Portion 13, Droogfontein 62 - C03700000000006200013 • Remainder, Droogfontein 62 - C03700000000006200000 • Portion 2, Kameel Draai 63 - C03700000000006300002 • Portion 3, Kameel Draai 63 - C03700000000006300003 • Portion 4, Kameel Draai 63 - C03700000000006300004 • Portion 3, De Hoop 65 - C03700000000006500003 • Portion 5, De Hoop 65 - C03700000000006500005 • Portion 7, De Hoop 65 - C03700000000006500007 • Portion 8, De Hoop 65 - C03700000000006500008 • Portion 9, De Hoop 65 - C03700000000006500009 • Portion 10, De Hoop 65 - C03700000000006500010 • Portion 11, De Hoop 65 - C03700000000006500011 • Portion 15, De Hoop 65 - C03700000000006500015 • Remainder, De Hoop 65 - C03700000000006500000 • Portion 2, Nooitgedacht 66 - C03700000000006600002 • Portion 3, Nooitgedacht 66 - C03700000000006600003 • Portion 4, Nooitgedacht 66 - C03700000000006600004 • Portion 6, Nooitgedacht 66 - C03700000000006600006 • Portion 7, Nooitgedacht 66 - C03700000000006600007 • Remainder, Nooitgedacht 66 - C03700000000006600000 • Portion 2, Farm 193 - C03700000000019300002 • Remainder, Farm 193 - C03700000000019300000 • Remainder, Pax 195 - C03700000000019500000 • Farm 196 - C03700000000019300000



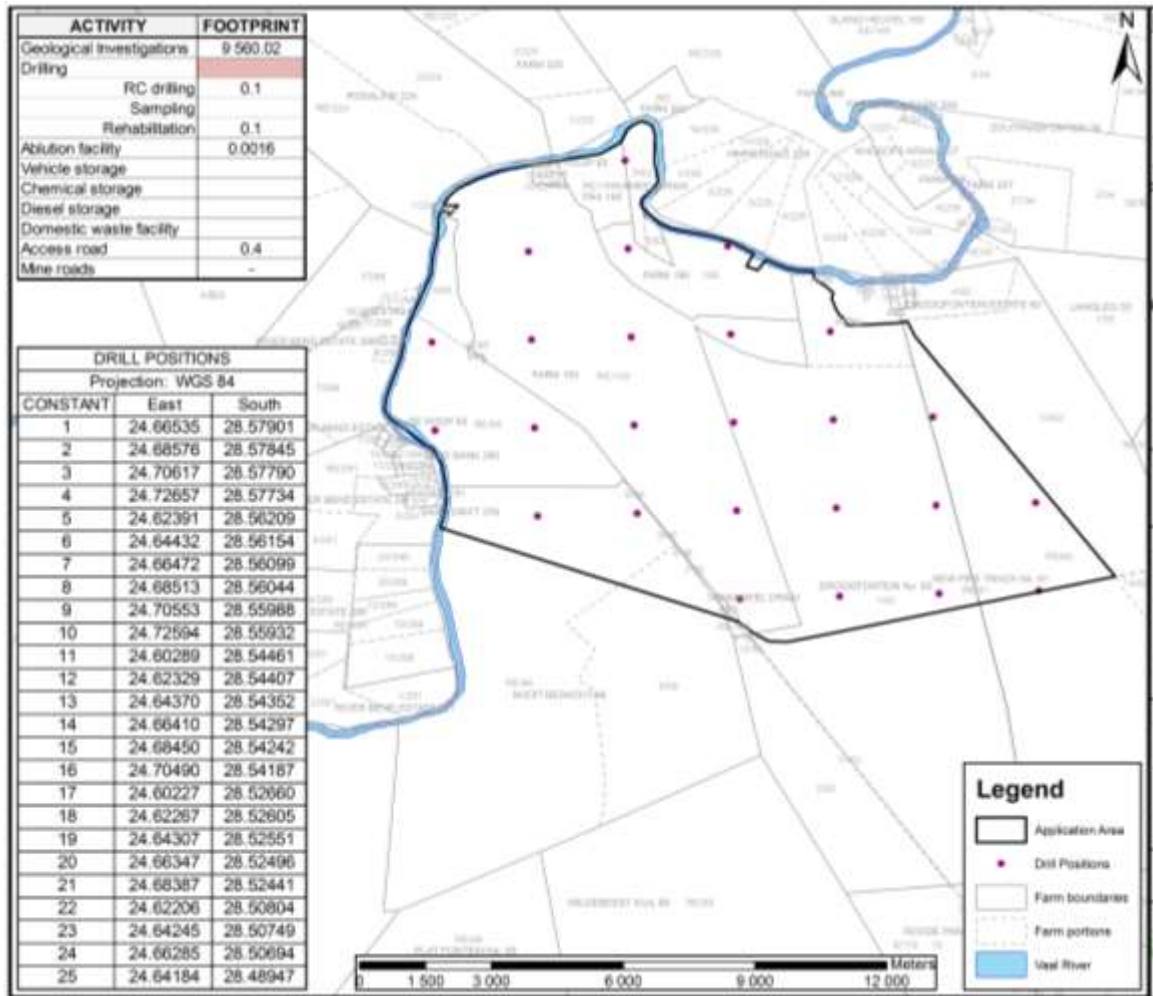
3. Locality map

(Show nearest town, scale not smaller than 1:250 000)



4. 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)



4.1 Listed and specified activities

NAME OF ACTIVITY (E.g. For prospecting – drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc ... etc ... etc E.g. For mining – excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors etc ... etc ... etc.)	ARIAL 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)
Geological investigations	9 560.02392 ha	X	GNR 983, Listed 1, Activity 20
Drilling			
RC Drilling	0.1 ha	X	GNR 983, Listed 1, Activity 20
Sampling		X	GNR 983, Listed 1, Activity 20
Rehabilitation	0.1 ha	X	GNR 983, Listed 1, Activity 20
Ablution Facility	0.0016 ha	X	GNR 983, Listed 1, Activity 20
Vehicle storage		X	GNR 983, Listed 1, Activity 20
Chemical storage		X	GNR 983, Listed 1, Activity 20
Diesel storage		X	GNR 983, Listed 1, Activity 20
Domestic waste facility		X	GNR 983, Listed 1, Activity 20
Access road	0.4 ha	X	GNR 983, Listed 1, Activity 20
Mine road		X	GNR 983, Listed 1, Activity 20

4.2 Description of the activities to be undertaken

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

- Construction

- Auger drilling

Drilling operations does not have a definite construction phase before commencement of the actual activities. The only activities happening before commencement of the drilling is the establishment of the drilling rig and chemical toilet facility.

Before each hole is drilled an area of 7 x 4 meter for the drill rig and related equipment is cleared of vegetation. A further 3 x 2.5 meter area is needed for the sample layout. This totals to an area of 35.5 m², but for proper impact management the area for each borehole is set to 40 m².



- Operational

During the prospecting activities Auger drilling activities will be conducted to determine the type of sand occurrence on the area and the depth of the preferred sand bed.

 - Drilling

25 Holes are proposed at demarcated paces with an estimated average depth of 5 meters each. Each drill site will have an approximate footprint of 7 x 4 m for the drill and drilling equipment and a further 3 x 2.5 m for the sample material and logging. These holes will be drilled by means of standard Auger drilling and the sand material obtained captured within plastic bags for logging and sampling.

The drill holes will be logged every meter containing information such as hole location, hole depth, commodity depth and other geological structures encountered within the hole. Sand samples will be taken and stored within sealed chip trays and safeguarded for future referencing.

As drilling commences rehabilitation will be done as each hole is completely drilled. This will be done by the backfilling of the drilled material in their respective manner. Rehabilitation is finalized according management standards.
- Decommissioning

Once the prospecting activities have been completed the mine will start with the decommissioning and closure phase. During such will all infrastructure and equipment be removed and the compacted ground ripped and rehabilitated. Also will all the roads and trampled areas be ripped, rehabilitated and inspected for vegetation re-growth.

5. Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (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)	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT. (E.g. In terms of the National Water Act a Water Use License has / has not been applied for)
No person may ... prospect ... for and produce any mineral ... or commence with any work incidental thereto on any area without – aprospecting permit...	Section 5 (4)(b) of Act 28 of 2002 (MPRDA, 2002 read together with Section 5A (b) of Act 49 of 2008 (MPRDA, 2008)	An application has been lodged with the Department of Mineral Resources.



No person may ... prospect ... for and produce any mineral ... or commence with any work incidental thereto on any area without – an approved environmental management programme or approved environmental management plan, ...	Section 5 (4)(a) of Act 28 of 2002 (MPRDA, 2002)	This document serves as the Basic Environmental Assessment and Environmental Management Programme
An environmental impact assessment report must contain all information that is necessary for the competent authority to consider the application and to reach a decision contemplated in regulation 35, an must include - ...	Regulation 31(2) of Act 107 of 1998 (NEMA, 1998), Environmental Impact Assessment Regulations	These guidelines and provided template is used in conducting this assessment.

6. Need and desirability of the proposed activities

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

The proposed project is situated ± 7 km from Barkly West to the east. The nearest large town in the area is Kimberley (19.75 km north-east) and can be reached via a gravel road from Barkly West.

These areas are known for their diamond richness, but socio-economical poverty. During the proposed operations to determine the sand body the contractors will ensure a small, but necessary income into local businesses. Should the prospecting results indicate feasible mining operations and the project develops several job creations will occur leading to economic growth of the area and region.

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

The proposed project area is demarcated to include the known alluvial sand (current and paleo) to ensure adequate drilling results. The activities and technology used is planned and designed to created and cause the minimal disturbance possible. Working hours is also kept within standard office hours for the purpose of minimizing noise disturbance.

No other alternatives in regard to preferred site, activities and technology is considered as the current planning is the best possible option at this stage to ensure minimal environmental disturbance and cost effective prospecting operations.



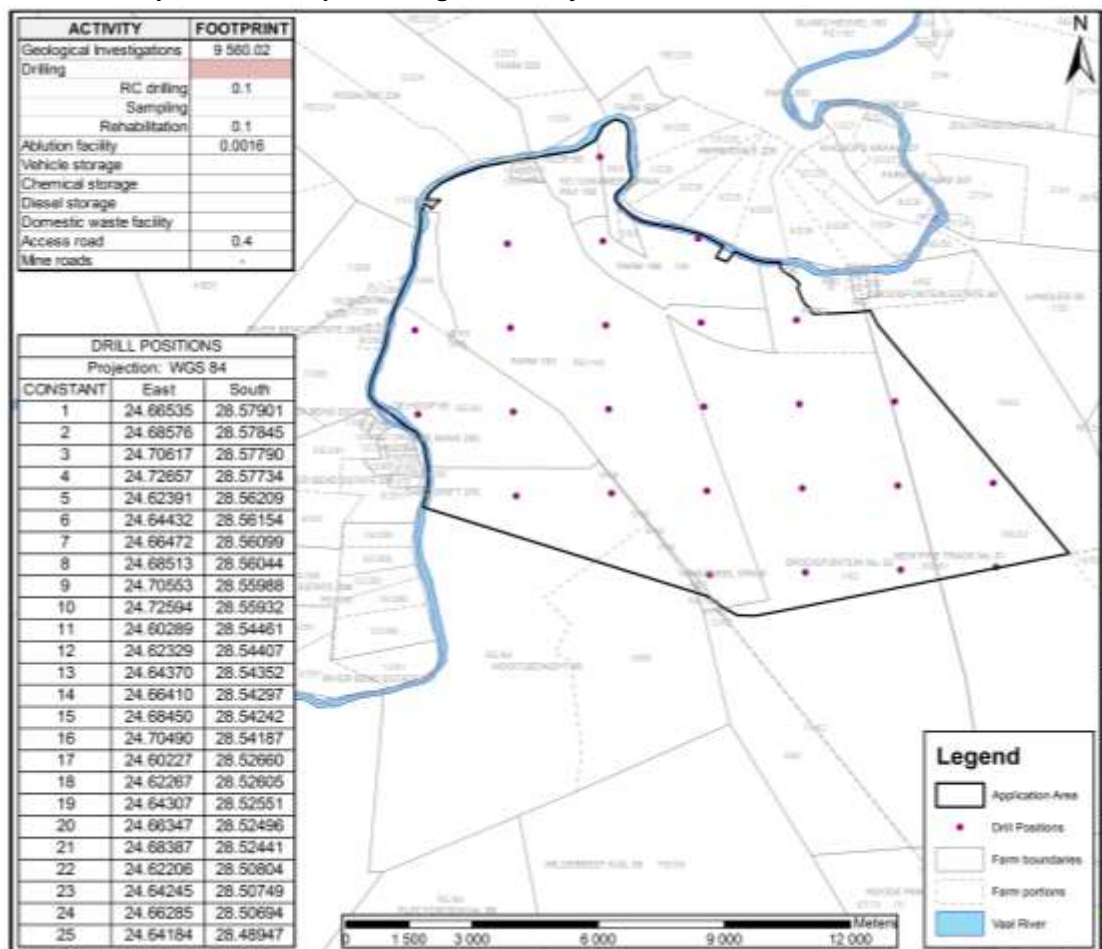
8. Full description of the process followed to reach the proposed preferred alternatives within the site

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

8.1 Details of the development footprint alternatives considered

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

- 8.1.1 the property on which or location where it is proposed to undertake the activity
- 8.1.2 the type of activity to be undertaken
- 8.1.3 the design or layout of the activity
- 8.1.4 the technology to be used in the activity
- 8.1.5 the operational aspects of the activity; and
- 8.1.6 the option of not implementing the activity



All of the following prospecting and prospecting related activities will occur and have it's specified footprint within the project area as applied for at the Department of Mineral Resources.

- Drilling
 - It is proposed that 25 holes are drilled on the demarcated localities up to an average depth of 5 meters. These holes will each have an a overall footprint of 40 m² consisting of a 7 x 4 m area for the drill rig with complementary equipment and a 3 x 2.5 m area for sample laying for geological processing
 - The technology used in this activity will be an Auger drill rig, equipment trailer as well as a water and diesel cart.



- An Auger drill acts as a screw conveyor to remove the drilled out material. The rotation of the blade causes the material to move out of the hole being drilled. The soil material obtained, which will be captured within plastic bags for logging and sampling. The material obtained is geologically logged every meter and small samples taken and stored within chip trays for future referencing.



- This activity is necessary to determine the location, extent and depth of the possible gravel bodies. Alternatives to be considered is the location of these holes in relation to the environmental features or exercising a no-go option.
- Ablution facility
 - Chemical toilet facilities (each with a footprint of 2 x 2 m), will be implemented during the drilling operations.
 - Contractual agreements will be made and basic flushing chemical toilets installed.
 - These facilities are to support the sanitation protocol of the mine and will be readily available for personal use as needed.
 - The implementation of this structure and related activities is absolutely compulsive and enforced by the Basic Conditions of Employment Amendment Act, 2013 (Act 20 of 2013) in conjunction with the Basic Conditions of Employment Act, 1997 (Act 75 of 1997), Basic Conditions of Employment Amendment Act, 2002 (Act 68 of 2002) and Basic Conditions of Employment Amendment Act, 2003 (Act 52 of 2003)
- Vehicle storage
 - Specific footprint for the parking of vehicles are not calculated and is housed within the frill site footprint of 40 m². This area will also be cleared of all vegetation and leveled if found necessary.
 - Drip pans will also be readily available for vehicles during off-time. No other technologies will be used during this activity
 - All vehicles will be parked in this area and will be required to adhere to the reversed parking policy for the safety of all vehicles in the case of an emergency.
 - Alternatives towards this activity will be the relocation of the drill hole localities to protect or avoid environmental features. This area of activity is the alternative to separate vehicle parking zones to ensure minimal environmental disturbance.



- Chemical storage
 - The storage is situated on the complimentary drill vehicles on the already demarcated footprint of 40 m². The storing of chemicals on the vehicles to ensure minimal environmental disturbance and handling areas.
 - Chemicals will be stored in closed and leak-proof containers on the supplementary vehicle.
 - This activity's main function is for the storing and controlling of legislative regulated and/or non-legislative regulated chemicals. The different types of chemicals must be stored separately as well as a differentiation between used and un-used chemicals should be made.

The prospecting contractors will be responsible for the removing of the chemicals during the decommissioning of the activities.

- The option of not implementing the activity is legislatively ruled out by specific regulations within the Mineral and Petroleum Resources Development Act and National Environmental Management Act regarding the storing of environmental hazardous chemicals.

- Diesel Storage

- The drill contractors will supply their own diesel in the form of a diesel cart (± 1 000 liter) with a self-equipped bunker and will be parked on a plastic sheet. No specific footprint is calculated for this activity as it forms part of the calculated drill site footprint of 40 m².
- The technology used shall be according the acceptable standards and provided by the drill contractors. The actual volume of the tank is currently unknown, but it is compulsive that the diesel cart is already equipped with a leak-proof bay to prevent any ground contamination should the tank be leaking by fault or bursting.
- Diesel will be kept within the cart for refueling purposes during the drilling operations. The drill contractor will be responsible for the refilling and maintenance inspection of the cart on a regular basis in town.

The drill machine will be re-fueled as needed from the diesel cart. During this activity will a plastic sheet be used to ensure no ground spillage and easy clean-up and once spillage occurred on the sheet it will be replaced.

- Trampling of vegetation is a high probability if the drill vehicle must use town facilities for-re-fueling with the probability of jamming the traffic for that period of time. An alternative to be considered during the drilling operations is that the diesel cart is removed from site during off time, but may have a greater impact on the environment due to vegetation disturbance while having a lesser probability for diesel spillage.



- Domestic waste facility
 - The domestic waste facility will be installed on the supplementary vehicle for the discarding of domestic waste materials.
 - The technology used shall be of local municipal standard including a tip-proof container with lid. The drill contractors will be responsible for the daily removal of the waste material to the nearest town or town of accommodation.
 - All domestic waste on site will be place within these bins to keep the area clean and litter free.
 - The option of not implementing the activity can cannot be taken into consideration as it will result in litter pollution having a huge impact on the environment.
- Access and mine roads
 - The location and amount of roads will be kept to the bare minimum and be finalized during the final planning and negotiating stages of the drill programme.
 - The project will rather make use of existing farm roads and/or constructing temporary farm roads. The planning of routs will be done in consultation and co-operation of the farm owner. No foreign materials will be used in the construction of these roads. The access roads will be maintained for the duration of the prospecting activities while the roads leading to the different drill site will rather take the form of farm tracks. No vehicles will be allowed to stray from these roads.
 - The roads will be mainly used for traveling to and from site by the contractors and supervisory staff.
 - Should the roads not be implemented and vehicles are allowed to travel how they please trampling of vegetation is a given factor leading to greater environmental degradation that the construction of these roads. For this reason the option of not implementing activity is ruled out in order to protect the surrounding environment as far as possible.

8.2 Details of the Public Participation Process followed

(Describe the process undertaken to consult interested and affected parties including public meeting and one on one consultation. NB! the affected parties must be specifically consulted regardless of whether or not they attended public meeting. (Information to be provided to affected parties must include sufficient detail to the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.))

Letters sent to the various parties included a notification letter informing the recipient of the renewal application for a prospecting that has been accepted by the Department of Mineral Resources on the property. This letter further invited the receiver of the letter to register as such and provide feedback on or before a specific date. With the letter the recipient also received a feedback form as well as a background document explaining the type of prospecting activities to be undertaken as well as the process that will be followed.



Public individuals were also notified, through the newspaper advertisements to register as an interested and/or affected party. All documents will then be sent to the individual for feedback.

The Basic Environmental Assessment Reports / Environmental Management Programme Report will also be subjected to a 30 day consultation period once submitted to the Department of Mineral Resources. Comments and feedback will be noted and submitted.



8.3 Summary of issues raised by I&AP'ss

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

INTERESTED AND AFFECTED PARTIES		DATE COMMENTS RECEIVED	ISSUES RAISED	EAP's RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	SECTION AND PARAGRAPH REFERENCE in this report where the issues and or response were incorporated
List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted					
AFFECTED PARTIES					
Landowner/s	X				
Droogfontein Communal Property Association					
Droogfontein Estates (Pty) Ltd	X				
Eradinus Agriculture (Pty) Ltd	X				
Transnet Ltd	X				
M.P. Hall	X				
Malherbe Family Trust	X				
Dikgatling Local Municipality	X				
Springfit Estates (Pty) Ltd	X				
Basfour 7300 (Pty) Ltd	X				
Romance Estate (Pty) Ltd	X				
S.Z. van Heerden	X				
Lawful occupiers/s of the land			-	-	-
Landowners or lawful occupiers on adjacent properties					
L de Kock	X				



Mr A. Seagreen	X				
J. Snyman	X				
B Nel	X				
Delta Blue Trading (Pty) Ltd	X				
Malherbe Family trust	X				
Luma Beleggings CC	X				
Municipal councilor					
Municipality:					
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA))					
DWA	X				
ESCOM	X				
Transnet Ltd	X				
Communities					
Dept Land Affairs					
Land claims commissioner	X				
Traditional Leaders					
Dept Environmental Affairs	X				
Other Competent Authorities affected					
SAHRA	X				
OTHER AFFECTED PARTIES					
Globeleq SA Management Services	X				
INTERESTED PARTIES					



8.4 The Environmental attributes associated with the alternatives

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

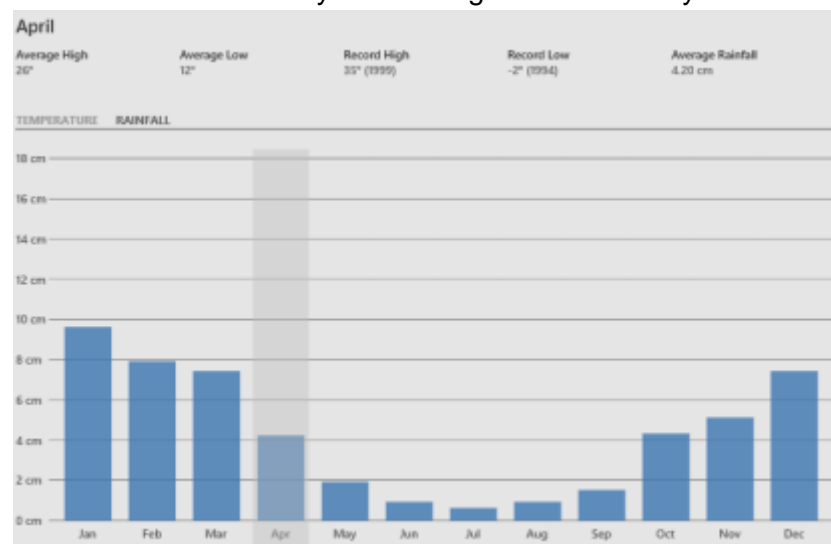
8.4.1 Baseline Environment

8.4.1.1 Type of environment affected by the proposed activity

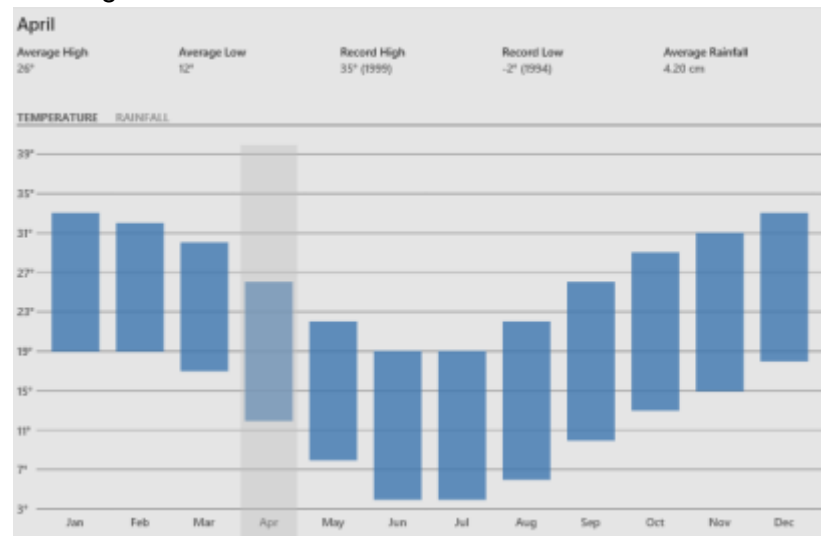
(its current geographical, physical, biological, socio-economic and cultural character).

- Geographical environment:
 - Geographical location: The project area is situated within the Northern Cape Province boundaries approximately 7.1 km east of the town Barkly West and 19.75 km north of Kimberley along the southern bank of the Vaal River.
 - Climate and rainfall: The weather provided hot dry summers and mild cold winters. The infrequent autumn / spring rains tend to take the form of occasional severe thunderstorms rather than prolonged soft showers.

Barkly West normally receives about 274 mm of rain per year, with most rainfall occurring mainly during summer. It receives the lowest rainfall in July and the highest in February.



The monthly distribution of average daily maximum temperatures range from 18°C in June to 32°C in January. It is not unusual for winter night time temperatures to drop below freezing.



- Geology and soils: Found on deep, predominantly sandy to loamy sands. The alluvial deposits of the lower Vaal River basin deposits are almost exclusively developed on a lava bedrock of the Ventersdorp Supergroup and deposits occur where the Vaal river flow of the younger Karoo cover and on to the hard basement.

The deposit as on Nooitgedacht 66 occurs at an elevation of about 86 m above the current Vaal River, but is unique and appears unrelated to the Paleo-Vaal River drainage.

- Physical environment: The project area (natural state) and surrounding area itself is a relatively flat landscape with a gentle slope towards the Vaal River, which also forms the northern boundary of the project area.



- Biological environment:
 - Fauna: Animal life on the project area itself mainly consists small game (e.g. steenbuck, duiker, warthog, porcupine), scavengers (e.g. silverback jackal, bat-ear fox) and several rodent species (e.g. Springhare, scrub hare, riverine rabbit and field mouse). Some of the surrounding farms are farmland with cattle, sheep, goat and larger game.
 - Flora: This is an open savanna, with Umbrella Thorn (*Acacia tortilis*) and Camel Thorn (*Acacia erioloba*) the dominant tree species, and scattered individuals of Shepherd's Tree (*Boscia albitrunca*) and Sweet Thorn (*Acaica karroo*).



The shrub layer is poorly to moderately developed in places and individuals of Camphor Tree (*Tarchonanthus camphoratus*), Spike-flowered Black Thorn (*Acacia mellifera*), Wild Raisin (*Grewia flava*) and *Lycium hirsutum* occur widely scattered.

The grass layer is fairly well developed and grasses such as Redgrass (*Themeda triandra*), Common Nine-awn Grass (*Enneapogon cenchroides*) and Lehmann's Lovegrass (*Eragrostis lehmanniana*) are conspicuous.

- Heritage environment: The heritage environment is currently unknown, but due to cultivation of the area it is not foreseen that any sites or heritage significance exist within the property. A case has been submitted to the South African Heritage Resources Agency for evaluation and comment on whether a First Phase Heritage Assessment is required or not.
- Socio-economic environment: Current Socio-economic conditions are typical of economical and sustained farming activities as well as mining

Job opportunities are sparse within the town and region leaving many individuals unemployed without an income to support his/her family even a basic survival level.
- Cultural environment: The cultural environment of the proposed project area can be described as a farming community with their everyday norms.

8.4.1.2 Description of the current land uses

The current land uses of the project area and surrounding areas can be best described as livestock and / or game farming, irrigation land and mining.



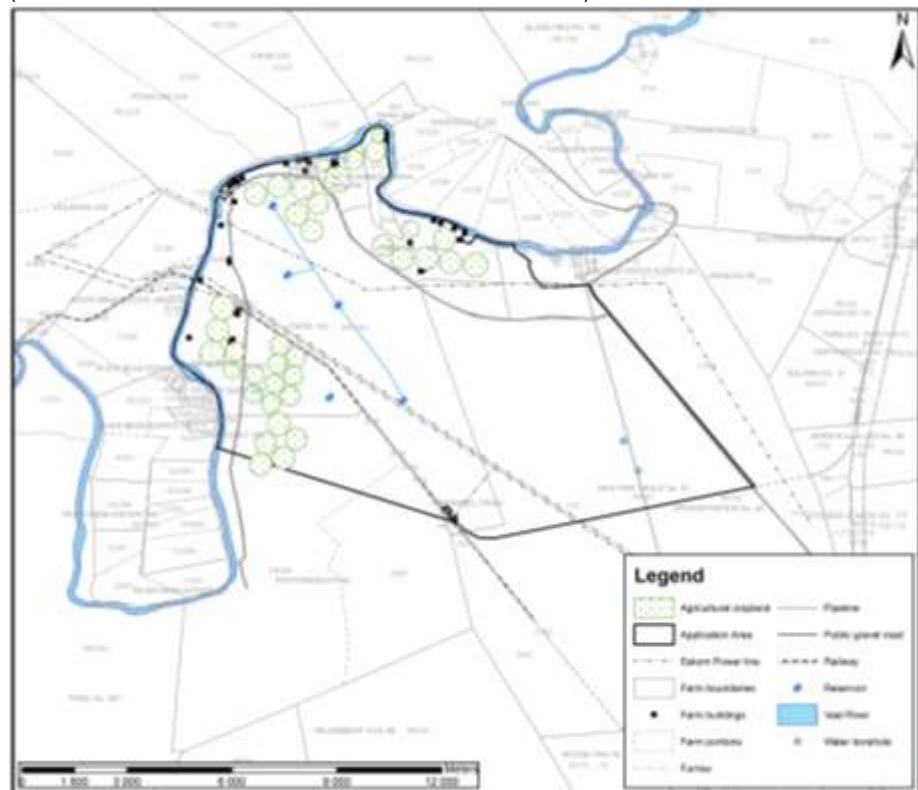
8.4.1.3 Description of specific environmental features and infrastructure on the site

Specific environmental features and / or infrastructure occur on site or within close proximity include:

- Agricultural cropland
- Eskom powerline
- Farm buildings
- Furrow
- Railway
- Reservoirs
- Pipeline
- Public gravel road
- Vaal River
- Water boreholes

8.4.1.4 Environmental and current land use map

(Show all environmental and current land use features)



8.5 Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts may occur

(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 impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the 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)

ACTIVITY	DESCRIPTION	Se	D	SP	C	P	Si
1. CONSTRUCTION PHASE IMPACTS							
Road construction	Loss of vegetation + habitat	L	L	L	L	L	L
Escom line	Loss of vegetation + habitat	NOT APPLICABLE					
Plant construction	Loss of vegetation + habitat	NOT APPLICABLE					
Pipeline installation	Loss of vegetation + habitat	NOT APPLICABLE					
Offices	Loss of vegetation + habitat	NOT APPLICABLE					
2. OPERATIONAL PHASE IMPACTS							
Prospecting	Geological degradation	L	L	L	L	L	L
Disposal	Topographic change - dump	L	L	L	L	L	L
Prospecting	Topographic change - pit	NOT APPLICABLE					
Prospecting	Soil pollution - accidental spills and leakages	M	L	L	H	L	H
Operation	Soil pollution (w orkshop, store, parking)	M	L	L	H	M	H
Operation	Loss of grazing	L	L	L	L	L	L
Operation	Loss of/ disturbance to plants	L	L	L	L	L	L
Extraction of groundwater	Depressed water table	NOT APPLICABLE					
Operation	Problem plant invasion	L	L	L	L	L	L
Operation	Effect on animals	L	L	L	L	L	L
*Waste water disposal	Water regime (regional)	NOT APPLICABLE					
Prospecting	Noise (earth moving equipment and crushers)	L	L	L	L	L	L
Operation	Air quality: Dust - Transport	L	L	L	L	L	L
Operation	Air quality: Dust - Crusher	NOT APPLICABLE					
Prospecting	Noise - blasting nuisance - regional	NOT APPLICABLE					
Prospecting	Noise - blasting nuisance - personnel	NOT APPLICABLE					
Prospecting, operation	Loss of archaeological items	L	L	L	L	L	L
Prospecting	Sensitive landscapes	L	L	L	L	L	L
Mining	Visual impact	L	L	L	L	L	L
3. DECOMMISSIONING PHASE IMPACTS							
Demolition	Waste disposal	POSITIVE					
Rehabilitation	Re-vegetation	POSITIVE					
4. RESIDUAL IMPACTS AFTER CLOSURE							
Vacated site	Rehabilitation of exposed areas	POSITIVE					
Vacated site	Safety risks	POSITIVE					



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

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

The environmental evaluation is done with the assumption that all mitigatory measures and rehabilitation plans have been adhered to (Hacking, 1999).

The preceding list of identified impacts is evaluated hereunder in terms of the following criteria:

- SEVERITY**
- *Low negative impact* (indicates a state of 'calmness' concluding that the effect the operations may have on the environment is so insignificant that the wellbeing of the environment or any individual will not be degraded or prohibited.)
 - *Medium negative impact* (describes as state of 'manageable stress', giving the idea of that the effect of the operations on the environment is significant enough to cause tolerable disturbance to the wellbeing or overall conditions of the environment or any individual.)
 - *High negative impact* (indicating a state of 'high stress', meaning that the effect of the operations on the environment is so significant that the wellbeing and overall conditions of the environment or any individual will be degraded or prohibited.)
- DURATION**
- *Short-term* (short-term duration is rated as a period less than two years and indicated as a low impact.)
 - *Medium-term* (medium-term impact is rated as the period between 2 and 5 years and indicated as a medium impact.)
 - *Long-term* (long term impact is rated as the any period exceeding 5 years and indicated as a high impact.)
- SPATIAL SCALE**
- *Localized* (the disturbance occurs within a radius of 500 m from point of existence and indicated as low impact)
 - *Fairly widespread* (the disturbance is carried over a short distance, between 500 m and 1 km radius from point of existence and indicated as medium impact)
 - *Widespread* (disturbance exercise a negative affect over an area greater than 1 km radius from point of existence and indicated as high impact.)



- CONSEQUENCE
- *Low consequence* (meaning that the probability of cumulative impact occurrence is minimal with little to no lasting effects and is indicated as low impact)
 - *Medium consequence* (meaning that the probability of cumulative impact occurring exists with a moderate, short-term lasting effect and is indicated as medium impact.)
 - *High consequence* (meaning that the probability of cumulative impact occurrence is absolute with a short to medium-term lasting effect and indicated as high impact)
- SIGNIFICANCE
- *Low overall significance* (the disturbance caused by the impact is minimal with an excellent probability for total recovery after operations ceased.)
 - *Medium overall significance* (the disturbance caused by the impact is moderate with a good chance for total recovery over an intermediate period after operations ceased.)
 - *High overall significance* (the disturbance caused by the impact is severe with a poor to no probability for recovery after operations ceased.).

LEGEND FOR TABLES

Se	- Severity	D	- Duration
SP	- Spatial Scale	P	- Probability
Si	- Significance	L	- Low negative impact
H	- High negative impact	M	- Medium negative impact

8.7 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

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

The proposed prospecting operations shows to have an overall low negative impact on the property. Any alterations to the prospecting and prospecting related activities will not result in a lesser significant impact on the environment, but some may result in other impacts.

The residing farm owner and surrounding residing farm owners and communities may be minimally influenced by the prospecting operations in regard to noise and air quality loss. After considering alternative processes, the alterations did not prove any significant minimization of the impacts affecting the farming activities and residing individuals. It is rather recommended that more strict implementation and adherence to the mitigation measures



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

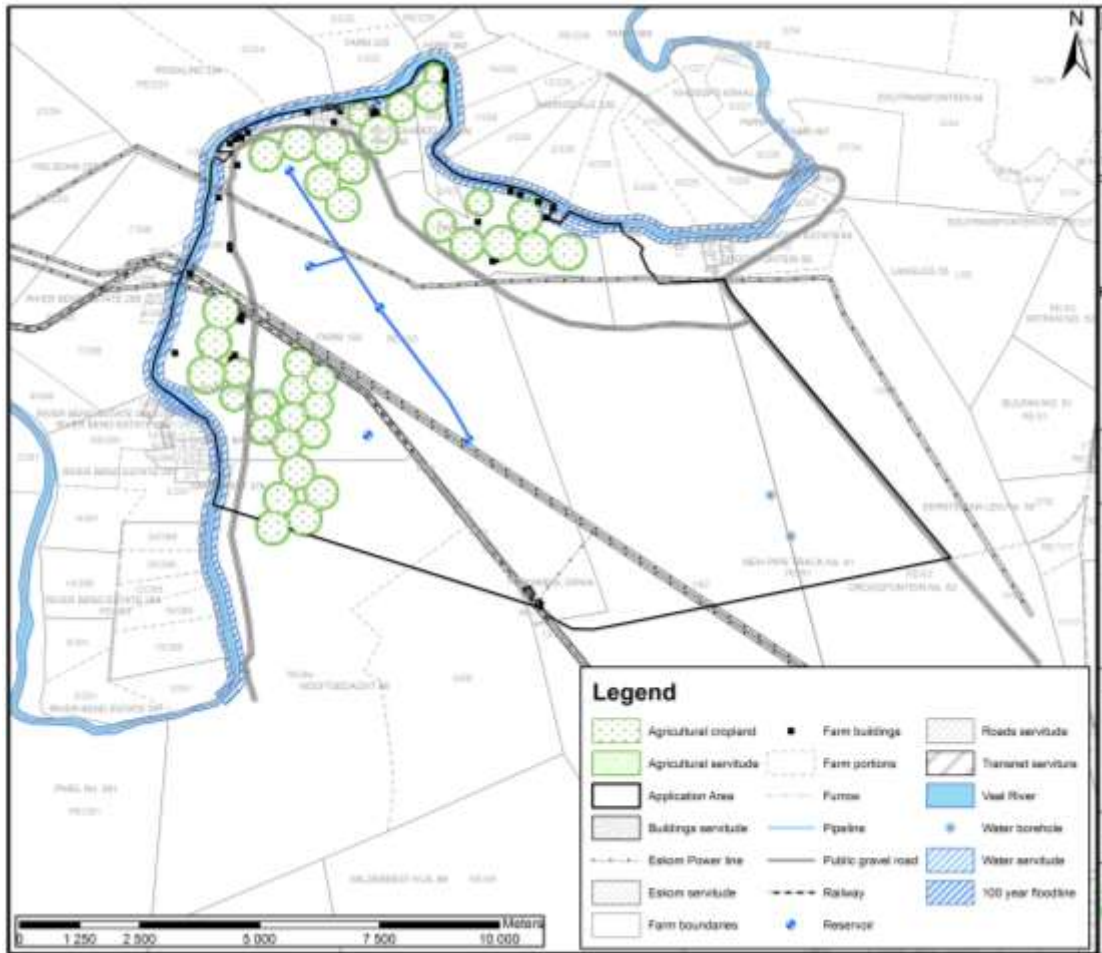
(With regard to the issues and concerns raised by affected parties proved a list of the issued raised and an assessment / discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the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

Dust upliftment and prospecting created noise, safety and security might be of the major impact that may affect the farm owner and surrounding residents, where mitigation measures are the dampening of the mine roads, keeping activities creating undue noise to more acceptable hours and vegetation clearing control will be implemented.

Several environmental significant sites and features occurs within the area which will need avoidance:

- Agricultural crop land: a 20 m buffer area needs to be implemented and the area within avoided. Should drilling activities be carried out within an irrigation land should it take place after harvesting before the sowing season.
- Eskom powerline: No operations may occur within 20 m from the center of the cable lines as regulated and stipulated by Eskom
- Farm buildings: any prospecting and/or prospecting activity must stay at least 50 m clear from any farmstead fence or demarcated farm infrastructure area
- Furrow: a 50 m 'servitude area' needs to be implemented and the areas within avoided.
- Pipeline: a 5 m 'servitude area' needs to be implemented and the areas within avoided
- Public gravel road: all public roads must be avoided as regulated by the South African National Roads Agency. A 'servitude area' of 50 m from the edge of the road will be implemented and the area avoided during any prospecting and/or prospecting related activity
- Railway: a 'servitude area' of 10 m from the Transnet servitude fence will be implemented and the area avoided during any prospecting and/or prospecting related activity
- Reservoir: a 50 m 'servitude area' needs to be implemented and the areas within avoided
- Vaal River: All natural water resources must be avoided and protected as stipulated by the National Water Act. A 'buffer zone' of 100 m from the river bank will be implemented and the area should be avoided during any prospecting and/or prospecting related activity.
- Water borehole: a 50 m buffer zone needs to be implemented and the areas within avoided.





8.9 Motivation where no alternative sites were considered

Alteration in the prospecting processes were considered, but ruled out during the early stages of the planning due to the fact that they proved not to have any lesser effect on the environment, but rather result in other impacts.

The current drill hole positioning and footprint planning prove to be the best possible option with the minimal negative impacts in regard to the biophysical, socio-economic and cultural environment while verifying the commodity.

8.10 Statement motivation the alternative development location within the overall site

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

As detailed in Part A Section 8.7, 8.8 and 8.9 of this document no alternative developments towards the prospecting processes are considered and will be kept as originally proposed due to that any alterations prove not to significantly minimize impacts, but may rather result in other impacts.



9. Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity

(Including (i) a description of all environmental issues and risks that 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)

- Assessment of each identified potentially significant impact and risk

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

ACTIVITY Whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyers, etc...etc...etc.)	POTENTIAL IMPACT (E.g. dusts, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc.)	ASPECTS AFFECTED	PHASE In which impact is anticipated. (E.g. Construction, commissioning, operational, decommissioning, closure, post-closure.)	SIGNIFICANCE If not mitigated	MITIGATION TYPE (modify, remedy, control, or stop) Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc. E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation....	SIGNIFICANCE If mitigated
Drilling	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	Low	Rehabilitation	Low
	Topographic	Change		-	-	-
	Soil	Pollution		Medium	Immediate rehabilitation	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		Low	Remedy through removal	Low
	Fauna	Migration		Low	-	Low
	Water quality	Loss		-	-	-
Noise	Elevated levels	Low	Operations within office hours	Low		



	Air quality	Degradation		Low	Damping of access roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive
Ablution	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		Medium	Immediate rehabilitation. Regular inspection Regular maintenance	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		Low	Remedy through removal	Low
	Fauna	Migration		-	-	-
	Water quality	Loss		Low	Waste management	Low
	Noise	Elevated		-	-	-
	Air quality	Degradation		Low	Damping of access roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive



Vehicle parking	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		High	Immediate rehabilitation. Regular inspection	Medium
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		Low	Remedy through removal	Low
	Fauna	Migration		Low	-	Low
	Water quality	Loss		-	-	-
	Noise	Elevated levels		Low	Operations within office hours	Low
	Air quality	Degradation		Low	Damping of exposed area Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction	Low	Avoid significant sensitive sites	Low	
	Visual impact	Scenery loss	Low	-	Low	
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
Safety risks	Waste disposal	Positive		Closure standards	Positive	
Storage	Vegetation	Loss	Construction	-	-	-
	Geological	Loss	Operational	-	-	-
	Topographic	Change		-	-	-
	Soil	Pollution		Medium	Immediate rehabilitation.	Low
	Grazing	Loss		-	-	-
	Vegetation	Loss/disturbance		-	-	-
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		-	-	-
Fauna	Migration	-		-	-	



	Water quality	Loss		-	-	-
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		-	-	-
	Archaeological items	Loss		-	-	-
	Sensitive landscape	Destruction		Low	Avoid significant sensitive area	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive
Diesel Storage	Vegetation	Loss	Construction	-	-	-
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		High	Immediate rehabilitation. Regular inspection	Medium
	Grazing	Loss		-	-	-
	Vegetation	Loss/disturbance		-	-	-
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		-	-	-
	Fauna	Migration		-	-	-
	Water quality	Loss		-	-	-
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		-	-	-
	Archaeological items	Loss		-	-	-
	Sensitive landscape	Destruction		Low	Avoid significant sensitive area	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive	
Safety risks	Waste disposal		Positive	Closure standards	Positive	



Domestic waste	Vegetation	Loss	Construction	-	-	-
	Geological	Loss	Operational	-	-	-
	Topographic	Change		-	-	-
	Soil	Pollution		Low	Immediate clean-up	Low
	Grazing	Loss		-	-	-
	Vegetation	Loss/disturbance		-	-	-
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		-	-	-
	Fauna	Migration		-	-	-
	Water quality	Loss		-	-	-
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		-	-	-
	Archaeological items	Loss		-	-	-
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low
	Prospecting and access roads	Waste	Disposal	Decommissioning	Low	Management standards
Re-vegetation		Re-growth		Positive	Regular inspection	Positive
Exposed area Rehab		Re-vegetation	After closure	Positive	Regular inspection	Positive
Safety risks		Waste disposal		Positive	Closure standards	Positive
Prospecting and access roads	Vegetation	Loss	Construction	Medium	Vegetation clearing control Minimum roads possible	Low
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		Medium	Immediate rehabilitation Regular inspection	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		High	Remedy through removal	Low
	Fauna	Migration		Low	-	Low



	Water quality	Loss		-	-	-
	Noise	Elevated levels		Low	Operations within office hours	Low
	Air quality	Degradation		Low	Damping of mine roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Medium	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive

10. 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
No specialist reports were deemed necessary to be conducted as previous mining took place on the application area			

Attach copies of Specialist Reports as appendices



11. Environmental impact statement

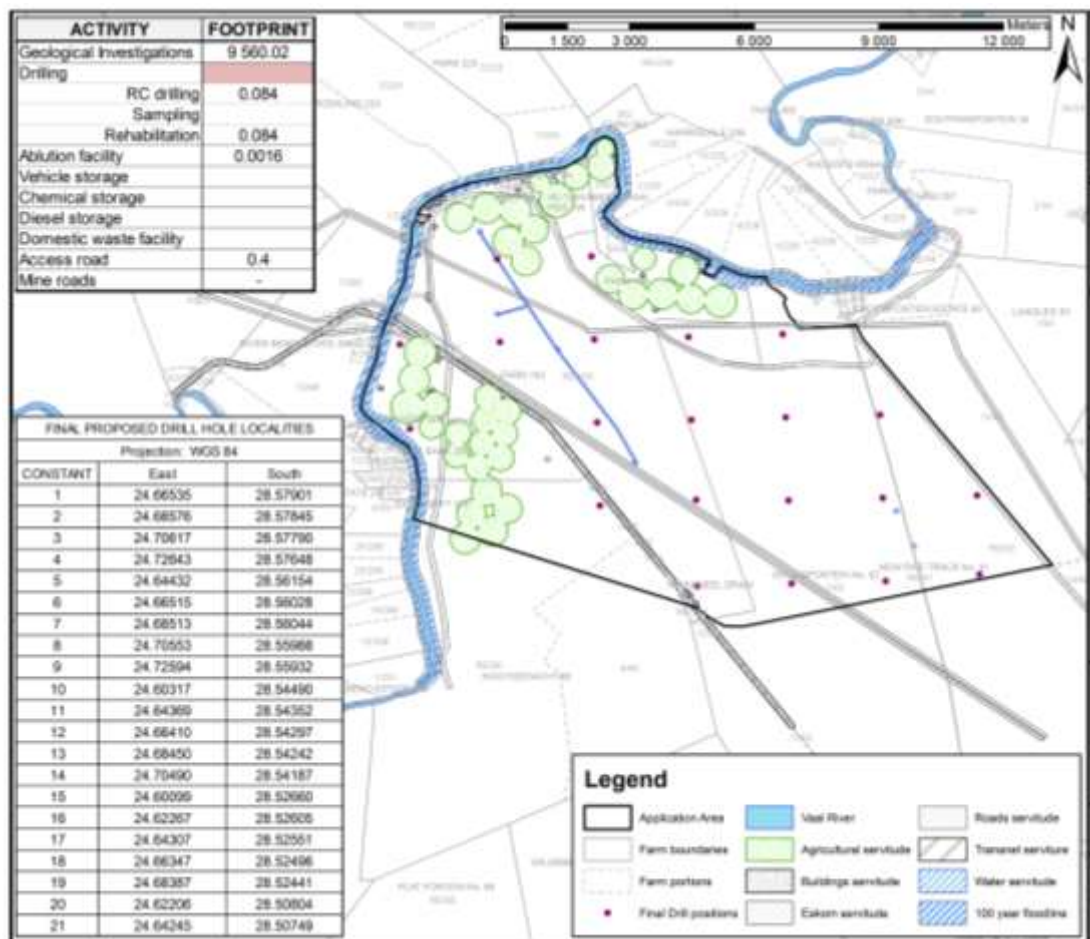
11.1 Summary of the key findings of the environmental impact assessment

During the conduction of the Basic Impact Assessment several key element regarding the proposed project came under attention:

- With due consideration towards the negative impact the prospecting activities pose on the environment with the knowledge of the current status of the environment, it can be concluded that the prospecting activities may have some negative impact on the area.
- With the implementation of mitigation measures can environmental degradation be optimally minimized, managed or avoided.
- Should the operations proof mine feasibility and mine development follow economic upliftment will have a positive impact on the region.

11.2 Final Site Map

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



11.3 Summary of the positive and negative impacts and risks of the proposed activity and identified alternative.

Throughout the document the focus point was to identify and assess the negative impacts the proposed operations may have on the bio-physical, socio-economic and cultural environment. The major negative influences the proposed operations may pose are noise disturbance and elevated dust levels.



12. Proposed impact management objectives and the impact management outcomes of 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.)

The proposed impact management objective is to create environmental sustainable prospecting operations by the management, remediation or elimination of environmental impacts through the implementation and adherence of mitigation measures as legislatively required.

The above mentioned outcomes can be achieved through the implementation of the following impact specified objectives and their outcomes:

- Minimizing of vegetation loss caused by construction and site maintenance:
 - Vegetation clearing control
 - Rip and rehabilitation of unnecessary compacted areas
 - Adherence to mine roads
 - Implementation of a no wood collection and no open fire policy

- Prevention of soil pollution due to chemical spillage
 - Inspection on chemical containing activities against faults and leaks.
 - Immediate rehabilitation of an affected area.
 - Suitable disposal of contaminated soil.

- Reduction of noise levels.
 - Undue noise levels will be kept to acceptable hours.
 - Aim to keep noise levels within the approved prescribed standards.

- Minimization of dust upliftment causing loss of air quality.
 - Watering of the dirt roads and vegetation cleared areas.
 - Adherence to speed limits.

- Waste disposal
 - Implementation of waste disposal facilities
 - Contractual agreements for waste removal.
 - Waste removal schedules,
 - Compliance to good housekeeping rules.

- Environmental awareness training on
 - Fauna and Flora
 - Proper waste management
 - Specific work related safety awareness,

13. Aspects for inclusion as conditions of Authorization

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

At this stage all aspects that must be included into the environmental authorization are detailed in this document. Should any aspects arise that needs to be made conditions this document will be updated accordingly and will be submitted to all relevant departments.



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

(Which relate to the assessment and mitigation measures proposed)

Any assumptions, uncertainties and gaps in knowledge that could arise during the operation of the prospecting activities will be addressed and mitigation measures implemented to prevent any damage to the environment. Such assumptions, uncertainties and gaps in knowledge will be described, implemented and handed to the relevant departments.

To prevent any unnecessary assumptions, uncertainties and gaps in knowledge, the Basic Environmental Assessment part of this document should not be read alone, as it only contain impact assessment with summarized management options, but rather read as a whole with the Environmental Management Programme which include detailed management measures for each listed activity as described in the Basic Environmental Assessment.

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

15.1 Reasons why the activity should be authorized or not

The proposed prospecting operation should be strongly considered for authorization as mine development may occur from positive prospecting results. Mine development will result in the upliftment of local communities, economic growth of the town, region and possibly province.

15.2 Conditions that must be included in the authorization

15.2.1 Specific conditions to be included into the compilation and approval of EMPr

Specific conditions to be included into the compilation and approval of the EMPr are the adherence to all mitigation measures as stipulated within the BEAR/EMPr.

15.1.2 Rehabilitation requirements.

Rehabilitation Requirements should include, but is not limited to the following:

- The area must be rehabilitated as close as possible to its original natural state as possible.
- Rehabilitation must be done to the complete satisfaction of all relevant departments and land owner
- A two year monitoring programme must be implemented to ensure the success of vegetation re-establishment and the elimination of invader / pioneer plant species.
- All other rehabilitation measures as contained within the EMPr, mitigation measures inclusive, must be adhered to or a grounded reason for why any of these could not be met.



16 Period for which the Environmental Authorization is required

The period applied for during the application phase is 2 years as legislatively required and requires Environmental Authorization for the latter period.

17 Undertaking

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

The Director, Simon CT Makweya, 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 Report.

18 Financial Provision

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

CALCULATION OF THE QUANTUM

Applicant: **DROOGFONTEIN MINING (PTY) LTD** Location: **DROOGFONTEIN 62**
Date: **Apr-17**

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		R 14.59	1	1	R -
2 (A)	Demolition of steel buildings and structures	m2		R 203.28	1	1	R -
2(B)	Demolition of reinforced concrete buildings and structures	m2		R 299.57	1	1	R -
3	Rehabilitation of access roads	m2	4 000	R 36.38	1	0.25	R 36 380.00
4 (A)	Demolition and rehabilitation of electrified railway lines	m		R 353.06	1	1	R -
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m		R 192.58	1	1	R -
5	Demolition of housing and/or administration facilities	m2		R 406.55	1	1	R -
6	Opencast rehabilitation including final voids and ramps	ha		R 206 914.18	1	1	R -
7	Sealing of shafts adits and inclines	m3		R 109.13	1	1	R -
8 (A)	Rehabilitation of overburden and spoils	ha	0.084	R 142 079.64	1	1	R 11 934.69
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha		R 176 957.63	1	1	R -
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha		R 513 968.83	1	1	R -
9	Rehabilitation of subsided areas	ha	0.0016	R 18 970.30	1	1	R 30.35
10	General surface rehabilitation	ha		R 112 551.04	1	1	R -
11	River diversions	ha		R 112 551.04	1	1	R -
12	Fencing	m		R 128.39	1	1	R -
13	Water management	ha		R 42 795.07	1	1	R -
14	2 to 3 years of maintenance and aftercare	ha	0.4856	R 14 978.28	1	1	R 7 273.45
15 (A)	Specialist study	Sum				1	R -
15 (B)	Specialist study	Sum				1	R -
Sub Total 1							R 55 618.50
1	Preliminary and General	R		6 674.22	weighting factor 2 1		R 6 674.22
2	Contingencies	R				5 561.85	R 5 561.85
Subtotal 2							R 67 854.56
VAT (14%)							R 9 499.64
Grand Total							R 77 354.20

18.1 Explain how the aforesaid amount was derived

As seen from the above table the amount of **R 77 354.20** was calculated using the Department of Mineral Resources' approved Financial Provision Quantum Calculation table.

18.2 Confirm that this amount can be provided from operation expenditure

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

The above stated amount can be provided from, as part of, the 1st years operating expenditure and is in the submitted Prospecting Work Programme anticipated as an operating cost and was provided for as such.



19 Specific Information required by the competent Authority

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

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

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

The socio-economic conditions of any directly affected person(s) will not be affected by the operations. Indirect impacts are more positive towards the community and towns due to Capital Expenditures during the prospecting activities resulting in a direct income into the town.

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

(Provide the result of investigation, assessment and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of the Act.)

It is not foreseen that any archaeological sites of any significance exist, but should any exist they will not be impacted / destroyed by the proposed prospecting operations. To ensure this total avoidance of any heritage site must be strictly adhered to.

20 Other matter required in terms of sections 24(a) and (b) of the Act.

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

The compiler of this document, also the appointed EAP, has knowledge of the area on which the proposed project is situated. An extensive field visit for investigation could not be executed, but an in depth desktop study was conducted using existing literature and data base knowledge acquired over the years.

No reasonable or feasible alternatives could be identified during the basic assessment process. The activities were already designed to cause the minimal disturbance possible with the best possible prospecting results.



PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. Draft environmental management programme

1.1 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 1.1 herein as required.)

The details and expertise of the Environmental Assessment Practitioner are already included in Part A Section 1.1 of this document, but also included below.

Details of the EAP

Name of the Practitioner: Lindie Wiehahn
Tel No: 072 141 4164
Fax No: 086 606 6315
E-mail address: lindie@liwico.co.za

The qualifications of the EAP

Current qualifications in this field were obtained through short courses at the University of Potchefstroom, which is the following:

- Introduction to Environmental Management (2002)
- Environmental Impact Assessment (2002)
- The Legal Framework for Managing Water in South Africa (2002)

Summary of the EAP's past experience.

During the year 2002 Lindie assisted with two Environmental Impact Assessments for a Golf Course development in Modderivier (today known as the Magersfontein Memorial Golf Course) and a Cottage development on the farm Avoca in the Douglas district. Later the same year she successfully completed her first sole Environmental Impact Assessment for the development of a filling station on the N12 at Warrenton.

Lindie was employed at the company till 2012 as an Environmental Consultant. Experiences obtained during these years were the drafting of Environmental Management Programmes, Environmental Management Programme Reports, Environmental Monitoring and Compliance Reports and Environmental Risk Reports. She also conducted several Environmental Impact Assessments for Mining Rights on La Reysstryd 53 IO, Lichtenburg (2004), Longlands, Barkly West (2004) and Lohatla 673, Postmasburg (2009, 2011).

After the liquidation of Geo-Rock International, Lindie went into partnership with John H.R Loots till 2015. During these years she continued working as an Environmental Consultant and successfully completed an Environmental Impact Assessment on the farm Groot Derm 10, Alexanderbay (2012). From the year 2015 till date she undergone company name changes and is now consulting under LW Consultants.

Successful projects under the new DMR and NEMA regulations:

- EIA/EMPr - Mining Right ...Roodepan 70 (2015)
- BEAR/EMPr - Prospecting Right ... Bergplaats 502 (2016)
- BEAR/EMPr - Mine Permit ...Longlands 350 (2016)



1.2 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 9 herein as required)

The description of the aspects of the activity are already covered in Part A Section 9 of this document, but also included below.

ACTIVITY Whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyers, etc...etc...etc.)	POTENTIAL IMPACT (E.g. dusts, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc.)	ASPECTS AFFECTED	PHASE In which impact is anticipated. (E.g. Construction, commissioning, operational, decommissioning, closure, post-closure.)	SIGNIFICANCE If not mitigated	MITIGATION TYPE (modify, remedy, control, or stop) Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc. E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation....	SIGNIFICANCE If mitigated
Drilling	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	Low	Rehabilitation	Low
	Topographic	Change		-	-	-
	Soil	Pollution		Medium	Immediate rehabilitation.	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		Low	Remedy through removal	Low
	Fauna	Migration		Low	-	Low
	Water quality	Loss		-	-	-
	Noise	Elevated levels		Low	Operations within office hours	Low
	Air quality	Degradation		Low	Damping of mine roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
Visual impact	Scenery loss	Low	-	Low		

	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive
Ablution	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		Medium	Immediate rehabilitation. Regular inspection Regular maintenance	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		Low	Remedy through removal	Low
	Fauna	Migration		-	-	-
	Water quality	Loss		Low	Waste management	Low
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		Low	Damping of mine roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction	Low	Avoid significant sensitive sites	Low	
	Visual impact	Scenery loss	Low	-	Low	
		Waste	Disposal	Decommissioning	Low	Management standards
Re-vegetation		Re-growth		Positive	Regular inspection	Positive
Exposed area Rehab		Re-vegetation	After closure	Positive	Regular inspection	Positive
Safety risks		Waste disposal		Positive	Closure standards	Positive
Vehicle parking	Vegetation	Loss	Construction	Low	Vegetation clearing control	Low
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		High	Immediate rehabilitation. Regular inspection	Medium
	Grazing	Loss		Low	Rehabilitation	Low



	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low	
	Water table	Depressed		-	-	-	
	Vegetation	Invader plants		Low	Remedy through removal	Low	
	Fauna	Migration		Low	-	Low	
	Water quality	Loss		-	-	-	
	Noise	Elevated levels		Low	Operations within office hours	Low	
	Air quality	Degradation		Low	Damping of exposed area. Speed restriction	Low	
	Archaeological items	Loss		Low	Avoid sites of significance	Low	
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low	
	Visual impact	Scenery loss		Low	-	Low	
	Waste	Disposal		Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth			Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation		After closure	Positive	Regular inspection	Positive
Safety risks	Waste disposal	Positive	Closure standards		Positive		
Storage	Vegetation	Loss	Construction	-	-	-	
	Geological	Loss	Operational	-	-	-	
	Topographic	Change		-	-	-	
	Soil	Pollution		Medium	Immediate rehabilitation.	Low	
	Grazing	Loss		-	-	-	
	Vegetation	Loss/disturbance		-	-	-	
	Water table	Depressed		-	-	-	
	Vegetation	Invader plants		-	-	-	
	Fauna	Migration		-	-	-	
	Water quality	Loss		-	-	-	
	Noise	Elevated levels		-	-	-	
	Air quality	Degradation		-	-	-	
	Archaeological items	Loss		-	-	-	
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low	
Visual impact	Scenery loss	Low	-	Low			



	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive
Diesel storage	Vegetation	Loss	Construction	-	-	-
	Geological	Loss	Operational	-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		High	Immediate rehabilitation. Regular inspection	Medium
	Grazing	Loss		-	-	-
	Vegetation	Loss/disturbance		-	-	-
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		-	-	-
	Fauna	Migration		-	-	-
	Water quality	Loss		-	-	-
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		-	-	-
	Archaeological items	Loss		-	-	-
	Sensitive landscape	Destruction		Low	Avoid sites of significance	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
Safety risks	Waste disposal		Positive	Closure standards	Positive	
Domestic waste	Vegetation	Loss	Construction	-	-	-
	Geological	Loss	Operational	-	-	-
	Topographic	Change		-	-	-
	Soil	Pollution		Low	Immediate clean-up	Low
	Grazing	Loss		-	-	-
	Vegetation	Loss/disturbance	-	-	-	
	Water table	Depressed	-	-	-	

	Vegetation	Invader plants		-	-	-
	Fauna	Migration		-	-	-
	Water quality	Loss		-	-	-
	Noise	Elevated levels		-	-	-
	Air quality	Degradation		-	-	-
	Archaeological items	Loss		-	-	-
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low
	Waste	Disposal	Decommissioning	Low	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive
Prospecting and access roads	Vegetation	Loss	Construction	Medium	Vegetation clearing control Minimum roads possible	Low
	Geological	Loss		-	-	-
	Topographic	Change		Low	Rehabilitation	Low
	Soil	Pollution		Medium	Immediate rehabilitation. Regular inspection	Low
	Grazing	Loss		Low	Rehabilitation	Low
	Vegetation	Loss/disturbance		Low	Traffic restriction to roads Vegetation clearing control	Low
	Water table	Depressed		-	-	-
	Vegetation	Invader plants		High	Remedy through removal	Low
	Fauna	Migration		Low	-	Low
	Water quality	Loss		-	-	-
	Noise	Elevated levels		Low	Operations within office hours	Low
	Air quality	Degradation		Low	Damping of mine roads. Speed restriction	Low
	Archaeological items	Loss		Low	Avoid sites of significance	Low
	Sensitive landscape	Destruction		Low	Avoid significant sensitive sites	Low
	Visual impact	Scenery loss		Low	-	Low

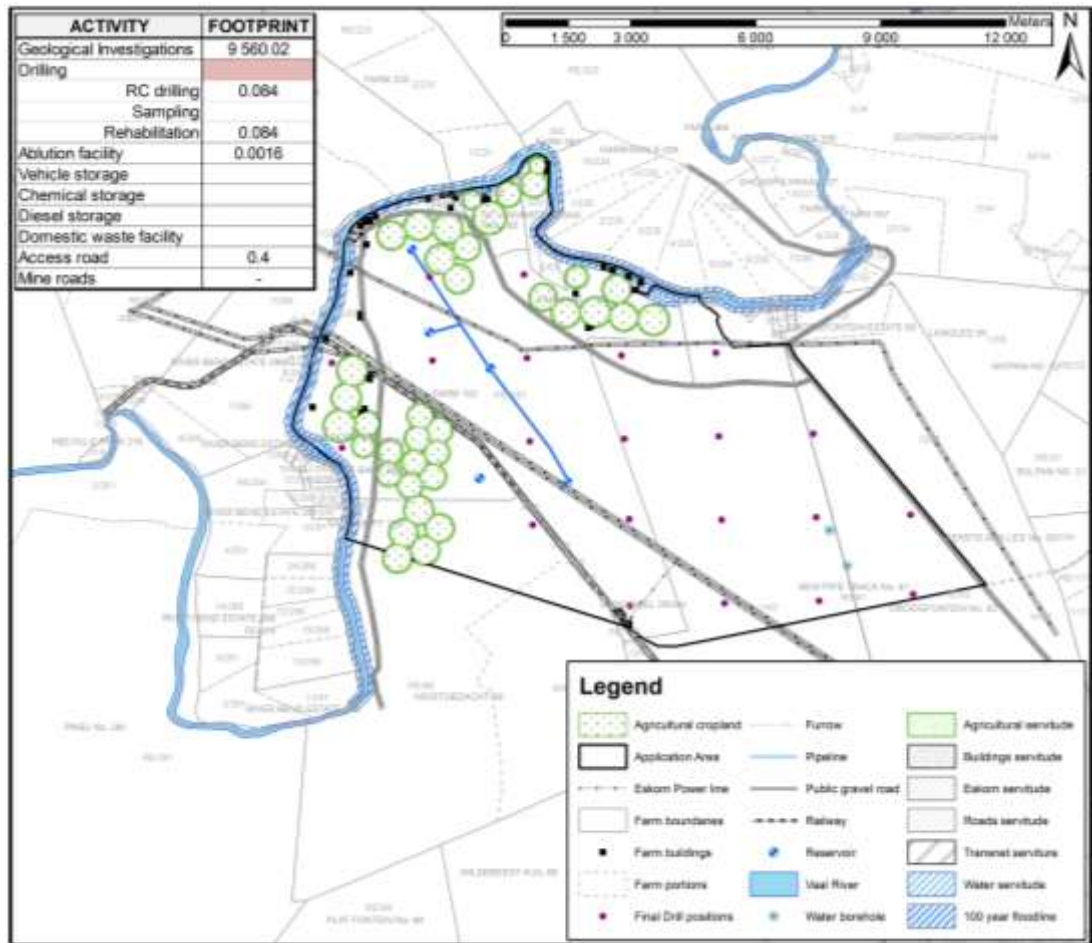


	Waste	Disposal	Decommissioning	Medium	Management standards	Positive
	Re-vegetation	Re-growth		Positive	Regular inspection	Positive
	Exposed area Rehab	Re-vegetation	After closure	Positive	Regular inspection	Positive
	Safety risks	Waste disposal		Positive	Closure standards	Positive



1.3 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)



1.4 Description of Impact management objectives including management statements

1.4.1 Determination of closure objectives

(Ensure that the closure objectives are informed by the type of environment described)

The sole determined objective is to rehabilitate the area during and after prospecting activities to such an extent that the post-prospected environment is almost in the same condition as the original undisturbed environment.

When rehabilitation proves successful the vegetation re-growth must be of such quality that this area can be used as a grazing field for farm livestock.

1.4.2 Volumes and rate of water use required for the operation

The drilling operations requires no water use for its operations. The only water needed during this process is for consumption and will be obtained in town on a daily basis.

Other related activities such as the ablution facilities does require water, but the amount of water needed are still unknown. Currently it is investigated that the contracted company supplying and maintaining this facility also provide the sufficient water, with its chemicals, in approved JoJo tanks on a regular basis.



1.4.3 Has a water use license has been applied for?

A water use license has not been applied for as the drilling operations requires no water use for its operations. The only water needed during this process is for consumption and will be obtained in town on a daily basis

Other related activities such as the ablution facilities does require water, but the amount of water needed are still unknown. Currently it is investigated that the contracted company supplying and maintaining this facility also provide the sufficient water, with its chemicals, in approved JoJo tanks on a regular basis.



1.4.4 Impacts to be mitigated in their respective phases

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

ACTIVITES	PHASE	SIZE AND SCASLE of disturbance	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
(As listed in 2.11.1)	of operation in which activity will take place. State: Planning and design, Pre-construction, Construction, Operational, rehabilitation, Closure, Post closure	(volumes, tonnages and hectares or m ²)	(describe how each of the recommendations herein will remedy the cause of pollution or degradation and migration of pollutants)	(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)	Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard to Rehabilitation therefore state either:- Upon cessation of the individual activity Or Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be
Drilling	Construction	0.084 ha	<ul style="list-style-type: none"> • Only necessary vegetation will be cleared • On vegetation clearing should any nests with chicks or eggs be discovered a local nature conservation officer shall be called to relocate the species • All infrastructure will be equipped with appropriate signs indicating function and potential dangers • A qualified archeologist must monitor site establishment 	All mitigation measures within this document comply with the NEMA and DMR rules and regulations. Further does all mitigation measures proof successful in impact management.	Upon commencement of activity.



	Operational		<ul style="list-style-type: none"> • No vehicle repairs and maintenance will occur within the operational area as far as possible. • Old diesel and related chemicals must be discarded within appropriate marked closed containers • On accidental spillage the contaminated soil will be removed and appropriately stored till the removal there off. • The area must be continuously inspected for spillages and remediated immediately • All vehicle traffic are restricted to the roads and demarcated traffic areas • No indigenous shrubs or trees will unnecessarily be uprooted and never to be used for fire wood • Employees will be advised to stay clear from any wild animals or reptiles and not to disturb or provoke them in any manner. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
--	-------------	--	--	---	--------------------------------



			<ul style="list-style-type: none"> • Strict adherence to the mine roads and no off-road driving to prevent trampling of vegetation and ground compaction • The mine shall be responsible for compliance with the relevant legislation in respect to noise. • Hearing protection will be made available to all employees where attenuation cannot be implemented. • Suppression of dust on cleared areas will occur by the spraying water when necessary. • Littering of any product, including cigarette buds, at any operational site shall be seen as an offence and will not be tolerated • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. 		
--	--	--	--	--	--



			<ul style="list-style-type: none"> • The mine shall ensure that all vehicle and contractors are aware of procedures and restrictions in terms of this document. • Fire extinguishers will be kept in good order and serviced regularly. • Hard hats, earplugs, safety glasses, dust masks, gloves, hard point boots, reflector vests and reflective overalls is compulsory before entering this area. • The entrance will be clearly marked with all regulatory signs, to indicate a potential dangerous zone. • Related waste/ scrap must be dispose of in the appropriate manner 		
	Decommissioning		<ul style="list-style-type: none"> • The drill hole will be backfilled with the drill chips in a reverse sequence as extracted. • All chemical spills will be rehabilitated immediately • Rip and rehabilitate all compacted areas. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



	After closure		<ul style="list-style-type: none"> • Regular inspection for the removal of invader pioneer species. • A 2 – 3 year after care plan is initiated to ensure a satisfying vegetation re-growth rate and the successful establishment of indigenous vegetation. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
Ablution	Construction	0.0016 ha	<ul style="list-style-type: none"> • Only necessary vegetation will be cleared • On vegetation clearing should any nests with chicks or eggs be discovered a local nature conservation officer shall be called to relocate the species • No indigenous shrubs or trees will be unnecessarily uprooted • Concealed septic tanks must be installed above ground, where it can be regularly inspected for leakage 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



	Operational		<ul style="list-style-type: none"> • Ablution blocks shall be at all times be sanitized • Sanitary bins will be provided and no sanitary material will be allowed within the septic tanks • All human waste and related waste will be contained within septic tanks installed for this purpose • Septic tanks and chemical toilets will be chemically treated and maintained by a contracting agency • Sanitary material within the bins provided will be closed in colour plastics and disposed of as domestic waste • Employees will be advised to stay clear from any wild animals or reptiles and not to disturb or provoke them in any manner. • Littering of any product, including cigarette buds shall be seen as an offence and will not be tolerated 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
--	-------------	--	---	---	--------------------------------



			<ul style="list-style-type: none"> • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. • The mine shall ensure that all suppliers and the delivery drivers are aware of procedures and restrictions in terms of this document. • The entrance will be clearly marked with all regulatory signs 		
	Decommissioning		<ul style="list-style-type: none"> • All structures will be broken down and removed from site. • All spills will be rehabilitated immediately • Rip and rehabilitate all compacted areas. • Regular inspection for the removal of invader pioneer species. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	After closure		<ul style="list-style-type: none"> • A 2 – 3 year after care plan is initiated to ensure a satisfying vegetation re-growth rate and the successful establishment of indigenous vegetation. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



Vehicle parking	Construction	<ul style="list-style-type: none"> • The only necessary vegetation will be cleared • On vegetation clearing should any nests with chicks or eggs be discovered a local nature conservation officer shall be called to relocate the species • No indigenous shrubs or trees will be unnecessarily uprooted 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	Operational	<ul style="list-style-type: none"> • Drip pans will be readily available and no parked heavy vehicle will be without a drip pan. • No vehicle repairs and maintenance will occur within the operational area as far as possible. • Old diesel and related chemicals must be discarded within appropriate marked close containers • On accidental spillage the contaminated soil will be removed and appropriately stored till the removal there off. • The area must be continuously inspected for spillages and remediated immediately 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



		<ul style="list-style-type: none"> • Suppression of dust on cleared areas will occur by the spraying water when necessary. • Littering of any product, including cigarette buds shall be seen as an offence and will not be tolerated • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. • The mine shall ensure that all suppliers and the delivery drivers are aware of procedures and restrictions in terms of this document. • Fire extinguishers will be kept in good order and serviced regularly. 		
	Decommissioning	<ul style="list-style-type: none"> • All chemical spills will be rehabilitated immediately • Rip and rehabilitate all compacted areas. • Regular inspection for the removal of invader pioneer species. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



	After closure		<ul style="list-style-type: none"> • A 2 – 3 year after care plan is initiated to ensure a satisfying vegetation re-growth rate and the successful establishment of indigenous vegetation. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
Chemical storage	Construction Operational		<ul style="list-style-type: none"> • Stored chemicals must be in marked closed containers • For remediation purposes a neutralizing agent for each chemical must be available at the entrance of the room at all time • Un-used chemicals must be separated from used chemicals as well as each type of chemical will be group to prevent cross-contamination • Chemicals removed from storage will be in approved containers to minimize the possibility of spillage • Fire extinguishers for this purpose will be available at all times 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



			<ul style="list-style-type: none"> • Chemical and chemical containing waste will be stored in closed containers. • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. • The mine shall ensure that all suppliers and the delivery drivers are aware of procedures and restrictions in terms of this document. 		
	Decommissioning		<ul style="list-style-type: none"> • With decommissioning of the mine the contractor is responsible for removing his own chemical products. • All chemical spills will be rehabilitated immediately 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	After closure				



Diesel storage	Construction		<ul style="list-style-type: none"> • Diesel cart will be equipped a leak-proof bay, supporting the tank volume plus 10%. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	Operational		<ul style="list-style-type: none"> • Vehicles which are filled with fuel will park on a plastic sheet / floor for if any spillage occurs it can be cleaned • Two fire extinguishers will be present at all times • The area must be continuously inspected for spillages and remediated immediately • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. • The mine shall ensure that all suppliers and the delivery drivers are aware of procedures and restrictions in terms of this document. • Fire extinguishers will be kept in good order and serviced regularly. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



	Decommissioning		<ul style="list-style-type: none"> • All chemical spills will be rehabilitated immediately 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	After closure				
Domestic Waste	Construction				
	Operational		<ul style="list-style-type: none"> • Domestic waste will be kept in closed marked containers. • Containers will be removed on a daily basis. • Domestic waste will be dumped at a registered site for such disposal. • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



	Decommissioning		<ul style="list-style-type: none"> • With decommissioning of the mine the contractors and mine employees will be responsible for the safe removal thereof. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	After closure				
Prospecting and Access roads	Construction		<ul style="list-style-type: none"> • As far as possible will it be made use of existing farm roads • Only when utmost necessarily will farm tracks be made. • No foreign materials will be used in the construction of roads • The only necessary vegetation will be cleared • No indigenous shrubs or trees will be unnecessarily uprooted 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	Operational		<ul style="list-style-type: none"> • The roads must be continuously inspected for spillages and remediated immediately • All vehicle traffic are restricted to the roads and demarcated traffic areas 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.



		<ul style="list-style-type: none"> • No indigenous shrubs or trees will unnecessarily uprooted and used for fire wood • If any invader species are observed the reporting thereof to the rehabilitation site manager is highly recommended. • Employees will be advised to stay clear from any wild animals or reptiles and not to disturb or provoke them in any manner. • Suppression of dust on cleared areas will occur by the spraying of water when necessary • Littering of any product, including cigarette buds, at any operational site shall be seen as an offence and will not be tolerated • The mine shall be responsible for any cleaning up resulting from the failure by his employees or suppliers. 		
--	--	---	--	--



	Decommissioning		<ul style="list-style-type: none"> • All chemical spills will be rehabilitated immediately • Rip and rehabilitate all compacted areas. • Regular inspection for the removal of invader species. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.
	After closure		<ul style="list-style-type: none"> • A 2 year after care plan is initiated to ensure a satisfying vegetation re-growth rate and the successful establishment of indigenous vegetation. 	<p>All mitigation measures within this document comply with the NEMA and DMR rules and regulations.</p> <p>Further does all mitigation measures proofs successful in impact management.</p>	Upon commencement of activity.

OTHER MITIGATION MEASURES NOT LISTED WITH LISTED ACTIVITIES

- Personnel will need to be trained on health and safety matters in line with the Health and Safety Act for mining and in the handling and remediation of chemical spills, fire and first aid
- Daily checking of oil/diesel leakages before any vehicle is operated
- Waste storage containers shall be covered, tip-proof, weather proof and scavenger proof
- The mine shall ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter
- No burning, on site burning or dumping of waste shall occur
- Access road maintenance throughout the entire project timeframe
- All mine roads will be ripped to loosen the ground for vegetation re-growth for rehabilitation purposes
- A complaints register must be implemented and issues raised must be addressed in a scheduled meeting with all relevant interested and/or affected parties.



1.5 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 boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyers, 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) E.g. <ul style="list-style-type: none"> • Modify through alternative method • Control through noise control • Controlling through management and monitoring • Remedy through rehabilitation. 	STANDARDS TO BE ACHIEVED (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives etc.)
Drilling	Vegetation	Loss	Construction	Vegetation clearing control	Impact minimized
	Geological	Loss	Operational	Rehabilitation	Impact minimized
	Topographic	Change		-	-
	Soil	Pollution		Immediate rehabilitation	Impact remedied
	Grazing field	Loss		Rehabilitation	Impact remedied
	Vegetation	Los / disturbance		Vegetation clearing control	Impact minimized
	Water table	Depressed		Restriction to roads	Impact avoided
	Vegetation	Depressed		-	-
	Vegetation	Invader plants		Remedy through removal	Impact managed
	Fauna	Migration		Noise level control	Impact minimized
	Water quality	Loss		-	-
	Noise	Elevated levels		Operations during office hours	Impact minimized
Air quality	Degradation		Dampening of roads Speed restriction	Impact managed Impact minimized	



	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
	Waste	Disposal	Decommissioning	Management standards	Impact avoided
	Vegetation	Re-growth		Regular inspection	Rehabilitation standards
	Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards
	Safety risks	Waste Disposal		Closure standards	Impact remedied
Ablution	Vegetation	Loss	Construction	Vegetation clearing control	Impact minimized
	Geological	Loss	Operational	-	-
	Topographic	Change		Rehabilitation	Impact remedied
	Soil	Pollution		Immediate rehabilitation	Impact remedied
				Regular inspection	Impact minimized
				Regular maintenance	Impact avoided
	Grazing field	Loss		Rehabilitation	Impact remedied
	Vegetation	Los / disturbance		Vegetation clearing control	Impact minimized
				Restriction to roads	Impact avoided
	Water table	Depressed		-	-
	Vegetation	Invader plants		Remedy through removal	Impact managed
	Fauna	Migration		-	-
	Water quality	Loss		Waste management	Impact managed
	Noise	Elevated levels		-	-
	Air quality	Degradation		Dampening of cleared area	Impact managed
				Speed restriction	Impact minimized
	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
	Waste	Disposal	Decommissioning	Management standards	Impact avoided
Vegetation	Re-growth		Regular inspection	Rehabilitation standards	
Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards	
Safety risks	Waste Disposal		Closure standards	Impact remedied	



Vehicle parking	Vegetation	Loss	Construction	Vegetation clearing control	Impact minimized
	Geological	Loss	Operational	-	-
	Topographic	Change		Rehabilitation	Impact remedied
	Soil	Pollution		Immediate rehabilitation	Impact remedied
				Regular inspection	Impact minimized
	Grazing field	Loss		Rehabilitation	Impact remedied
	Vegetation	Los / disturbance		Vegetation clearing control	Impact minimized
				Restriction to roads	Impact avoided
	Water table	Depressed		-	-
	Vegetation	Invader plants		Remedy through removal	Impact managed
	Fauna	Migration		-	-
	Water quality	Loss		-	-
	Noise	Elevated levels		Operations during office hours	Impact minimized
	Air quality	Degradation		Dampening of exposed area	Impact managed
				Speed restriction	Impact minimized
	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
Visual impact	Scenery loss		-	-	
Waste	Disposal	Decommissioning	Management standards	Impact avoided	
Vegetation	Re-growth		Regular inspection	Rehabilitation standards	
Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards	
Safety risks	Waste Disposal		Management standards	Impact remedied	
Chemical storing	Vegetation	Loss	-	-	-
	Geological	Loss	Operational	-	-
	Topographic	Change		-	-
	Soil	Pollution		Immediate rehabilitation	Impact remedied
	Grazing field	Loss		-	-
	Vegetation	Los / disturbance		-	-
	Water table	Depressed		-	-
	Vegetation	Invader plants		-	-



	Fauna	Migration		-	-
	Water quality	Loss		-	-
	Noise	Elevated levels		-	-
	Air quality	Degradation		-	-
	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
	Waste	Disposal	Decommissioning	Management standards	Impact avoided
	Vegetation	Re-growth		Regular inspection	Rehabilitation standards
	Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards
	Safety risks	Waste Disposal		Closure standards	Impact remedied
Diesel storage	Vegetation	Loss	Construction	-	-
	Geological	Loss	Operational	-	-
	Topographic	Change		-	-
	Soil	Pollution		Immediate rehabilitation	Impact remedied
				Regular inspection	Impact minimized
	Grazing field	Loss		-	-
	Vegetation	Los / disturbance		-	-
	Water table	Depressed		-	-
	Vegetation	Invader plants		-	-
	Fauna	Migration		-	-
	Water quality	Loss		-	-
	Noise	Elevated levels		-	-
	Air quality	Degradation		-	-
	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
		Waste	Disposal	Decommissioning	Management standards
	Vegetation	Re-growth		Regular inspection	Rehabilitation standards



	Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards
	Safety risks	Waste Disposal		Closure standards	Impact remedied
Domestic waste	Vegetation	Loss	Construction	-	-
	Geological	Loss	Operational	-	-
	Topographic	Change		-	-
	Soil	Pollution		Immediate clean-up	Impact remedied
	Grazing field	Loss		-	-
	Vegetation	Los / disturbance		-	-
	Water table	Depressed		-	-
	Vegetation	Invader plants		-	-
	Fauna	Migration		-	-
	Water quality	Loss		-	-
	Noise	Elevated levels		-	-
	Air quality	Degradation		-	-
	Archaeological items	Loss		-	-
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
	Domestic waste	Waste	Disposal	Decommissioning	Management standards
Vegetation		Re-growth		Regular inspection	Rehabilitation standards
Area rehabilitation		Re-Vegetation	After closure	Regular inspection	Rehabilitation standards
Safety risks		Waste Disposal		Management standards	Impact remedied
Prospecting and access roads	Vegetation	Loss	Construction	Vegetation clearing control	Impact minimized
				Restriction to roads	Impact avoided
	Geological	Loss	Operational	-	-
	Topographic	Change		Rehabilitation	Impact remedied
	Soil	Pollution		Immediate rehabilitation	Impact remedied
				Regular inspection	Impact minimized
Grazing field	Loss	Rehabilitation		Impact remedied	
Vegetation	Los / disturbance	Vegetation clearing control	Impact minimized		
		Restriction to roads	Impact avoided		



	Water table	Depressed		-	-
	Vegetation	Invader plants		Remedy through removal	Impact managed
	Fauna	Migration		-	-
	Water quality	Loss		-	-
	Noise	Elevated levels		Operations during office hours	Impact minimized
	Air quality	Degradation		Dampening of mine roads	Impact managed
				Speed restriction	Impact minimized
	Archaeological items	Loss		Avoid sites of significance	Impact avoided
	Sensitive landscape	Destruction		Avoid significant sensitive sites	Impact avoided
	Visual impact	Scenery loss		-	-
	Waste	Disposal	Decommissioning	Management standards	Impact avoided
	Vegetation	Re-growth		Regular inspection	Rehabilitation standards
	Area rehabilitation	Re-Vegetation	After closure	Regular inspection	Rehabilitation standards
	Safety risks	Waste Disposal		Management standards	Impact remedied



1.6 Impact Management Actions

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplate in paragraphs (1.3) and (1.4) will be achieved)

ACTIVITY Whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyers, etc... etc.... etc.)..	POTENTIAL IMPACT (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc... etc... etc.	MITIGATION TYPE (modify, remedy, control, or stop) Through (e.g. noise control measures, storm water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. <ul style="list-style-type: none"> • Modify through alternative method • Control through noise control • Controlling through management and monitoring • Remedy through rehabilitation. 	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard to Rehabilitation therefore state either:- Upon cessation of the individual activity Or Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations in 2.11.6 read with 2.12.and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Drilling	Vegetation loss	Vegetation clearing control	Upon commencement of activity. Integrated into the activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. vegetation clearing should be co-ordinated with activities and only the necessary area cleared.



	Geological change	Rehabilitation	Integrated into activity Decommissioning of activity	This impact cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated through-out this document. E.g. rehabilitation of each hole with the backfilling of drill chips in their correct order.
	Topographical change	-	-	-
	Soil pollution	Immediate Rehabilitation	Integrated into the activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 if this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. immediate cleanup should any spillage occur
	Grazing loss	Rehabilitation	Integrated into activity Decommissioning of activity During closure of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Rehabilitation of unused areas
	Vegetation disturbance	Vegetation clearing control Traffic restriction to roads	Upon commencement of activity. Integrated into the activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Restriction to mine roads and no off-road driving



	Water table level	-	-	-
	Invader plants	Regular removal	Integrated into the activity Decommissioning of activity During closure of activity	The establishment of invader plant species can be avoided. The strict adherence to the mitigation measures as stipulated in Section B1.4 of this document will result in positive results. E.g. Removal of invader plant species on a regular basis
	Fauna migration	Noise level control	Integrated into activity	This impact can only be minimized and the adherence to the noise control measures as stipulated in Section B1.4 of this document needs to be implemented.
	Water quality loss	-	-	-
	Noise disturbance	Operation during office hours	Upon commencement of activity. Integrated into the activity	This impact can only be minimized and the adherence to the noise control measures as stipulated in Section B1.4 of this document needs to be implemented. E.g. Restrict operations to standard business hours
	Air quality degradation	Dampening of cleared area Speed restriction	Integrated into activity	The degradation of air quality must be minimized as far as possible. Implementation and adherence to the mitigation measures as stipulated in Section B1.4 needs to be done. E.g. Watering of the area with water.



	Archaeological items	Avoid sites of significance	Before commencement of activity	Impact must be avoided at all times. Section B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance.
	Sensitive landscape	Avoid significant sensitive sites	Upon commencement of activity Integrated into activity	The degradation of any sensitive landscapes must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done. E.g. avoidance of open surface water bodies
	Visual impact	-	-	-
	Waste disposal	Management standards	Integrated into the activity Decommissioning of activity	Waste management procedures, as stipulated in Section B1.4, will aid in the avoidance and/or remediation when implemented and adhered to. E.g. Littering of any product will be seen as an offence and not tolerated.
	Re-vegetation	Regular inspections	Decommissioning of activity During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.



	Area rehabilitation	Regular inspections	Integrated into activity Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated and Section A15.1.2 and B1.4 of this document area measures that when implemented will optimize this activity. E.g. rehabilitation of an area where no activity takes place.
Ablution	Vegetation loss	Vegetation clearing control	Upon commencement of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. vegetation clearing should be co-ordinated with activities and only the necessary area cleared.
	Geological change	-	-	-
	Topographic change	Rehabilitation	Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Rehabilitation of area during decommissioning



	Soil pollution	Immediate Rehabilitation Regular inspection Regular maintenance	Integrated into activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. regular inspection of the chemical toilets against leakage.
	Grazing loss	Rehabilitation	Integrated into activity Decommissioning of activity During closure of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. rehabilitation of unused areas
	Vegetation disturbance	Vegetation clearing control Restriction to roads	Upon commencement of activity. Integrated into activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Restriction to mine roads and no off-road driving
	Water table level	-	-	-
	Invader plants	Regular removal	Integrated into activity Decommissioning of activity During closure of activity	The establishment of invader plant species can be avoided. The strict adherence to the mitigation measures as stipulated in Section B1.4 of this document will result in positive results. E.g. Removal of invader plant species on a regular basis



	Fauna migration	-	-	-
	Water quality loss	Waste management	Integrated into activity Decommissioning of activity	Impact must be avoided at all times. Section B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance
	Noise disturbance	-	-	-
	Air quality degradation	Dampening of exposed areas Speed restriction	Integrated into activity	The degradation of air quality must be minimized as far as possible. Implementation and adherence to the mitigation measures as stipulated in Section B1.4 needs to be done. E.g. Watering of the areas with fresh/recycled water.
	Archaeological items	Avoid sites of significance	Before commencement of activity	Impact must be avoided at all times. Section A8.8 and B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance.
	Sensitive landscape	Avoid significant sensitive sites	Before commencement of activity	The degradation of any sensitive landscape must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done. E.g. avoidance of open surface water bodies
	Visual impact	-	-	-



	Waste disposal	Management standards	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulated in Section B1.4, will aid in the avoidance and/or remediation when implemented and adhered to. E.g. regular removal of waste material by contracting agency
	Re-vegetation	Regular inspections	Decommissioning of activity.	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.
	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigations measures stipulated in Section A15.1.2 and B1.4 of this document are measures that when implemented will optimize this activity. E.g. ripped and rehabilitate compacted area after removal of structure before closure of activity.



Vehicle parking	Vegetation loss	Vegetation clearing control	Upon commencement of activity.	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. vegetation clearing should be co-ordinated with activities and only the necessary area cleared.
	Geological change	-	-	-
	Topographic change	Rehabilitation	Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Rehabilitation of area during decommissioning
	Soil pollution	Immediate Rehabilitation Regular inspection	Integrated into activity Decommissioning of activity.	Impact must be avoided as far as possible or remediated immediately. Section B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. Installation of drip pans
	Grazing loss	Rehabilitation	Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. rehabilitation of cleared areas



	Vegetation disturbance	Restriction to area	Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Restriction to mine roads and no off-road driving
	Water table level	-	-	-
	Invader plants	Regular removal	Integrated into activity Decommissioning of activity.	The establishment of invader plant species can be avoided. The strict adherence to the mitigation measures as stipulated in Section B1.4 of this document will result in positive results. E.g. Removal of invader plant species on a regular basis
	Fauna migration	-	-	-
	Water quality loss	-	-	-
	Noise disturbance	Operation only during office hours	Integrated into activity	This impact can only be minimized and adherence to the noise control measures as stipulated in Section B1.4 of this document needs to be implemented. E.g. restrict operations to standards business hours.
	Air quality degradation	Dampening of exposed areas Speed restriction	Integrated into activity	The degradation of air quality must be minimized as far as possible. Implementation and adherence to the mitigation measures as stipulated in Section B1.4 needs to be done. E.g. watering of the area with fresh/recycled water.



	Archaeological items	Avoid sites of significance	Before commencement of activity	Impact must be avoided at all times. Section A8.8 and B1.4 and of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance.
	Sensitive landscape	Avoid significant sensitive sites	Before commencement of activity	The degradation of any sensitive landscape must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done. E.g. avoidance of open surface water bodies.
	Visual impact	-	-	-
	Waste disposal	Management standards	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulated in Section B1.4, will aid in the avoidance and/or remediation when implemented and adhered to. E.g. regular removal of waste material by contracting agency
	Re-vegetation	Regular inspections	Decommissioning of activity. During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.



	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated in Section A15.1.2 and B1.4 of this document are measures that when implemented will optimize this activity. E.g. rip and rehabilitated compacted areas during the decommissioning of the activity.
Chemical storing	Vegetation loss	-	-	-
	Geological change	-	-	-
	Topographic change	-	-	-
	Soil pollution	Immediate rehabilitation	Integrated into activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 if this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. immediate cleanup should any spillage occur
	Grazing loss	-	-	-
	Vegetation disturbance	-	-	-
	Water table level	-	-	-
	Invader plant	-	-	-
	Fauna migration	-	-	-
	Water quality loss	-	-	-
Noise disturbance	-	-	-	
Air quality degradation	-	-	-	
Archaeological items	-	-	-	



	Sensitive landscape	Avoid significant sensitive sites	Before commencement of activity	The degradation of any sensitive landscape must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done. E.g. avoidance of open surface water bodies.
	Visual impact	-	-	-
	Waste disposal	Rehabilitation	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulated in Section B1.4 will aid in the avoidance and/or remediation when implemented and adhered to. E.g. waste containers will be removed by contractual companies once 80% full
	Re-vegetation	Regular inspections	Decommissioning of activity. During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.
	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated in Section A15.1.2 and B1.4 of this document are measures that when implemented will optimize this activity. E.g. ripped and rehabilitated compacted areas after structures are removed



Diesel storage	Vegetation loss	-	-	-
	Geological loss	-	-	-
	Topographic change	Rehabilitation	Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Rehabilitation of area during decommissioning
	Soil pollution	Immediate Rehabilitation Regular inspections	Integrated into activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. installation of a leak-proof bunker bay for the diesel tank
	Grazing loss	-	-	-
	Vegetation disturbance	-	-	-
	Water table level	-	-	-
	Invader plants	-	-	-
	Fauna migration	-	-	-
	Water quality loss	-	-	-
Noise disturbance	-	-	-	
Air quality degradation	-	-	-	
Archaeological items	-	-	-	



	Sensitive landscape	Avoid significant sensitive sites	Before commencement of activity	The degradation of any sensitive landscapes must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done e.g. avoidance of open surface water bodies
	Visual impact	-	-	-
	Waste disposal	Management standards	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulated in Section B1.4, will aid in the avoidance and/or remediation when implemented and adhered to. E.g. littering of any product will be seen as an offence and not tolerated.
	Re-vegetation	Regular inspections	Decommissioning of activity During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.
	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated in Section A5.1.2 and B1.4 of this document are measures that when implemented will optimize this activity. E.g. rip and rehabilitated the area during decommissioning before closure of activity



Domestic waste	Vegetation loss	-	-	-
	Geological change	-	-	-
	Topographic change	-	-	-
	Soil pollution	Immediate clean-up	Integrated into activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 if this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. immediate cleanup should any litter be seen
	Grazing loss	-	-	-
	Vegetation disturbance	-	-	-
	Water table level	-	-	-
	Invader plants	-	-	-
	Fauna migration	-	-	-
	Water quality loss	-	-	-
	Noise disturbance	-	-	-
	Air quality degradation	-	-	-
	Archaeological items	-	-	-
	Sensitive landscape	-	-	-
Visual impact	-	-	-	
Waste disposal	Management standards	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulating in Section B1.4 and A4.2 will aid in the avoidance and/or remediation when implemented and adhered to. E.g. no onsite burring or burning may occur and waste must be discarded as the municipal dump site.	



	Re-vegetation	Regular inspections	Decommissioning of activity During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section B1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.
	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated in Section A15.1.2 and B1.4 of this document area measures that when implemented will optimize this activity. E.g. rehabilitation of an area where no activity takes place.
Prospecting and access roads	Vegetation loss	Vegetation clearing control	Upon commencement of activity. Integrated into activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section 1.4 of this document. E.g. amount of mine roads needs to be kept to a minimum.
	Geological change	-	-	-
	Topographic change	Rehabilitation	Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and the strict adherence to the rehabilitation measures as stipulated in Section A15.1.2 of this document. E.g. rip and rehabilitated unnecessary mine roads.



	Soil pollution	Immediate Rehabilitation Regular inspection	Integrated into activity Decommissioning of activity	Impact must be avoided as far as possible or remediated immediately. Section B1.4 if this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance and / or remediation. E.g. immediate cleanup should any spillage occur
	Grazing loss	Vegetation clearing control Restriction to roads	Upon commencement of activity Integrated into activity Decommissioning of activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Only the necessary area cleared.
	Vegetation disturbance	Vegetation clearing control Restriction to roads	Upon commencement of activity. Integrated into activity	The impact that may occur cannot be avoided, but minimized through the implementation of and strict adherence to the mitigation measures as stipulated in Section B1.4 of this document. E.g. Restriction to mine roads and no off-road driving
	Water table level	-	-	-
	Invader plants	Regular removal	Integrated into activity. Decommissioning of activity During closure of activity	The establishment of invader plant species can be avoided. The strict adherence to the mitigation measures as stipulated in Section B1.4 of this document will result in positive results. E.g. Removal of invader plant species on a regular basis



	Fauna migration	-	-	-
	Water quality loss	-	-	-
	Noise disturbance	Operations only during office hours	Integrated into activity	This impact can only be minimized and the adherence to the noise control measures as stipulated in Section B1.4 of this document needs to be implemented. E.g. restrict operations to standard business hours
	Air quality loss	Dampening of mine roads Speed and road restriction	Integrated into activity	The degradation of air quality must be minimized as far as possible. Implementation and adherence to the mitigation measures as stipulated in Section B1.4 needs to be done. E.g. Watering of the area with fresh/recycled water.
	Archaeological items	Avoid sites of significance	Before commencement of activity Integrated into activity	Impact must be avoided at all times. Section A8.8 and B1.4 of this document needs to be implemented and strictly adhered to in order to achieve successful impact avoidance.
	Sensitive landscape	Avoid significant sensitive sites	Before commencement of activity	The degradation of any sensitive landscapes must be minimized as far as possible. Implementation and adherence to Section A8.8 and B1.4 needs to be done. E.g. avoidance of open surface water bodies
	Visual impact	-	-	-



	Waste disposal	Management standards	Integrated into activity Decommissioning of activity	Waste management procedures, as stipulated in Section 1.4, will aid in the avoidance and/or remediation when implemented and adhered to. E.g. lettering of any product will be seen as an offence and not tolerated.
	Re-vegetation	Regular inspections	Integrated into activity Decommissioning of activity During closure of activity	Re-vegetation of a disturbed area is crucial. Within the mitigation measures stipulated in Section 1.4 of this document are measures that when implemented will optimize this activity. E.g. watering of areas where re-vegetation needs to take place.
	Area rehabilitation	Regular inspections	Decommissioning of activity During closure of activity	Rehabilitation of a disturbed area is crucial. Within the mitigation measures stipulated in Section A15.1.2 and B1.4 of this document are measures that when implemented will optimize this activity. E.g. rehabilitation of an area where no activity takes place.



1.7 Financial Provision

1.7.1 Determination of the amount of Financial Provision

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

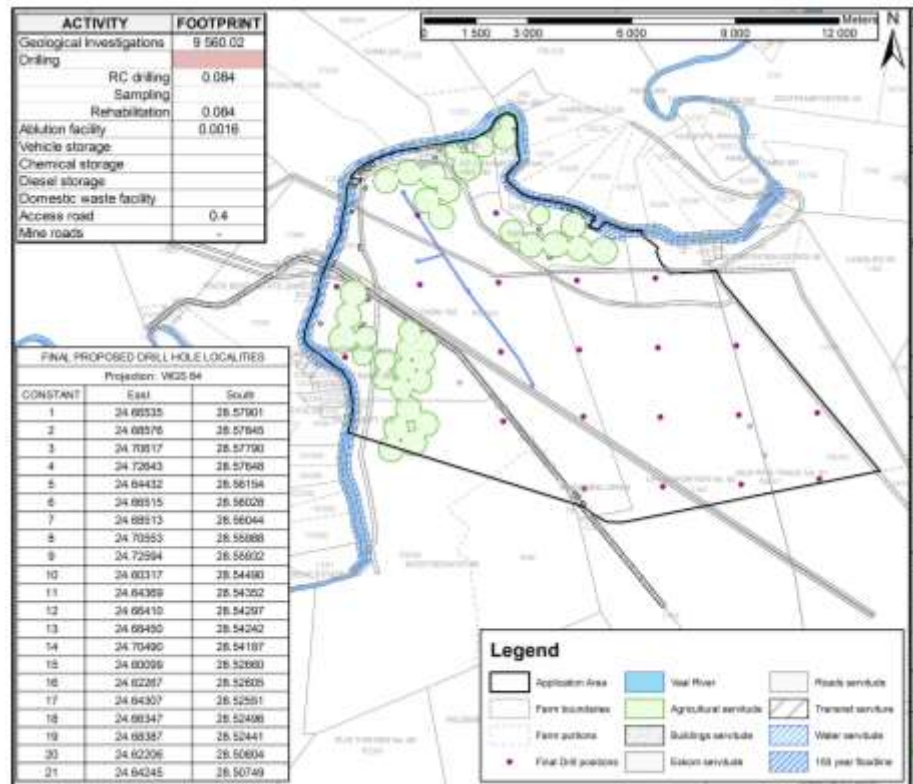
The main closure objective is to create a post-operational environment through extensive rehabilitation to such an extent that it closely represents the original undisturbed environment.

The closure objective could not be aligned with the baseline environment as the project area has disturbed sites caused some damage to the environment that needs to be rectified.

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

The environmental objectives in relation to the closure has not been consulted with the landowner and will be done during the final stages of consultation and Environmental Management Programme consultation. The land after prospecting will most probably be the continuation of natural grazing land for livestock and game farming activities.

1.7.1.3 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 is planned to occur in the following manner:
 - All drill holes will be rehabilitated before commencing to the following
 - Under normal circumstances will the drill chips extracted will be backfilled in a reverse sequence as being drilled out. Should a groundwater body be encountered / intersected the casing and sealing of the hole and the clear marking thereof.
 - The rehabilitated area will be continuously inspected against invader plant species and to monitor the indigenous vegetation regrowth
- During the decommissioning of the project the following will be done to ensure a successful closure
 - All infrastructure will be removed from the area and the compacted ground ripped and rehabilitated.
 - Prospecting roads will also be ripped and rehabilitated.
 - All rehabilitated areas will be monitored and regularly inspected against invader species as well as monitoring the indigenous vegetation regrowth rate.

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

Throughout the whole document during the environmental assessment and environmental management all possible management, remediation and mitigation measures were planned toward the rehabilitation of the environment to result in an outcome compatible with the closure objectives.



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

The calculated total amount necessary for the financial provision to manage and rehabilitate the environment is **R 77 354.20**

CALCULATION OF THE QUANTUM

Applicant: **DROOGFONTEIN MINING (PTY) LTD** Location: **DROOGFONTEIN 62**
Date: **Apr-17**

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		R 14.59	1	1	R -
2 (A)	Demolition of steel buildings and structures	m2		R 203.28	1	1	R -
2(B)	Demolition of reinforced concrete buildings and structures	m2		R 299.57	1	1	R -
3	Rehabilitation of access roads	m2	4 000	R 36.38	1	0.25	R 36 380.00
4 (A)	Demolition and rehabilitation of electrified railway lines	m		R 353.06	1	1	R -
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m		R 192.58	1	1	R -
5	Demolition of housing and/or administration facilities	m2		R 406.55	1	1	R -
6	Opencast rehabilitation including final voids and ramps	ha		R 206 914.18	1	1	R -
7	Sealing of shafts adts and inclines	m3		R 109.13	1	1	R -
8 (A)	Rehabilitation of overburden and spoils	ha	0.084	R 142 079.64	1	1	R 11 934.69
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha		R 176 957.63	1	1	R -
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha		R 513 968.83	1	1	R -
9	Rehabilitation of subsided areas	ha	0.0016	R 18 970.30	1	1	R 30.35
10	General surface rehabilitation	ha		R 112 551.04	1	1	R -
11	River diversions	ha		R 112 551.04	1	1	R -
12	Fencing	m		R 128.39	1	1	R -
13	Water management	ha		R 42 795.07	1	1	R -
14	2 to 3 years of maintenance and aftercare	ha	0.4856	R 14 978.28	1	1	R 7 273.45
15 (A)	Specialist study	Sum				1	R -
15 (B)	Specialist study	Sum				1	R -
Sub Total 1							R 55 618.50
1	Preliminary and General	R	6 674.22	weighting factor 2			R 6 674.22
2	Contingencies	R		1		5 561.85	R 5 561.85
Subtotal 2							R 67 854.56
VAT (14%)							R 9 499.64
Grand Total							R 77 354.20

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

The applicant will update the existing guarantee to the total amount of **R 77 354.20** on the acceptance of this document and request for update from the Department of Mineral Resources.



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

- 1.8.1 Monitoring of Impact Management Actions
- 1.8.2 Monitoring and reporting frequency
- 1.8.3 Responsible persons
- 1.8.4 Time period for implementing impact management actions
- 1.8.5 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.
Drilling	Vegetation loss	Extent of vegetation loss	Environmental Manager	Continuous
		Vegetation re-establishment rate	Environmental Manager	Monthly
		Presence of invader species	Environmental Manager	Monthly
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	Noise monitoring specialist	Monthly
	Air quality loss	Monitoring of dust fall	Air monitoring specialist	Monthly
	Waste management	Monitoring waste management	Environmental specialist	Monthly
Ablution	Vegetation loss	Extent of vegetation loss	Environmental Manager	Yearly
		Vegetation re-establishment rate	Environmental Manager	Yearly
		Presence of invader species	Environmental Manager	Yearly
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	Noise monitoring specialist	Monthly
	Air quality loss	Monitoring of dust fall	Air monitoring specialist	Monthly
	Waste management	Monitoring waste management	Environmental specialist	Monthly



Vehicle parking	Vegetation loss	Extent of vegetation loss	Environmental Manager	Yearly
		Vegetation re-establishment rate	Environmental Manager	Yearly
		Presence of invader species	Environmental Manager	Yearly
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	Noise monitoring specialist	Monthly
	Air quality loss	Monitoring of dust fall	Air monitoring specialist	Monthly
	Waste management	Monitoring waste management	Environmental specialist	Monthly
Chemical storing	Vegetation loss	Extent of vegetation loss	-	-
		Vegetation re-establishment rate	-	-
		Presence of invader species	-	-
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	-	-
	Air quality loss	Monitoring of dust fall	-	-
	Waste management	Monitoring waste management	Environmental specialist	Continuous
Diesel storage	Vegetation loss	Extent of vegetation loss	-	-
		Vegetation re-establishment rate	-	-
		Presence of invader species	-	-
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	-	-
	Air quality loss	Monitoring of dust fall	-	-
	Waste management	Monitoring waste management	-	-
Domestic Waste	Vegetation loss	Extent of vegetation loss	-	-
		Vegetation re-establishment rate	-	-
		Presence of invader species	-	-
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	-	-
	Air quality loss	Monitoring of dust fall	-	-
	Waste management	Monitoring waste management	Environmental specialist	Monthly



Prospecting and access roads	Vegetation loss	Extent of vegetation loss	Environmental Manager	Monthly
		Vegetation re-establishment rate	Environmental Manager	Monthly
		Presence of invader species	Environmental Manager	Monthly
	Soil pollution	Visible spills on ground	Environmental Manager	Continuous
	Noise disturbance	Monitoring of noise levels	Noise monitoring specialist	Monthly
	Air quality loss	Monitoring of dust fall	Air monitoring specialist	Monthly
	Waste management	Monitoring waste management	Environmental specialist	Monthly



1.9 Indicate the frequency of the submission of the performance assessment / environmental audit report

The submission of the performance assessment / environmental audit reports will be done on an annual basis of on decommissioning and closure of the project as legislatively required.

1.10 Environmental awareness plan

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

Initial employee training will be done on employment of personnel, handling all issues related to General and Conservational Environmental Awareness. Follow up training workshops will be held on a monthly and when expansion and/or implementation of new equipment are introduced to the mine.

Motivation:

- Inspections will be held on a regular basis against the do's and don'ts listed within this document. Immediate penalties can be given to offenders.

- On the discretion of the mine, motivation can be implemented

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

- Everyday Awareness
 - Littering – As wild species still roam the area from time to time, the accidental ingestion of litter is a possibility and highly dangerous as it can and will kill the animal involved. Even when not ingested smaller mammals are always at risk in getting tangled with plastics, rubber etc., this can ensure numerous suffering and eventually death of the animal.

Plastics, rubber, some types of paper and glass are not biodegradable and release poisons into the environment when exposed to harsh weather conditions. Even when buried, they tend to resist weathering. These poisons released into the environment can be harmful to our plant species, but even if it is not harmful to the plant itself the plant tend to store all absorbed substances in their fruit, roots and root tuber and the last mentioned may be utilized by humans or animals leading to the consumption for harmful chemicals that may pose illness or even death.

No glass, paper, plastics and cigarette buds are to be littered during the duration of the mining operations. Garbage containers will be installed and maintained to prevent litter pollution.



- Open fires – The Northern Cape is generally known as a semi-arid region with less than moderate rainfall per annum. It is however by law prohibited to start open fires.

Due to the hot and dry conditions of the region is it very susceptible for runaway fires. No open fires will be tolerated during the mining period and as this is regarded by law as a criminal offence related penalties can be issued. The littering of self-ignitable substances or objects (e.g. matches) are also not allowed as it will always pose a danger regarding field fires, and if such happen the person responsible to the littering will be charged with arson and related penalties can be issued.

- Sanitation and Personal Hygiene

Sanitation and personal hygiene is a very important subject for environmental and social health. Improper sanitation habits can lead to intestinal parasite infestations within humans and animals, endangering the overall health of the recipients. Unfortunately these infestations do not stay only within the host and will spread rapidly throughout a community or herd.

Human viruses like Tubercle bacillus (TB) and Herpes simplex, both are very contagious, spread vigorously throughout a community not handling good hygiene habits/practices.

- ✓ Strict use and cleanliness of the toilette facilities will be enforced during the entire life of mine.
 - ✓ Employees will further be advised and educated on the importance of consuming clean and fresh water. Several sites will be identified and water tanks will be erected for safe human water consumption.
- Fauna – Wild animals roaming within the area is a common sight from time to time, but reptiles and smaller rodents permanently inhabit the area. Wild animals are and will always be very dangerous.

Mine employees will be advised to stay clear from any wild animal or reptile and not to try and provoke them in any manner. They will further be educated on dangerous and poisonous reptiles and the actions to be taken when such reptiles are encountered.



- Flora
 - The vegetation of the Northern Cape regions is very fragile and easily endangered by pioneer species invading the Northern Cape at an alarming rate and due to the slow growth rate of our indigenous species.
 - ✓ No indigenous shrubs or trees will be unnecessarily uprooted and utilized for firewood, the employees will rather be advised to utilize pioneer species and be educated on which plant species are indigenous, endangered or pioneer.
 - ✓ If any pioneer species are observed the reporting thereof to the rehabilitation site manager will be highly recommended.
 - ✓ Penalties will be given to individuals that damage any endangered species e.g. cutting branches/bark from a Camel/Grey Camel tree.
- Work Related Awareness
 - When handling related chemicals make sure of non-spillage procedures.
 - Related waste/scrap must be disposed off in the appropriate manner.
 - Plastic and domestic wastes removed from the vehicles from the vehicles need to be discarded in the appropriate manner
 - If any oil or diesel leakage is observed, immediate communication and repair of vehicle needs to be done
 - Daily checking for oil/diesel leakages before vehicle is operated
 - Drip pans must be installed during “off-time”
 - Immediate communication when faults are observed.
 - Strict adherence to the mine roads and no off-road driving to prevent trampling of vegetation
 - Driving speed must be complied with. Beware of animals, workers and other vehicles.
 - Common fence wires may not be left scattered as these rust over time – any cuts to animals and humans (sepsis and tetanus risk) can lead to suffering or great discomfort.
 - No metals may be left scattered as it poses the same threat as described directly above



- All personnel handling chemical relating products must follow handling procedures – any spillage contaminating the ground will pose risk to environmental degradation
- All chemicals used must be put to storage afterwards – containers may leak and environmental contamination occurs.

1.11 Specific information required by the Competent Authority

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

- Annually renewal of financial provision
- Annual Monitoring and Compliance Report
- Annual Progress Report
- Annual Environmental Awareness Training Report

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 the 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.



Signature of the Environmental Assessment Practitioner

Name of Company: **LW Consultants (Pty) Ltd**

Date:

*** END ***

