Draft Basic Assessment Report and Environmental Management Programme

Basic Assessment Report and Environmental Management Programme in the application for a Prospecting Right for Review and Comment

REFERENCE NUMBER: NW 30/5/1/1/2 (11607)PR

DATE: 21 October 2015

Prepared by:

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This Draft Basic Assessment Report and Environmental Management Programme has been prepared for review and comment by all relevant stakeholders.

Comment are to be submitted by no later than the 21st of November 2015 to:

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The following should be noted as it relates to the contents of this report:

- The report is based on a template format issued by the Department of Mineral Resources.
- All relevant template text is in ARIAL text font and any template explanatory notes which was retained is indicated *italic blue text*.
- This report should be regarded as a DRAFT and comment, issues and concerns received will be considered and addressed in the FINAL Basic Assessment Report and Environmental Management Programme.
- Issues raised at the public meeting held on the 15th of October 2015 is included in Table 9. All stakeholder who were present at the meeting are kindly requested to review this to confirm that these are accurate and represents a true reflection of issues and comments made.

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: Finsch Diamond Mine (Pty) Ltd

TEL NO: +27 11 702 6922
FAX NO: + 27 11706 3071
POSTAL ADDRESS: Post Office Box 71007, Bryanston, 2021
PHYSICAL ADDRESS: Block 3, Silver Point Office Park, 22 Ealing Crescent, Bryanston
REFERENCE NUMBER: NW 30/5/1/1/2 (11607)PR

FILE REFERENCE NUMBER SAMRAD: N/A

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

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

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

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

2) OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

b) identify the alternatives considered, including the activity, location, and technology alternatives;

c) describe the need and desirability of the proposed alternatives,

d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage , and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:

   i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

   ii) the degree to which these impacts

      a) can be reversed;

      b) may cause irreplaceable loss of resources; and

      c) can be managed, avoided or mitigated;

e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

   i) identify and motivate a preferred site, activity and technology alternative;

   ii) identify suitable measures to manage, avoid or mitigate identified impacts; and

   iii) identify residual risks that need to be managed and monitored.

Contents

PART A

SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

1) Contact Person and correspondence address

a) Details of -

i) Details of the EAP

Name of the Practitioner: Lizelle Prosch

Tel No: 082 802 8024

Fax No: 086 718 1695

E-mail address: lizelle@proschconsulting.co.za

ii) Expertise of the EAP

(1) The qualifications of the EAP

(With evidence)

Lizelle has 15 years' experience in providing environmental and sustainability consulting services to clients in all major sectors. She has extensive experience in sustainability and environmental consulting with a specific focus on authorisation processes, the development of management plans, risk determination, international best practice requirements, legal compliance matters, auditing and reporting. She also has extensive experience in undertaking Equator Principle, IFC compliance assessments as well as due diligence investigations as part of lender / value assessments. Since 2010, her focus has been on assisting clients to address environmental, social and governance concerns as part of an integrated approach to decision-making and performance management and for a period of 12 months, was appointed as a dedicated advisor to Royal Bafokeng Holdings to manage issues related to E (Environmental), S(Social) and G(Governance) matters, develop their Sustainability Strategy and facilitated the development and submission of their UNPRI and UNGC progress reports. In the last two years she has been providing consulting services to other large clients such as, Petra Diamonds, Marsh (Pty) Ltd, Universal Coal, AECOM, Illovo Sugar and EnviroServ.

Lizelle has a degree in Landscape Architecture from the University of Pretoria and has completed various courses in business management at the Gordon Institute of Business Science.

Antony Goslar (Goslar Environmental) has been appointed as a consultant to the project and assisted in the development of the Basic Assessment Report and Stakeholder engagement processes.

More detailed company profiles and CVs are provided in ***Addendum A***.

(2) Summary of the EAP's past experience

(In carrying out the Environmental Impact Assessment Procedures)

Kindly refer to ***Addendum A*** for a detailed list of past experience in carrying out environmental impact assessment.

b) Location of the overall Activity.

Table 1: Location of overall activity

Farm Name:	Brakpan 924 Charl's Puts 929 Portion 0, 1, 2, 3, 4 Dingly Dell 1041 Portion 0, 1 Doornfontein 933 Portion 0, 1, 2, 3, 4, 5 Enkelfontein 916 Portion 0, 1 Farm 1045 Gakwe 918 Portion 2,3,Remainder of Portion 0, 1 Hoekplaats 1040 Portion 0, 1, 2 Kangkatjes 919 Portion 0, 1, 2, 3 Kankaro 921 Portion 0, 1, 2 Kgore 898 Portion 0, 1 Klakkalungklou 926 Portions 0, 4, 5, 6, Remainder of Portion 1, Remainder of Portion 2, Remainder of Portion 3 Klein Vogelstruis Nek 927 Portion 2, 3, 5 Nooitgedacht 920 Portion 0, 4, 5, 6, 7 Nyatsifontein 932 Olienboom 1067 Olyvenfontein 915 Onverwacht 923 Portion 0, 1, 2, 3, 4, 5 Rothesay 914 Portion 0, 1, 2, 3 Schaapbosch Vlakte 917 Portion 0, 1 Schietfontein 906 Portion 0,1 Stillerus 1026 Vaalboschhoek 1046 Portion 1, 2, 3, 4, 5, 6 Vaalbult 922 Portions 0,1,2,3 Vogelstruisnek 925 Portion 0, 2
Application area (Ha)	60 796ha
Magisterial district:	Greater Taung Local Municipality, Dr Ruth Segomotsi Mompati District Municipality, North West Province.
Distance and direction from nearest town	Reivilo is ±700 meters to the north west, Taung is ±23km to the east, Hartswater is ±24km to the east, Warrenton is ±44km to the south east.

21 digit Surveyor General Code for each farm portion	Please refer to ***Table 2*** for the list of farms and associated SG codes.

Table 2: SG Codes for the affected farms

FARM NAME	FARM NO	PORTION	SG CODE
BRAKPAN	924		T0HN000000000092400000
CHARL'S PUTS	929	1	T0HN000000000092900001
		2	T0HN000000000092900002
		3	T0HN000000000092900003
		4	T0HN000000000092900004
		0	T0HN000000000092900000
DINGLY DELL	1041	1	T0HN000000000104100001
		0	T0HN000000000104100000
DOORNFONTEIN	933	1	T0HN000000000093300001
		2	T0HN000000000093300002
		3	T0HN000000000093300003
		4	T0HN000000000093300004
		5	T0HN000000000093300005
		0	T0HN000000000093300000
ENKELFONTEIN	916	1	T0HN000000000091600001
		0	T0HN000000000091600000
FARM 1045	1045		T0HN000000000104500000
GAKWE	918	2	T0HN000000000091800002
		3	T0HN000000000091800002
		RE/1	T0HN000000000091800002
		0	T0HN000000000091800002
HOEKPLAATS	1040	1	T0HN000000000104000001
		2	T0HN000000000104000002

FARM NAME	FARM NO	PORTION	SG CODE
		0	T0HN000000000104000000
KANGKATJES	919	1	T0HN000000000091900001
		2	T0HN000000000091900002
		3	T0HN000000000091900003
		0	T0HN000000000091900000
KANKARO	921	1	T0HN000000000092100001
		2	T0HN000000000092100002
		0	T0HN000000000092100000
KGORE	898	1	T0HN000000000089800001
		0	T0HN000000000089800000
KLAKKALUNGKLOU	926	4	T0HN000000000092600004
		5	T0HN000000000092600005
		6	T0HN000000000092600006
		RE/1	T0HN000000000092600001
		RE/2	T0HN000000000092600002
		RE/3	T0HN000000000092600003
		0	T0HN000000000092600000
KLEIN VOGELSTRUIS NEK	927	2	T0HN000000000092700002
		3	T0HN000000000092700003
		5	T0HN000000000091400004
NOOITGEDACHT	920	4	T0HN000000000092000004
		5	T0HN000000000092000005
		6	T0HN000000000092000006
		7	T0HN000000000092000007
		RE/3	T0HN000000000092000003
NYATSIFONTEIN	932		T0HN000000000093200000
OLIENBOOM	1067		T0HN000000000106700000
OLYVENFONTEIN	915	0	T0HN000000000091500000

FARM NAME	FARM NO	PORTION	SG CODE
ONVERWACHT	923	1	T0HN00000000092300001
		2	T0HN00000000092300002
		3	T0HN00000000092300003
		4	T0HN00000000092300004
		5	T0HN00000000092300005
		0	T0HN00000000092300000
ROTHESAY	914	1	T0HN00000000091400001
		2	T0HN00000000091400002
		3	T0HN00000000091400004
		0	T0HN00000000091400000
SCHAAPBOSCH VLAKTE	917	1	T0HN00000000091700001
		0	T0HN00000000091700000
SCHIETFONTEIN	906	1	T0HN00000000090600001
		0	T0HN00000000090600000
STILLERUS	1026	0	T0HN00000000102600000
VAALBOSCHHOEK	1046	1	T0HN00000000104600001
		2	T0HN00000000104600002
		3	T0HN00000000104600003
		4	T0HN00000000104600004
		5	T0HN00000000104600005
		6	T0HN00000000104600006
VAALBULT	922	1	T0HN00000000092200001
		2	T0HN00000000092200002
		3	T0HN00000000092200003
		0	T0HN00000000092200000
VOGELSTRUISNEK	925	2	T0HN00000000092500002
		0	T0HN00000000092500000

c) Locality map

Three site locality maps have been provided illustrating the site with the coordinates and applicable farms portions in ***Figure 1***, nearby settlements in ***Figure 2***, and municipalities in ***Figure 3***.

The site is located in the Greater Taung Local Municipality, Dr Ruth Segomotsi Mompati District Municipality, North West Province. The site's southern boundary lies on the provincial boundary with the Northern Cape however none of the site is in the Northern Cape.

The closest town is Reivilo, approximately 700m north of the western section of the site. The closest large town is Taung approximately 23km east of the site.

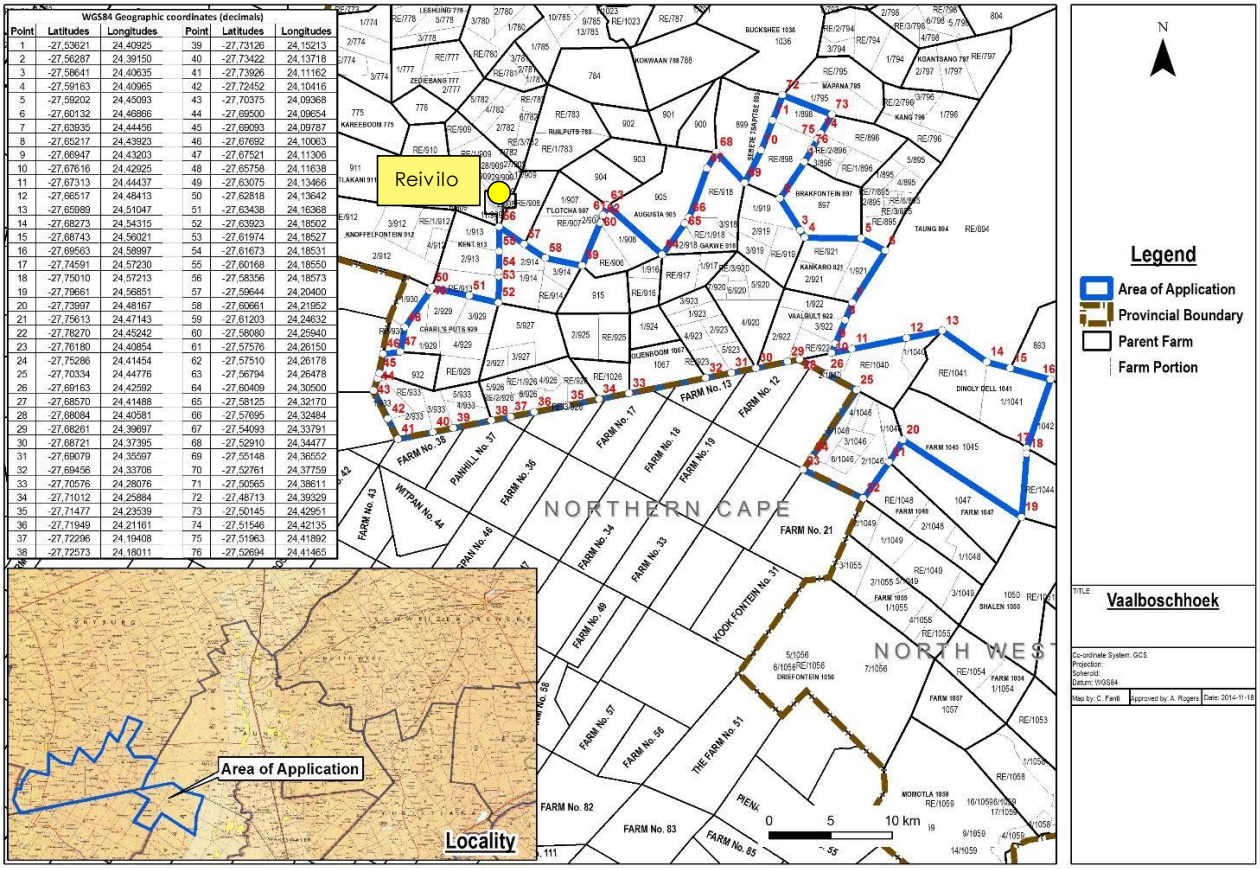


Figure 1: Site locality with farm portion (kindly refer to Addendum B for larger scale maps)

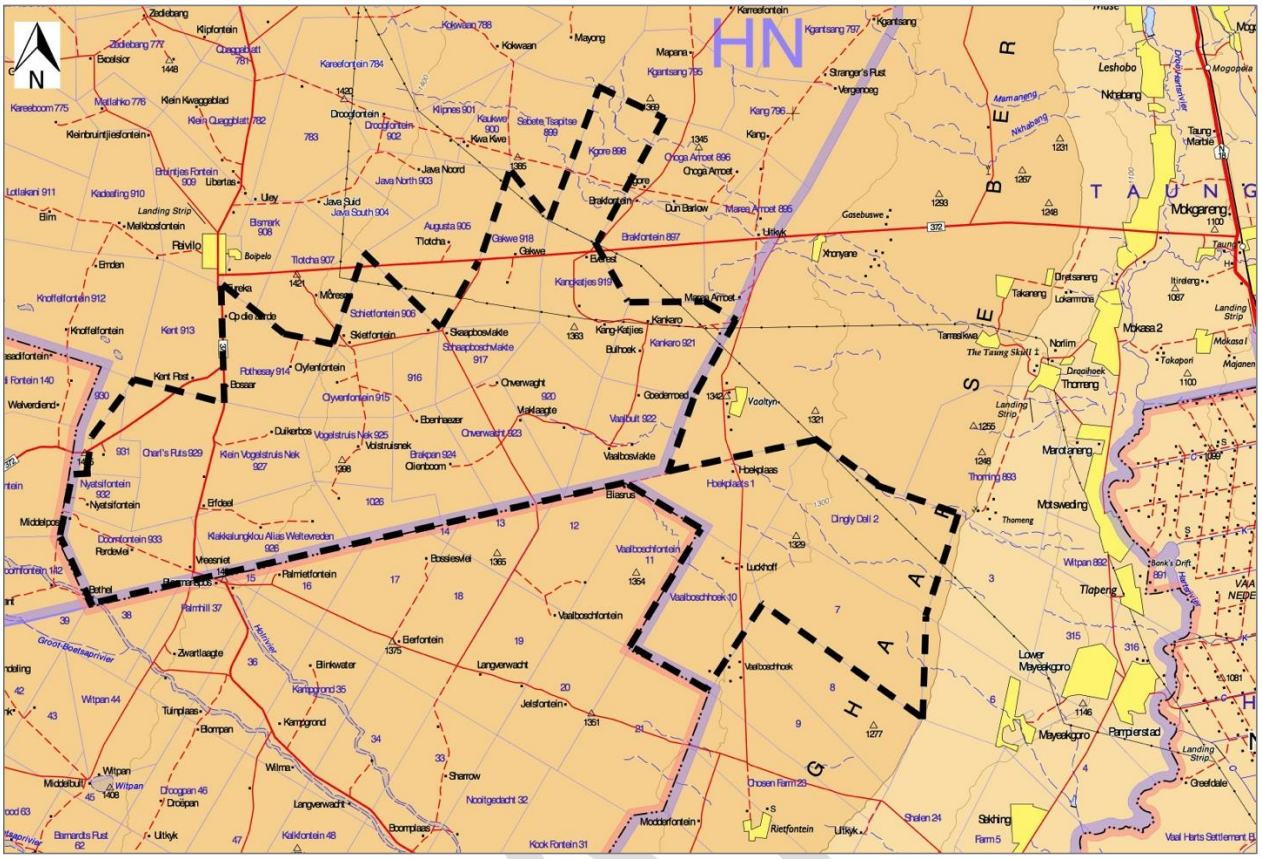


Figure 2: Site locality on 1:250 000 topographical map 2724 (*Source: (Chief Directorate Surveys & Mapping, 2004)*)

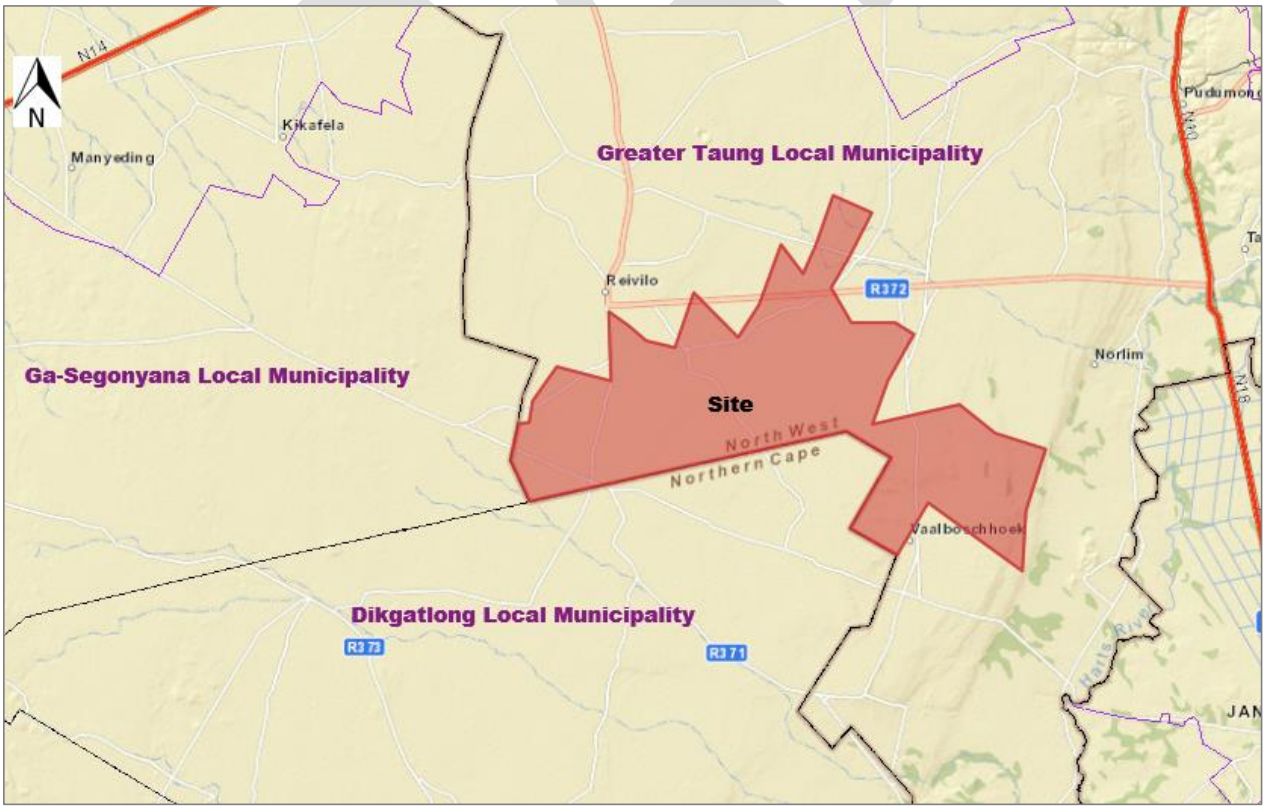


Figure 3: Site location relative to municipalities *(Source: SANBI, 2015)*

d) 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)

The prospecting work programme will be designed in phases, each phase conditional on the success of the previous phase.

Phase 1: Data Acquisition and Desktop Study

A desktop study of all available data for the area will be performed in order to accumulate as much regional and historical data around the area as possible. This includes published geological reports, infrastructure mapping, satellite imagery and existing geophysical information (if available). Both primary (Kimberlite or Lamproite) and secondary (alluvial) diamond deposits will be targeted.

Phase 2: Target Generation and Ground Truthing

Should the initial results of the desktop study be encouraging, further data will be generated through airborne or ground geophysics. Targets generated by geophysics and/or historical information will be investigated on the ground and subject to more detailed target-specific ground geophysics and loam sampling for the presence of Kimberlite Indicator Minerals (KIM).

If any of the exploration targets give a positive result, a drilling program will be undertaken in order to identify the causative body for the geophysical/geochemical targets

Phase 3: Scout Drilling and Delineation Drilling

Targets that have been prioritized through detailed anomaly-specific loam sampling and ground geophysics will be tested by initial diamond or percussion drilling (4 drill holes are estimated at this stage, and only depended on the results of phase 2 stated above). If kimberlite is intersected, one or more10kg samples will be taken for HMA (Heavy Mineral Abundance) analysis to extract KIM such as garnet, chromite, ilmenite and chrome diopside in representative quantities. These will be analysed by electron microprobe for major and selected minor elements, and the results will be interpreted to assess diamond potential.

Dependent on HMA results, further delineation drilling (a further 3 drill holes are estimated) and micro-diamond (MiDA) sampling would be carried out to further define the deposit and give a better indication of grade.

Positive results from MiDA would be followed by more detailed delineation diamond drilling and geological modelling to assess potential resource tonnage and diamond content. Information gathered during this phase would be used in the decision to embark on additional prospecting and evaluation activities not covered in the scope of the current prospecting application. Additional work would only be carried out after an appropriate amendment to the application has been submitted and approved.

Proposed Prospecting Timeline

Table 3 below provides an overview of the anticipated prospecting timeline, outcomes and skill requirements.

Table 3: Anticipated prospecting timeline

Phase	Activity	Skills Required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome
Phase1: From approval to end of 1 Year	Data Acquisition: acquire historical geological / exploration data over area applied for and surrounds.	Geologist	12 months	Compile data. Refine exploration strategy.	1 year	Geologist
Phase2: From year 2 to Year 3.	Ground and / or aerial magnetic survey over prospecting area.	Geologists and geophysicists	12 months	Define and prioritize exploration targets for detailed follow up.	2 years	Geologist
	Anomaly-specific ground Geophysics.	Geologists and geophysicists	6 months	Detailed follow up on targets to establish which targets warrant scout drilling to test for kimberlite/ alluvials.		
	Anomaly-specific loam sampling and drilling for kimberlite/alluvial deposit identification.	Geologists	6 months			
Phase3: From Year 4 to Year 5.	Scout Drilling (proposed 4 drillholes).	Mining Engineers and Geologists	6 months	Confirm which targets are due to the presence of kimberlite.	2 years	Mining Engineer Geologist
	KIM Sampling. & MiDA sampling.	Mining Engineers and Geologists	6 months	Test diamond potential and estimate potential grade of kimberlite		
	Initial delineation drilling (proposed 3 drillholes).	Mining Engineers and Geologists	12 months	Delineate orebody.		

i) Listed and specified activities

Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) requires that upon request by the Minister that an Environmental Management Plan be submitted and that the applicant must notify and consult with Interested and Affected Parties (I&APs).

Section 24 of the NEMA requires that activities, which may impact on the environment must obtain an environmental authorisation from a relevant authority before commencing with the activities. Such activities are listed under Regulations Listing Notice 1 Government Notice (GN) 983, Listing Notice 2 GN 984 and Listing Notice GN 985 (dated 4 December 2014) of NEMA. The proposed prospecting activity triggers NEMA Government Notice 983: Listing Notice 1 activities, including:

- **Activity 20**: Any activity including the operation of that activity which requires a prospecting right in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures

and earthworks, directly related to prospecting of a mineral resource.

- **Activity 27**: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.

Please refer to the following table for the details in terms of the listed activities.

Table 4: Listed activities

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
Prospecting Activities	Approximately 0.78ha	X	GNR 983, Listing 20
Drilling Activities	Assuming 7 targeted drill site Approximately: 787.5m^2	X	GNR 983, Listing 20
Soil Sampling Activities (A typical sampling site will be approximately 1m^2). It is unlikely that more than 100 samples will be taken, however, this will be confirmed on site as part of the prospecting activities.	Assuming sample sites no exceeding 100: Approximately > 100m^2	X	In the event that the total soil sampling sites result in the total area to be disturbed to exceed 1 ha, GNR 983, Listing 27 will apply.
Roads (If required, roads will be temporary gravel roads, not exceeding 3,5m in width).	Assuming a maximum road length of 2 km: Approximately 7,000m^2	-	In the event that the extent of temporary access road clearance result in the total area to be disturbed to exceed 1 ha, GNR 983, Listing 27 will apply.
Drill Effluent	Drill effluent will be collected and stored within the drill pad area. Refer line 2.	-	-
Hydrocarbon Storage (The total combined storage of hazardous material (i.e. diesel, lubricants etc.) will not exceed 80m^2.	Diesel and lubricants will be stored within the drill pad area. Refer line 2.	-	-

ii) Description of the activities to be undertaken

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

Prospecting Phase 1

The first phase is a desktop exercise and no site activities will be undertaken.

Prospecting Phase 2

This stage of the programme will entail the undertaking of ground and / or airborne geophysics as

well as soil sampling as further detailed below.

Ground Geophysics

Further data will be generated through a ground magnetometer survey. Anomalies identified through the initial magnetic survey will be followed by more detailed anomaly-specific ground geophysics (magnetic and gravity).

It is currently foreseen that the ground magnetics survey will be carried out on parallel lines spaced at 100m across the prospecting area using a magnetometer. A magnetometer is an instrument used to measure the strength and/or direction of the earth's magnetic field in the direct vicinity of the instrument. Local magnetic intensity is directly affected by the magnetic properties of the underlying rock mass, so magnetic surveying can be used to detect and map out magnetically distinct geological entities. In the case of a kimberlite intrusion, the kimberlite will usually have a different magnetic susceptibility to the surrounding host rock and, depending on the magnetic susceptibility difference, will be detectable by magnetic surveying.

A ground magnetic survey is usually carried out using two proton precession magnetometers. One is kept stationary at a "base-station" for the duration of the survey, and measures diurnal variation in the earth's magnetic field. The other magnetometer ("roving magnetometer") is moved over the area of interest usually on a pre-determined grid of parallel straight lines. The base station data is used to correct the survey data for diurnal variation in the earth's magnetic field. The corrected magnetic survey data is then processed and gridded to reveal changes in the magnetic field over the area surveyed caused by changes in the underlying rock mass.

Proton magnetometers are small, portable machines that are easily carried by one person (please see Figure 5). Magnetic surveying needs little or no bush clearing and is extremely low impact from an environmental perspective.

Figure 5: Typical Proton Magnetometer

Airborne Geophysics

The airborne geophysics survey will provide the company with a broad overview of the geology of the area and measure fluctuating magnetics that may be indicative of mineral concentrations.

A suitably qualified company will be contracted to undertake the airborne geophysics. Based on

a predetermined schedule an aircraft will fly over the prospecting area in parallel lines in one direction, and then again in lines perpendicularly to the first direction (for example: north – south then east west). These lines are referred to as Tie Lines and Survey Lines. Typically the Tie Lines are 1km apart and through the Survey Lines are normally spaced closed together.

It is expected that the aircraft will maintain a nominal height of 30m above ground level while flying over the prospecting area. Where there are hazards such as trees, power-lines, antennae, settlements and a safe height above these hazards are maintained.

The entire prospecting area will be covered though adjacent farms may be affected as the aircraft will turn to approach the next tie and / or survey line within 2 – 3 km from the boundary of the prospecting area.

Soil Sampling

Based on the outcomes of the magnetic survey (if the outcome of analysis warrants it), soil sampling will be undertaken for target areas. Soil samples will be taken to detect the presence of minerals being released into the soil layer by the weathering of the underlying rock. Diamondiferous kimberlites host a specific suite of minerals derived from deep in the mantle below the earth's crust (pyrope garnet, picro-ilmenite, chromite). The presence of these minerals in the soil generally indicates the presence of a nearby kimberlite, and analysis of the chemical composition of these minerals by scanning electron microprobe can give a good indication of how likely the kimberlite is to be diamondiferous.

Soil samples of up to 200 litres (0.2m^3 or 5-10kg) in volume will be taken in the topmost soil layer (up to 20-30cm deep) and sieved on site to remove very fine (<425 micron) material. A typical sampling site will be approximately 1m^2.

Figure 6: Shovel and Bucket to be used during soil sampling

Access to the sampling sites will be via existing gravel roads as far as practically possible and each site will only be visited once. In arid environments the topmost soil layer will be scraped off the surface as these minerals are generally denser than the other soil minerals present and get concentrated by wind action.

A soil samples are excavated using simple shovel and bucket. The distance between soil sample positions is determined on-site, generally in conjunction with a ground geophysical survey.

Prospecting Phase 3

Scout & Delineation Drilling

It should be noted that the majority of Phase 2 anomalies are unlikely to become drill targets in the Phase 3.

Targets generated during the sampling and geophysical surveys will be investigated on the ground and tested by initial diamond or percussion drilling. If any of the exploration targets give a positive result (i.e. Kimberlite is intersected), a drilling program will be undertaken in order to delineate and give a preliminary assessment of the diamond potential of the deposit identified. Where Kimberlite is intersected, 10kg samples will be taken for Heavy Metal Abundance (HMA) sampling to extract Kimberlite Indicator Minerals (KIM) such as garnet, chromite, ilmenite and chrome diopside in representative quantities. These will be analysed by electron microprobe for major and selected minor elements and the results will be interpreted to assess diamond potential. Dependent on HMA results, further delineation drilling and micro-diamond (MiDA) sampling would be carried out to further define the deposit and give a better indication of grade.

Positive results from MiDA would be followed by more detailed delineation diamond drilling and geological modelling to assess potential resource tonnage and diamond content. Information gathered during this phase would be used in the decision to embark on additional prospecting and evaluation activities.

Photo of a typical drilling operation (Source: Department of Mines and Petroleum, DRAFT Guidelines for Environmentally Responsible Mineral Exploration & Prospecting in Western Australia, March 2012)

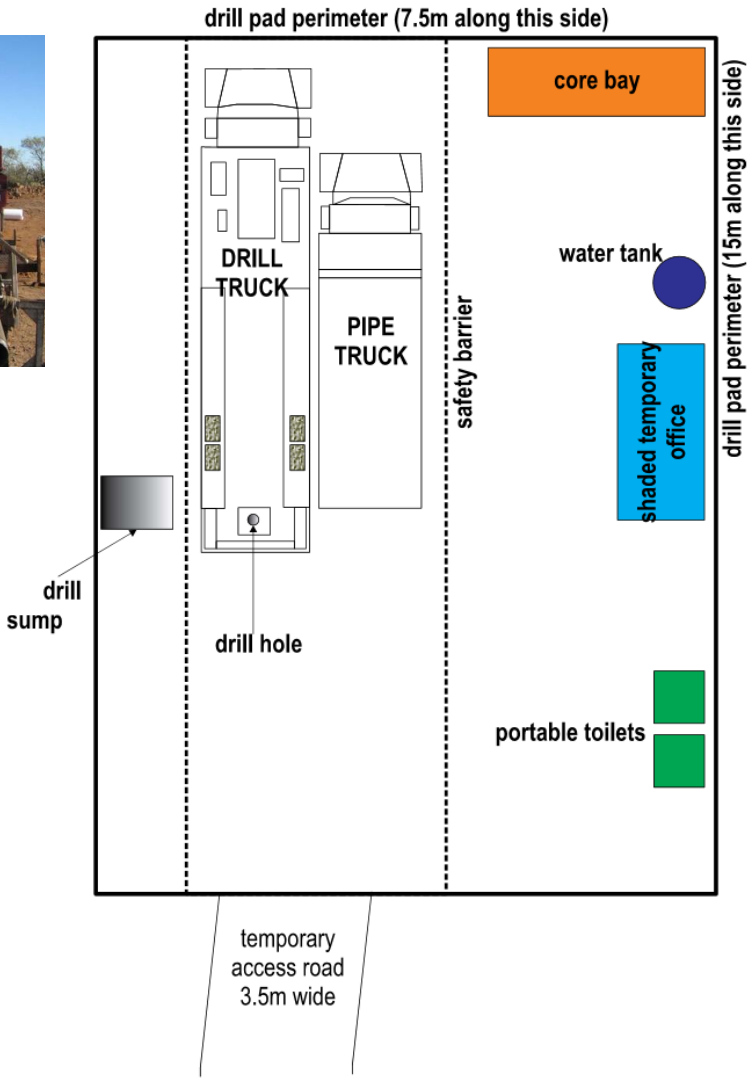


Figure 7: Typical drill site layout (Not to Scale)

e) Policy and Legislative Context

Policy and legislation considered in the development of the impacts assessment and management plan is provided in ***Table 5*** below.

Table 5: Policy and legislative context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
Mineral and Petroleum Resources Development Act, 2002	Application for Prospecting in terms of Section 16.	A Prospecting Right Application has been submitted to the DMR by the Applicant. The application was accepted by the DMR on the 2nd of September 2015 (Reference Number: NW 30/5/1/1/2 (11607)PR).
National Environmental Management Act, 1998 and relevant EIA Regulations	Basic Assessment Report and Environmental Management Programme for environmental authorizations in terms of the National Environmental Management Act, 1998 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).	The EIA Regulations have been considered in the development of the Basic Assessment Report, Environmental Management Programme and the Stakeholder Consultation Processes.
National Water Act, 1998	Table 25.	In terms of Government Notices Regulation 399, the applicant will be allowed to abstract 75m^3 of groundwater per hectare per annum from groundwater within the Quaternary Catchment of C33B. This use will be Generally Authorized. Water abstraction exceeding the stated quantities is not envisaged. Soil Sampling, Scout & Delineation Drilling activities in proximity to identified water courses (including wetlands) will require a Section 21(c) or (i) water use authorisation. At this stage, due to the extent and nature of prospecting activities, licenses for water uses are not applied for as the location of site activities (soil sampling and drilling) are not yet known. A submission in this regard has been made to the Department of Water Affairs to obtain written confirmation that applications will be made once sites are known (if required). Kindly refer to ***Addendum C*** for the response received from the Department of Water Affairs.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
National Heritage Resources Act, 1999	The activity may trigger the requirements under Section 38 of the NHRA. However, the requirements for permits are not yet known.	Potential heritage impact may occur once significant on-the-ground activities commence, and it is therefore recommended that the Heritage Impact Assessment only be undertaken once the extent of site activities are known (if required). This recommendation has submitted to the South African Heritage Resource Agency (SAHRA) for approval. Kindly refer to ***Addendum D*** as it relates to the correspondence submitted. A response from the Agency is still awaited.

f) Need and desirability of the proposed activities.

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

Petra Diamonds, the holding company of Finsch Diamond Mine, is a leading independent diamond mining group and an increasingly important supplier of rough diamonds to the international market. The vision of the company is to build a world-class diamond group. Petra is investing in the expansion and optimization of its assets in order to deliver significantly increased future production.

Finsch Diamond Mine has extensive experience in the diamond industry, from exploration to production in various projects in South Africa. Finsch Diamond Mine has a known track record for successfully establishing and operating hard rock diamond mines in South Africa.

Finsch Diamond Mine has mined in proximity to the proposed prospecting area, and based on the current information, the possibility to encounter further Diamond Reserves was identified. The company therefore applied for a prospecting right on the properties as discussed in this report to determine the presence of diamonds, and whether these are feasible to enter into further studies towards a Mining Right.

g) Motivation for the overall preferred site, activities and technology alternatives

Preferred Site

The proposed prospecting area is targeted as, several kimberlite occurrences are known in the area, and number of these have been exploited for diamonds in the past (e.g. the Bobbejaan and Bellsbank fissures on the edge of the Ghaap Plateau). There have also been various alluvial diamond operations within the vicinity of the exploration area.

The site is therefore regarded as the preferred site and alternative sites are not considered.

Technological and Site Activity Alternatives

Due to the nature of the proposed prospecting activities future land use alternatives will not be compromised. Once a viable reserve has been confirmed a comprehensive social and environmental impact assessment will be required (in accordance with legislation), during which time alternative land use to mining would be investigated.

In terms of the technologies proposed, these have been chosen based on the long term success of the company in terms of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

The location of intrusive drilling activities will be determined during Phase 1 and 2 of the Prospecting Works Programme. All infrastructure will be temporary and/or mobile.

h) 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.

i) Details of the development footprint alternatives considered

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:The property on which or location where it is proposed to undertake the activity;

- *The type of activity to be undertaken;*
- *The design or layout of the activity;*
- *The technology to be used in the activity;*
- *The operational aspects of the activity; and*
- *The option of not implementing the activity.*

As discussed in Section (d) above, the footprint of the proposed prospecting activities are not yet known and the extent of each phase will be determined based on the outcomes of the preceding prospecting activities (i.e. the extent of the soil sampling activities will be dependent on the analysis of the data collected during geophysic surveys and scout drilling sites will be identified based on the outcomes of soil sampling and analysis).

ii) Details of the Public Participation Process Followed

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

As it relates to the stakeholder consultation process:

- The stakeholder consultation process was initiated through property databases and deed searches, natural person(s) contact databases, and expanded through queries and

recommendations made by identified stakeholders and general internet based searches, as part of the process to identify directly affected and adjacent land owners.

- The project Background Information Document was issued to all identified stakeholder on the 23rd of September 2015 and it was requested that persons indicate their meeting requirements.
- Due to the large scale (approximately 60,796 ha in extent) of the proposed prospecting area, stakeholder identification processes are ongoing as not all contact details for directly affected and adjacent landowners could be obtained through title deed searches. The Background Information Document (and other information referred to below) are issued to person as and when contact details can be confirmed.
- A newspaper advertisement was placed in the Stellalander on the 30th of September 2015. The advertisement called for stakeholder registration and / or comment on the application by the 21st of November 2015.
- A detailed description of the proposed prospecting activities was issued to all identified stakeholders on the 1st of October 2015. Comment and concerns from stakeholders were requested by the 15th of October 2015. No specific comment regarding the proposed prospecting activities were received.
- A description of the receiving environmental conditions, relevance and overview of the potential impacts was circulated to all identified stakeholders on the 8th of October 2015. Comment and concerns from stakeholders are requested by the 20th of October 2015 and this will be included and addressed. Initial comment regarding the baseline environmental conditions were received during the stakeholder meeting and these comments are included in this report.
- A stakeholder meeting was held on the 15th of October 2015. All comments received are included in this report.
- Notices were posted at the Suidwes and the Reivilo Filing Station.
- The stakeholder consultation process will be continuous until the 21st of November 2015 in accordance with the stakeholder consultation programme depicted in the table below.
- Where practicable, issues comments and concerns submitted by stakeholder are addressed immediately and / or as soon as is practically possible, and if applicable, used as input into the Basic Assessment Report and Environmental Management Programme. All records are kept and will be appended to the Final Basic Assessment Report.

Table 6: Stakeholder Consultation Programme

Action	On or Before
Identification of directly affected and adjacent landowners, organs of state, and other entities	**11 September 2015 – To date**
Issue of background information document for stakeholder review and comment	**Actual date: 23 September 2015**
Placement of newspaper advertisement	**Actual date: 30 September 2015**
Issue of detailed description of proposed prospecting activities for stakeholder review and comment	**Actual date: 1 October 2015** **Comment requested by: 15 October 2015**
Issue of description of baseline environmental conditions report for stakeholder review and comment	**Actual date: 8 October 2015** **Comment requested by: 20 October 2015**
Stakeholder meeting	**Actual date: 15 October 2015**

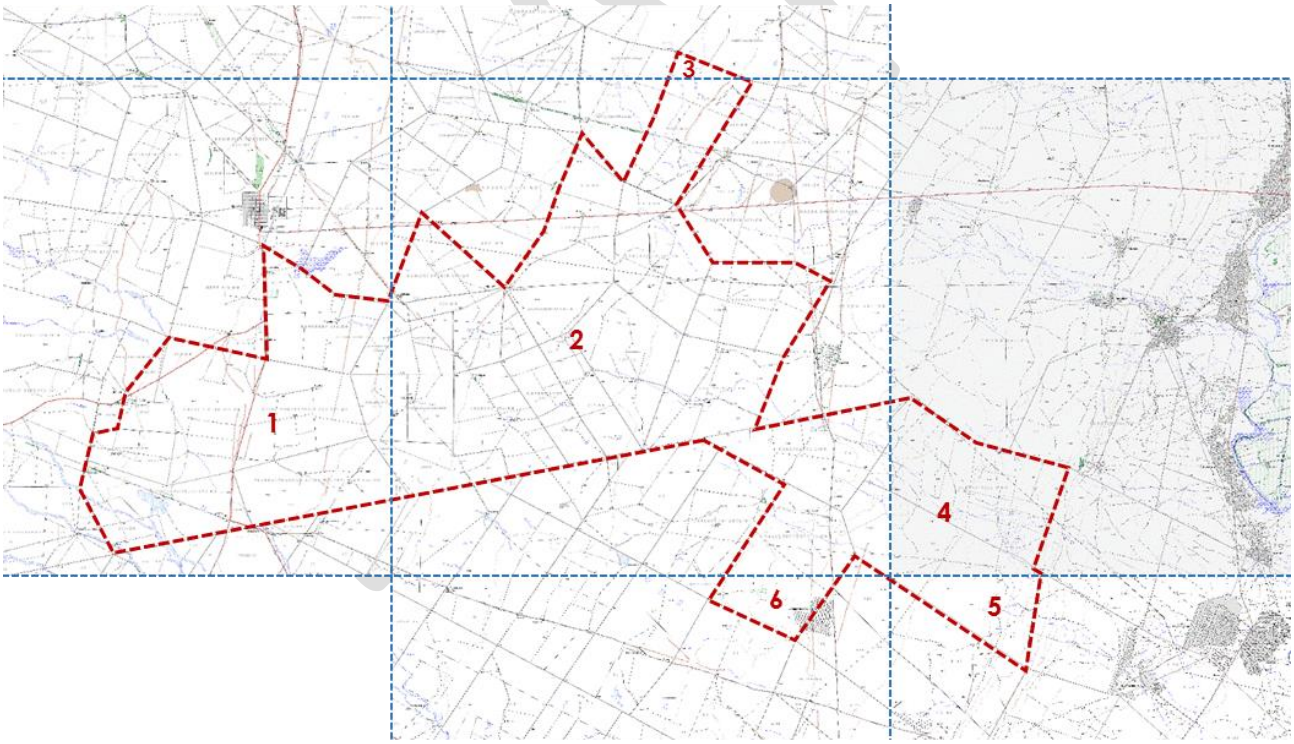
Action	On or Before
Issue of Draft Basic Assessment and Environmental Management Programme for stakeholder review and comment	**Planned date: 19 October 2015** **Actual date: 21 October 2015** **Comment will be requested by: 19 November 2015**
Circulation and submission of Final Basic Assessment Report and Environmental Management Plan	**Planned date: 26 October 2015**

Notes:

- *Any stakeholder comments received on the Final Basic Assessment Report and Environmental Management Programme will be submitted to the Department of Mineral Resources (if any comments are received) within 30 days from the date of submission.*
- *Though deadlines are set for stakeholder review comments, the overall stakeholder comment period will be open until the 21st of September 2015. In this regard, stakeholder are advised that adhering to the stated comment deadlines will ensure that issues and concerns are appropriately investigated.*

The communities located in close proximity to the site include (refer ***Figure 4***):

- Reivilo located directly to the north of the proposed prospecting area.
- Vaalboschhoek located toward the south east.
- Vaaltyn, located toward the east.



Note: The numbers indicated on the map serves as reference for larger scale topographical maps provided in ***Addendum A*** *of this report.*

Figure 4: Communities (towns) in close proximity to the proposed prospecting site

These settlements were identified through the use of the 1:50 000 topographical map, aerial imagery.

Other interested and affected parties identified include Organs of State who have jurisdiction over or might have an interest in the proposed protecting activities, adjacent and other landowners and other organisations and / private persons.

Adjacent and non-adjacent landowners were identified through the review of property databases and deed searches, natural person(s) contact databases, and expanded through queries and recommendations made by identified stakeholders and general internet based searches.

The following should be noted regarding the stakeholder list:

- Some challenges were encountered in the identification of directly affected landowner as, in some instances, title deed information and database searches did not provide contact persons for landowners. In almost all instances, ownership and contact details could be established during the consultation meeting held on the 15th of October 2015. The list of properties for which contact persons could not be established before 15 October 2015 are provided below. All properties for which ownership and contact details could be determined are marked with an asterisk (*). Additionally, contact details could be obtained for those landowners marked with a hashtag, though these persons could not yet been physically contacted:
  - Kankaro 921 (921/2) & Vaalbult 922 (922/1): Bulhoek Trust*
  - Vaalbult 922 (922/3): Daniel Stephanus Coetzee* (now owned by H. van den Berg)
  - Schaapbosch Vlakte 917 (917/1): Elsie Cornelia Van Schalkwyk*
  - Charl's Puts 929 (929/Re): F A J Trust*
  - Doornfontein 933 (933/Re): Frederick Johannes Venter#
  - Nooitgedacht 920 (920/7): Harmonie Familietrust*
  - Doornfontein 933 (933/5) & Klakkalungklou 926 (926/Re/2): Johannes Cornelius De Klerk#
  - Charl's Puts 929 (929/2): Kent Familie Trust*
  - Charl's Puts 929 (929/1): Kleinvlakfontein Familie Trust*
  - Hoekplaats 1040 (1040/2): Unknown
  - Klakkalungklou 926 (926/5): Unknown
  - Klein Vogelstruis Nek 927 (927/5): Unknown
- Numerous land portions were found to be registered to the state (i.e. Republic of Bophuthatswana, Republic of South Africa and South African Bantu Trust) and the North West Department of Land Affairs were contacted in this regard.
- Organs of state informed of the proposed prospecting application includes:
  - Greater Taung Local Municipality
  - Land Use and Human Settlement
  - North West Social Development
  - North West Local Government & Human Settlements, Director: Dr Ruth Segomotsi Mompati District
  - North West Tourism, Regional Tourism Officer
  - North West Culture Arts & Traditional Affairs, Director: Dr. Ruth Segomotsi Mompati District
  - Dr Ruth Segomotsi Mompati District Municipality
  - North West Rural Environment and Agricultural Development, Dr. Ruth Segomotsi Mompati District
  - North West Public Works and Roads, Director Integrated & Planning

- Ward Councillors - Ward 1(directly affected), Ward 3 and Ward 9
- Department of Water Affairs
- South African Heritage Resource Agency, North West

a) Additional consultation is currently undertaken with the Department of Water Affairs, North West Rural Environment and Agricultural Development and the South African Heritage Resource Agency as part of a process to address any specific requirements.

b) An enquiry regarding any pending and / or approved restitution claims relevant to land portions within the boundary of the proposed prospecting area has been submitted.

Figure 5 below has been prepared to indicate directly affected and adjacent landowners.

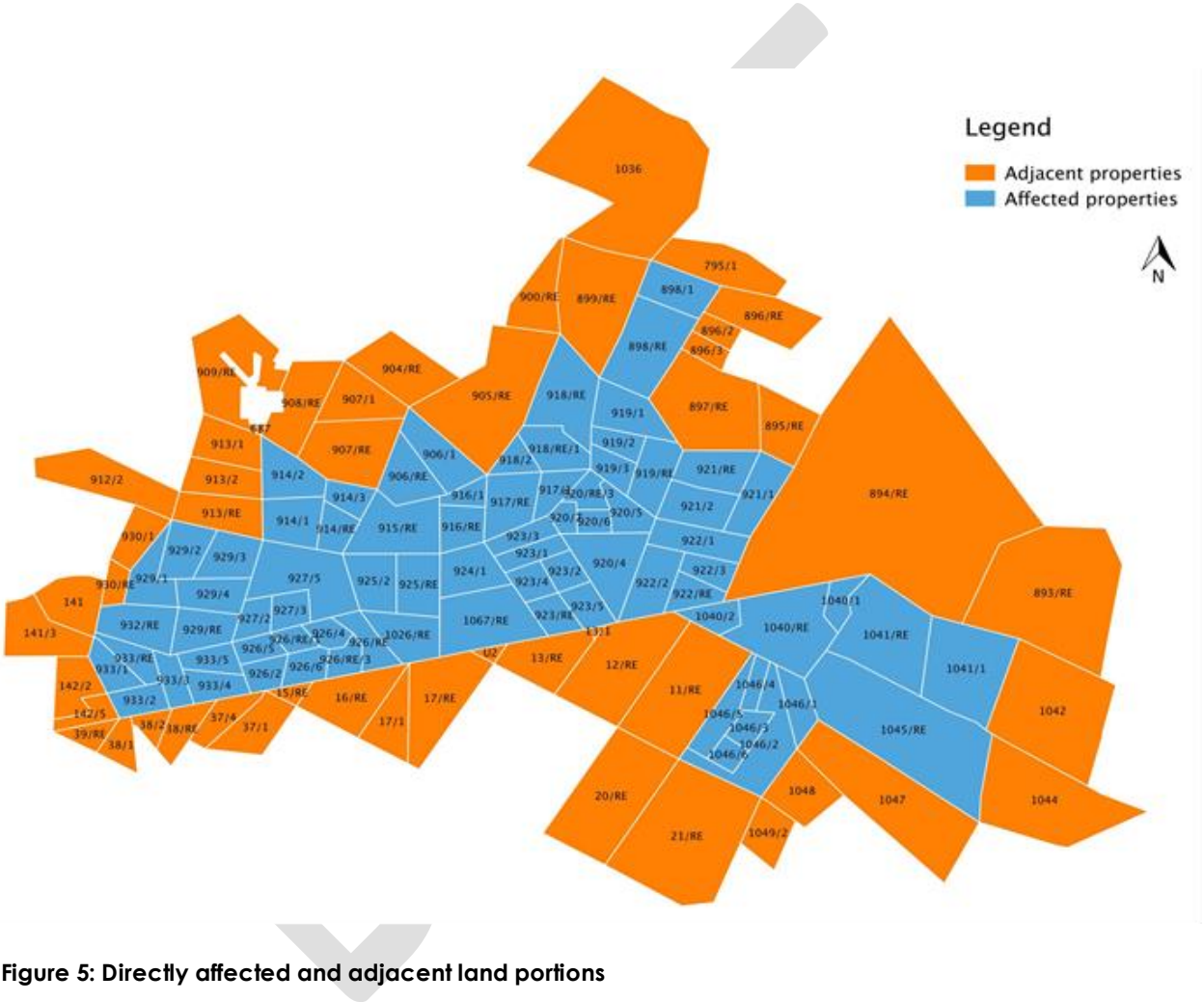


Figure 5: Directly affected and adjacent land portions

Table 7: Directly Affected Landowners

As previously stated, contact details could be obtained for those landowners marked with a hashtag, though these persons could not yet been physically contacted.

FARM	FARM # / PTN	REGISTERED OWNER
VAALBULT 922	922/RE	ANNA JOHANNA JORDAAN (VAN DER WALT)
ONVERWACHT 923	923/1	ANNASPAN PTY LTD
ONVERWACHT 923	923/2	
ONVERWACHT 923	923/4	
ONVERWACHT 923	923/5	
NOOITGEDACHT 920	920/4	BAREND JACOBUS JOHANNES VAN DEN BERG
NOOITGEDACHT 920	920/5	

FARM	FARM # / PTN	REGISTERED OWNER
NOOITGEDACHT 920	920/6	
KANGKATJIES 919	919/2	BEN CAREL VAN ASWEGEN
KANKARO 921	921/2	BULHOEK TRUST - BAREND JACOBUS JOHANNES VAN DEN BERG
VAALBULT 922	922/1	
OLYVENFONTEIN 915	915/RE	CHARMAKOR VRYBURG PTY LTD
STILLERUS 1026	1026/RE	
VOGELSTRUISNEK 925	925/2	JC BOSMAN
VOGELSTRUISNEK 925	925/RE	
CHARL'S PUTS 929	929/4	CHRISTINA ELIZABETH VAN HEERDEN
DOORNFONTEIN 933	933/3	
NYATSIFONTEIN 932	932/RE	
KLEIN VOGELSTRUIS NEK 927	927/2	CORNELIA SUSANNA MAGRIETHA VAN HEERDEN
ENKELFONTEIN 916	916/1	DANIEL PETRUS TOBIAS BRAND
ENKELFONTEIN 916	916/1	
SCHIETFONTEIN 906	906/1	
SCHIETFONTEIN 906	906/1	
SCHIETFONTEIN 906	906/RE	
SCHIETFONTEIN 906	906/RE	
VAALBULT 922	922/3	DANIEL STEPHANUS COETZEE
SCHAAPBOSCH VLAKTE 917	917/1	ELSIE CORNELIA VAN SCHALKWYK#
CHARL'S PUTS 929	929/RE	F A J TRUST#
CHARL'S PUTS 929	929/3	FRANK CHRISTO HUMAN
ROTHESAY 914	914/1	
BRAKPAN 924	924/1	FRANS VAN DEN BERG TRUST
GAKWE 918	918/3	FRANS WOLHUTER TRUST
KANGKATJIES 919	919/1	
DOORNFONTEIN 933	933/RE	FREDERICK JOHANNES VENTER
DOORNFONTEIN 933	933/3	FREDERIK JOHANNES VAN HEERDEN
NYATSIFONTEIN 932	932/RE	
CHARL'S PUTS 929	929/4	
DOORNFONTEIN 933	933/5	GEZINA CATHARINA DE KLERK #
KLAKKALUNGKLOU 926	926/RE/2	GEZINA CATHARINA DE KLERK #
GAKWE 918	918/2	HANNES VAN DEN BERG FAMILIE TRUST
GAKWE 918	918/RE/1	
NOOITGEDACHT 920	920/RE/3	
ONVERWACHT 923	923/3	
SCHAAPBOSCH VLAKTE 917	917/RE	
VAALBULT 922	922/3	
NOOITGEDACHT 920	920/7	HARMONIE FAMILIETRUST - BAREND JACOBUS JOHANNES VAN DEN BERG
DOORNFONTEIN 933	933/4	HENDRIK ALBERTUS RETIEF#
KLEIN VOGELSTRUIS NEK 927	927/3	
KANGKATJIES 919	919/2	HENDRIKA JOHANNA VAN ASWEGEN
ENKELFONTEIN 916	916/RE	IRENE LOUISE JACOBS (VAN ZYL)
VAALBULT 922	922/RE	JAN ABRAHAM JORDAAN
VAALBULT 922	922/RE	
DOORNFONTEIN 933	933/5	JOHANNES CORNELIUS DE KLERK#
KLAKKALUNGKLOU 926	926/RE/2	
OLIENBOOM 1067	1067/RE	JOHANNES DANIEL VAN ROMBURGH
KANKARO 921	921/1	JOHANNES LODEWIKUS VORSTER
KLAKKALUNGKLOU 926	926/4	JOHANNES LODEWYK MARAIS BOUWER
KLAKKALUNGKLOU 926	926/6	
KLAKKALUNGKLOU 926	926/RE/1	
KLAKKALUNGKLOU 926	926/RE/3	
KLAKKALUNGKLOU 926	926/RE	
CHARL'S PUTS 929	929/2	KENT FAMILIE TRUST - BAREND JACOBUS JOHANNES VAN DEN BERG
CHARL'S PUTS 929	929/1	KLEINVLAKFONTEIN FAMILIE TRUST - BAREND JACOBUS JOHANNES VAN DEN BERG
KANKARO 921	921/RE	LETSILABELUNG PTY LTD
ROTHESAY 914	914/RE	LODEWYK THEODORIS PIENAAR
ROTHESAY 914	914/3	LOTHASAY BOERDERY PTY LTD DIRECTORS: DIEDERIK

FARM	FARM # / PTN	REGISTERED OWNER
		JOHANNES HERHOLDT & JOHANNES WILHELMUS HERHOLDT **#** LEASED BY JOHAN PRETORIUS
KANGKATJIES 919	919/3	LOUISA JACOBA DU PLESSIS
KANGKATJIES 919	919/RE	
DOORNFONTEIN 933	933/1	METSIMATSWE COMMUNAL PROPERTY ASSOCIATION**#**
DOORNFONTEIN 933	933/2	
ONVERWACHT 923	923/RE	MON DESIR FAMILIETRUST
KGORE 898	898/1	ORYX TRUST - DAVID NEL
KGORE 898	898/RE	
DINGLY DELL 1041	1041/1	REPUBLIC OF BOPHUTHATSWANA
FARM 1045	1045/0	
HOEKPLAATS 1040	1040/1	
HOEKPLAATS 1040	1040/RE	
VAALBOSCHHOEK 1046	1046/1	
VAALBOSCHHOEK 1046	1046/2	
VAALBOSCHHOEK 1046	1046/3	
VAALBOSCHHOEK 1046	1046/4	
VAALBOSCHHOEK 1046	1046/5	
VAALBOSCHHOEK 1046	1046/6	
DINGLY DELL 1041	1041/1	REPUBLIC OF SOUTH AFRICA
ROTHESAY 914	914/2	ROTHESAY BOERDERY PTY LTD
GAKWE 918	918/RE	SAREL JOHANNES PETRUS DU PLESSIS
KANGKATJIES 919	919/3	
KANGKATJIES 919	919/RE	
DINGLY DELL 1041	1041/RE	SOUTH AFRICAN BANTU TRUST
VAALBULT 922	922/2	VAALBOSVLAKTE FAMILIETRUST – WILLA VORSTER
HOEKPLAATS 1040	1040/2	TBD**#**
KLAKKALUNGKLOU 926	926/5	TBD**#**
KLEIN VOGELSTRUIS NEK 927	927/5	TBD**#**
KANKARO 921	921/RE	LETSILABELUNG PTY LTD: DIRECTOR CHRISTOFFEL LOMBAARD
KANKARO 921	921/RE	LETSILABELUNG PTY LTD: DIRECTOR ALWYN LOMBAARD
KANKARO 921	921/RE	LETSILABELUNG PTY LTD: DIRECTOR JOHANNES LOMBAARD

Table 8: Adjacent Landowners

FARM	FARM # / PTN	REGISTERED OWNER
PANHILL 37	37/1	ALBERTHA UREN
BLESMANS POST 15	15/RE	ALBERTHA UREN
CHOGA AMOET 896	896/2	ALWYN LOMBARD FAMILIE TRUST
CHOGA AMOET 896	896/2	ALWYN PETRUS VAN DEN BERG**#**
FARM 13	13/RE	ANNASPAN PTY LTD
BISMARK 908	908/RE	B & M VAN DEN BERG BROERS CC**#**
FARM 38	38/1	BEGINSELSVLEI FAMILIETRUST**#**
FARM 21	21/RE	BRUCE HUNT
FARM 20	20/RE	BRUCE HUNT
CHOGA AMOET 896	896/RE	CHOGO AMOET TRUST**#**
FARM 17	17/RE	CHRIS STANDER
ANNEX DOORNFONTEIN 142	142/5	DANIEL JOHANNES VOGES**#**
FARM 39	39/RE	DANIEL JOHANNES VOGES**#**
KENT 913	913/1	EVAN PRETORIUS
KENT 913	913/2	GERTRUIDA MARTHINA JACOBA JOHANNA AN BOTHA#
FARM 38	38/RE	HENDRIK ALBERTUS RETIEF
PANHILL 37	37/4	HENDRIK ALBERTUS RETIEF
MAPANA 795	795/1	HERMANUS STEYN POTTAS
JAVA SOUTH 904	904/RE	IZAK DU TOIT FOURIE
TLOTCHA 907	907/1	IZAK DU TOIT FOURIE
FARM 16	16/RE	JOHAN DE BRUYN

MAREA AMOET 895	895/RE	JOHANNES LODEWIKUS VORSTER
KENT 913	913/RE	KENT FAMILIE TRUST
MIDDELFONTEIN 930	930/1	KLEINVLAKFONTEIN FAMILIE TRUST
CHARL'S PUT 929	929/1	KLEINVLAKFONTEIN FAMILIE TRUST
KNOFFELFONTEIN 912	912/2	KNOFFELFONTEIN FAMILIE TRUST#
BRAKFONTEIN 897	897/RE	LETSILABELUNG PTY LTD
CHOGA AMOET 896	896/3	LETSILABELUNG PTY LTD
TLOTCHA 907	907/RE	LOJANAMA FARMS CC#
THOMING 893	893/RE	MAFIKENG LOCAL MUNICIPALITY - ADVOCATE CHRISTIAN MÖLLER
AUGUSTA 905	905/RE	MAISIE ISAACS#
GROOT VLAKFONTEIN RESERVE 141	141/3	METSIMATSWE COMMUNAL PROPERTY ASSOCIATION#
FARM 12	12/RE	MON DESIR FAMILIETRUST
BRUINTJES FONTEIN 909	909/1	NEDERDUITSE GEREFORMEERDE GEMEENTE TE REIVILO
TAUNG 894	894/RE	PROVINCIAL GOVERNMENT OF THE NORTH WEST PROVINCE
FARM 1044	1044/RE	PROVINCIAL GOVERNMENT OF THE NORTH WEST PROVINCE
FARM 1044	1044/RE	REPUBLIC OF BOPHUTHATSWANA
FARM 1045	1045/RE	REPUBLIC OF BOPHUTHATSWANA
FARM 1047	1047/RE	REPUBLIC OF BOPHUTHATSWANA
VAALBOSCHHOEK 1048	1048/RE	REPUBLIC OF BOPHUTHATSWANA
TAUNG 894	894/RE	REPUBLIC OF SOUTH AFRICA
FARM 1042	1042/RE	REPUBLIC OF SOUTH AFRICA
FARM 1044	1044/RE	REPUBLIC OF SOUTH AFRICA
FARM 1045	1045/RE	REPUBLIC OF SOUTH AFRICA
FARM 1047	1047/RE	REPUBLIC OF SOUTH AFRICA
CHOSEN FARM 1049	1049/2	REPUBLIC OF SOUTH AFRICA
VAALBOSCHFONTEIN 11	11/RE	REPUBLIC OF SOUTH AFRICA
KAUKWE 900	900/RE	SEBUEMANG KHAUKHWE COMMUNAL PROPERTY ASSOCIATION#
VAALBOSCHHOEK 1048	1048/RE	SOUTH AFRICAN BANTU TRUST
FARM 14	14/RE	UNDETERMINED#
BUCKSHEE	1036/RE	UNKNOWN#
GROOT VLAKFONTEIN RESERVE 141	141	UNKNOWN#
ANNEX DOORNFONTEIN 142	142/2	VOGES JOHN FRANK #
SEBETE TSAPITSE 899	899/RE	WENLIE TSEPITSI CC
MAREA AMOET 895	895/RE	WILLA VORSTER
FARM 12	12	UNKNOWN#

In accordance with the available information, the Metsimatswe Communal Property Association currently owns farm portions Doornfontein 933 (933/1 & 933/2). The Department of Rural Development and Land Reform has been contacted to facilitate contact with the relevant responsible persons.

The Department of Land Affairs has been identified as an interested and affected party and has also been requested to confirm state ownership of:

FARM	FARM # / PTN	REGISTERED OWNER
DINGLY DELL 1041	1041/1	REPUBLIC OF BOPHUTHATSWANA
FARM 1045	1045/0	
HOEKPLAATS 1040	1040/1	
HOEKPLAATS 1040	1040/RE	
VAALBOSCHHOEK 1046	1046/1	
VAALBOSCHHOEK 1046	1046/2	
VAALBOSCHHOEK 1046	1046/3	
VAALBOSCHHOEK 1046	1046/4	
VAALBOSCHHOEK 1046	1046/5	

VAALBOSCHHOEK 1046	1046/6	
DINGLY DELL 1041	1041/1	REPUBLIC OF SOUTH AFRICA
DINGLY DELL 1041	1041/RE	SOUTH AFRICAN BANTU TRUST

No feedback in this regard has been received to date. Additional consultation will be undertaken prior to the submission of the Final Basic Assessment Report and Environmental Management Programme (due for submission on the 26th of November 2015). Proof of consultation and feedback will be included in the submission.

A formal inquiry was submitted to the Department of Rural Development and Land Reform to confirm whether any current and / or pending restitution claims are applicable to the land portions included in the area were prospecting is proposed.

Initial feedback was obtained from Mr Calvary Molebiemang, who confirm that, according to the Dr Ruth Segomotsi Mompati land claim lodgement records, Vaalboschhoek is the only property under claim at this stage with the claimant being Ms. Georgina Olifant. This initial feedback further indicated that the possibility of land claims on other properties is not ruled out as there is recently lodged land claims information which is yet to be electronically captured.

Further feedback in this regard as well as contact information for Ms. Olifant is currently awaited from the Department.

Based on the information obtained from Municipal Demarcation Board, 2011 Municipal and Ward Boundaries, portions of farms Hoekplaats, Vaalboschhoek and Dingley Dell falls within the Batlhaping Ba Ga Mothibi Traditional Council area. The local and district municipalities have been contacted to confirm the correct contact persons to involve in the stakeholder consultation process. A response in this regard is still awaited.

iii) Summary of issues raised by I&APs

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

No other issues apart from those raised at the stakeholder meeting have yet been received. This register will be maintained for the remainder of the stakeholder consultation process.

Table 9: Summary of issues raised

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
AFFECTED PARTIES					
LANDOWNER/S					
ANNA JOHANNA JORDAAN (VAN DER WALT) – REPRESENTED BY NEXT OF KIN, HANNELI VAN ZIJL	X	-	-	-	-
FRANS VAN DEN BERG – REPRESENTED BY NEXT OF KIN – HELMIEN VAN DEN BERG	X	-	-	-	-
HANNES VAN DEN BERG	X	15.10.2015	Enquired what the plan is to identify those landowners not yet identified.	It is anticipated that these person could be identified through consultation with farmers already identified.	-
BEN CAREL VAN ASWEGEN	X	-	-	-	-
CHARMAKOR VRYBURG PTY LTD	X	-	-	-	-
JC BOSMAN & LIEZEL BOSMAN	X	15.10.2015	Enquired how a report on consultation can already be submitted without this report by made available for review.	The Report on the Results of Consultation submitted to the Department of Mineral Resources on	-

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
				the 15th of October 2015 provides a summary of consultation already undertaken and also indicates that the stakeholder consultation programme is ongoing until the 21st of November 2015. Information included in the report was already made available to stakeholders (i.e. baseline description of the environmental and a detailed description of the prospecting activities). The remainder of the report includes proof of notifications of landowners.	
			Not all directly affected have informed of the application. Enquiries should have made with neighbours to identify persons. The effort made to identify landowners cannot be regarded as satisfactory.	Efforts continue to ensure that all persons are identified. Challenges were encountered as title deed information appear to be updated. Numerous enquiries were also submitted to identified landowners in an effort to obtain neighbours' details.	-
			It should be recognised that persons may be financially affected.	This comment is noted.	-
			An additional impact related to fire risk must be address, arson and accidental fire.	The risk has been included in Basic Assessment Report.	Table 16 & Table 23
			Enquired how many directly affected landowners have been identified and how many of these have not yet contacted.	Directly affected and adjacent landowners are provided in Table 7 and Table 8.	Table 7 & Table 8
			Enquired whether there will be consultation with landowners prior to any prospecting activities.	Requirements for consultation are included and addressed in Table 23.	Table 23& Table 25
			Enquired how many persons will need access to land during on-the-ground prospecting activities.	The total extent of the Prospecting Phases 2 and 3 is not yet determined and thus it is not yet known how many persons will be assessing land	Table 23

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
				portions. A requirements has been included in Table 23 that prospecting plans and access control procedures must be agreed to with landowners during which time such information would probably be available.	
CHRISTINA ELIZABETH VAN HEERDEN	X	-	-	-	-
CORNELIA SUSANNA MAGRIETHA VAN HEERDEN	X	-	-	-	-
DANIEL PETRUS TOBIAS BRAND	X	15.10.2015	Requested to know whether consideration will be given to use local skills for prospecting activities.	Such a recommendation has been included in Table 23.	Table 23
ELSIE CORNELIA VAN SCHALKWYK		-	-	-	-
F A J TRUST		-	-	-	-
FRANK CHRISTO HUMAN	X	-	-	-	-
FRANS WOLHUTER – REPRESENTED BY CONSULTANT IZEL VAN ROOY	X	-	-	-	-
FREDERICK JOHANNES VENTER		-	-	-	-
FREDERIK JOHANNES VAN HEERDEN (ALSO REPRESENTED BY NEXT OF KIN PIERRE VAN HEERDEN)	X	-	-	-	-
GEZINA CATHARINA DE KLERK		-	-	-	-
HENDRIK ALBERTUS RETIEF		-	-	-	-
HENDRIKA JOHANNA VAN ASWEGEN	X	-	-	-	-
IRENE LOUISE JACOBS (VAN ZYL)	X	-	-	-	-
JAN ABRAHAM JORDAAN	X	-	-	-	-

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
- – REPRESENTED BY NEXT OF KIN, HANNELI VAN ZIJL					
JOHANNES CORNELIUS DE KLERK		-	-	-	-
JOHANNES DANIEL VAN ROMBURGH	X	-	-	-	-
JOHANNES LODEWIKUS VORSTER	X	-	-	-	-
JOHANNES LODEWYK MARAIS BOUWER	X	-	-	-	-
LODEWYK THEODORIS PIENAAR	X	-	-	-	-
LOUISA JACOBA DU PLESSIS	X	-	-	-	-
DAVID NEL	X	15.10.2015	Enquired how a report on consultation could already have been submitted without this report by made available for review and in the absence of meaningful consultation. The government will be of the understanding that consultation were conducted though this was not the case.	The Report on the Results of Consultation submitted to the Department of Mineral Resources on the 15th of October 2015 provides a summary of consultation already undertaken and also indicates that the stakeholder consultation programme is ongoing until the 21st of November 2015. Information included in the report was already made available to stakeholders (i.e. baseline description of the environmental and a detailed description of the prospecting activities). The remainder of the report includes proof of notifications of landowners.	-
			Extensive landowners consultation must be undertaken for any and all proposed prospecting activities undertaken (during on-the-ground activities).	Requirements for consultation are included and addressed in Table 23.	Table 23
			Enquired what the compensation will be to the	This comment will be submitted to	-

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			farmers for access to their land. (Not for rehabilitation, for the purpose of prospecting and access to the land).	the mining company. This negotiations does not form part of Prosch Consulting's" mandate.	
SAREL JOHANNES PETRUS DU PLESSIS	X	-	-	-	-
ALWYN LOMBAARD	-	-	-	-	-
DIEDERIK JOHANNES HERHOLDT / JOHANNES WILHELMUS HERHOLDT	-	-	-	-	-
LAWFUL OCCUPIER/S OF THE LAND					
JOHAN PRETORIUS	X	-	-	-	-
LANDOWNERS OR LAWFUL OCCUPIERS ON ADJACENT PROPERTIES					
WENLIE TSEPITSI CC - ISAAC YOCUM	X	15.10.2015	The report on consultation submitted to the Department of Mineral Resources (on the 15th of October 2015) is not regarded and / or mean that consultation was undertaken, as in fact consultation has not been undertaken. Consultation should be reciprocal and meaningful. The process appears to be a tick-box exercise and it must be placed on record that consultation has not been undertaken. The consultation after the report (the afore-mentioned report on the results of consultation) is regarded as meaningless.	The Report on the Results of Consultation submitted to the Department of Mineral Resources on the 15th of October 2015 provides a summary of consultation already undertaken and also indicates that the stakeholder consultation programme is ongoing until the 21st of November 2015. Information included in the report was already made available to stakeholders (i.e. baseline description of the environmental and a detailed description of the prospecting activities). The remainder of the report includes proof of notifications of landowners.	-
			Service agreements must be drawn up with every landowner and must also stipulate access control measures.	This comment will be submitted to the mining company. This negotiations does not form part of Prosch Consulting's" mandate.	-
			Required confirmation that no specialist studies will be undertaken and stated that the mining company chose prospect on such an extensive	No specialist studies will be undertaken as part of the development of the Basic	Table 23

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			area, and that this is not an excuse and does not preclude them from undertaking specialist studies (for example: drilling, there is no information regarding impact on underground water resources, the farmer may be impacted months after drilling was done).	Assessment and Environmental Management Programme. Requirements for additional studies and confirmation of any regulatory aspects are provided for as management measures in Table 23. As it relates to the example provided; comment regarding potential risks will be sought from the applicant's geologist.	
			Weather data from Taung is used and is not applicable to area. There is weather data for Reivilo and this data should be used.	This data has not yet been sourced and efforts will be made to obtain data from the Reivilo Weather Station for inclusion in the Final Basic Assessment Report.	-
			The baseline data included in the reports is not regarded as accurate (for example: there is no mention that kudu is present on the properties). Based on this it can be concluded that desktop baseline information cannot be regarded as accurate.	Desktop data has been sources from reliable sources as far as it practicable. Kindly refer to the reference list at the back of this report.	Reference List
			The PWP does not provide for compensation to farmers for access to farm portions.	This comment will be submitted to the mining company. This negotiations does not form part of Prosch Consulting's" mandate.	-
			The baseline environmental conditions report indicates the land capacity for grazing as low. This is not the case and the report thus underplays the current land value and this may result in an inaccurate or uninformed decision by the Department of Mineral Resources. Once again this raises the question why specialist studies are not undertaken.	This comment has been removed from the Draft Basic Assessment Report.	1)h)(1)(b)
			Enquired when the Draft Basic Assessment Report will be available for review.	As soon as practically possible. It was envisaged that the report	-

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
				would have been complete enough to issue to stakeholder by the 19th of October 2015. However, this report is now issued to stakeholder on the 21st of November 2015.	
ALBERTHA UREN	X	-	-	-	-
ALWYN LOMBARD FAMILIE TRUST	-	-	-	-	-
ALWYN PETRUS VAN DEN BERG	-	-	-	-	-
ANNASPAN PTY LTD	X	-	-	-	-
B & M VAN DEN BERG BROERS CC	-	-	-	-	-
BEGINSELSVLEI FAMILIETRUST	-	-	-	-	-
BRUCE HUNT	X	-	-	-	-
CHOGO AMOET TRUST	-	-	-	-	-
CHRIS STANDER	X	-	-	-	-
DANIEL JOHANNES VOGES	-	-	-	-	-
EVAN PRETORIUS	-	-	-	-	-
GERTRUIDA MARTHINA JACOBA JOHANNA AN BOTHA	-	-	-	-	-
HENDRIK ALBERTUS RETIEF		-	-	-	-
HERMANUS STEYN POTTAS	X	-	-	-	-
IZAK DU TOIT FOURIE	X	-	-	-	-
JOHAN DE BRUYN	X	-	-	-	-
JOHANNES LODEWIKUS VORSTER	X	-	-	-	-
KENT FAMILIE TRUST	X	-	-	-	-
KLEINVLAKFONTEIN FAMILIE TRUST	X	-	-	-	-
KNOFFELFONTEIN FAMILIE TRUST	-	-	-	-	-
LETSILABELUNG PTY LTD	X	-	-	-	-
LOJANAMA FARMS CC	-	-	-	-	-

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
MAFIKENG LOCAL MUNICIPALITY - ADVOCATE CHRISTIAN MÖLLER	X	-	-	-	-
MAISIE ISAACS		-	-	-	-
METSIMATSWE COMMUNAL PROPERTY ASSOCIATION	-	-	-	-	-
MON DESIR FAMILIETRUST	X	-	-	-	-
NEDERDUITSE GEREFORMEERDE GEMEENTE TE REIVILO	X	-	-	-	-
PROVINCIAL GOVERNMENT OF THE NORTH WEST PROVINCE	X	-	-	-	-
REPUBLIC OF BOPHUTHATSWANA	X	-	-	-	-
REPUBLIC OF SOUTH AFRICA	X	-	-	-	-
SEBUEMANG KHAUKHWE COMMUNAL PROPERTY ASSOCIATION	-	-	-	-	-
SOUTH AFRICAN BANTU TRUST	X	-	-	-	-
VOGES JOHN FRANK	-	-	-	-	-
WILLA VORSTER	X	-	-	-	-
DEPT. ENVIRONMENTAL AFFAIRS					
DEPARTMENT: WATER AND SANITATION	X	25.09.2015	Confirm that the Department rates all perennial rivers together with all dry river beds and natural drainage and associates riparian areas extremely sensitive to development. An option of developing furthest away from all the water courses would be the preferred option.	Comment noted.	-
			Please note that no development should be done within 100m of 1:100 year floodline of any water course and 500m of wetlands without authorization	These requirements are partially addressed in Table 23 and will be fully incorporated in the Final Basic	Table 23

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			form the Department. The water courses should be delineated in order to provide appropriate buffer to maintain such water course. The delineation should be done according to the Department of Water and Sanitation's delineation document.	Assessment Report.	
			The construction camp shall not be located within the 1:100 year floodline or within 100m whatever is the greatest from any water course. Operations and storage equipment within the riparian zone must be limited as far is possible.		
			Vehicles and other machinery must be serviced well above the 1: 100 year flood line or within a horizontal distance of 100 meters from any watercourse or estuary. Oils and other potential pollutants must be disposed off at an appropriate licensed site, with the necessary agreement from the owner of such a site.		
			Any storm water must be diverted from the construction works and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow. Where necessary, works must be constructed to attenuate the velocity of the storm water discharge and to protect the banks of the watercourse. Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the project		
			Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse. Storm water leaving the construction site must in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used,		

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			stored, dumped or spilled on the premises.		
			Vegetation must be monitored and managed on and on-going basis during prospecting. Alien vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be eradicated or controlled, using standard methods approved by the Department.		
			A detailed layout plan needs to be submitted to our Department showing all the facilities in the proposed development, distance from the any watercourses and bathroom facilities.		
			Details of the final design must also be supplied as soon as a decision has been made, as the details of this factor may influence the environmental impact both during the construction and operational phases of the project.		
			Material with pollution generating potential must be limited in any construction activities. Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance.		
			Any spillage of any hazardous materials including diesel that may occur during construction and operation must be reported immediately to our Department.		
			Rubbish bins and Enviro loose/mobile toilets must be there and enough for the people on site during construction. A letter of consent from a registered waste facility to allow contractor to empty the toilet facility at their sewer system should be submitted to our department.		
			All sewage, grey and wash water, as well as any waste generated during the construction phase of the facilities will be collected, contained and disposed of at the permitted and I or licensed facilities of the Local Authority and this must please be confirmed in writing by the local authority.		

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			Soils that have become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination. The necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent in-stream sedimentation.		
			The Department notes that the project is to require water; please take note that, in this instance, a water use authorisation application will need to be submitted to our Department. If you have any other environmental authorisation and/or consent for the proposed project that you will want to use for this development, please provide our Department with the necessary proof as it may be considered in support of the application		
			Please be informed that Construction water may not be obtained from the water course without necessary authorisation. The regulations on the use of water for mining and related activities aimed at the protection of the Water Resources as published in the Government Notice No. 704 on 4 June (Government Gazette No. 20119) must be complied with. Every person in control of a mine or activity must take reasonable measures to comply with the following requirements; :- • Prevent water containing waste or any substance which causes or is likely to cause pollution of a water resource from entering any water resource, either by natural flow or by seepage, and must retain or collect such substance or water containing waste for use, re-use, evaporation or for purification and disposal in terms of the Act; • Design, modify, locate, construct and maintain all water systems, including residue deposits, in any area so as to prevent the pollution of any water resource through the operation or use	These requirements are partially addressed in Table 23 and will be fully incorporated in the Final Basic Assessment Report.	Table 23

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			thereof and to restrict the possibility of damage to the riparian or in-stream habitat through erosion or sedimentation, or the disturbance of vegetation, or the alteration of flow characteristics; • Cause effective measures to be taken to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or subterranean caverns, through cracked or fissured formations, subsided ground, sinkholes, outcrop excavations, audits, entrances or any other openings; • Design, modify, construct, maintain and use any dam or any residue deposit or stockpile used for the disposal or storage of mineral tailings, slimes, ash or other hydraulic transported substances, so that the water or waste therein, or falling therein, will not result in the failure thereof or impair the stability thereof; • Prevent the erosion or leaching of materials from any residue deposit or stockpile from any area and contain material or substances so eroded or leached in such area by providing suitable barrier dams, evaporation dams or any other effective measures to prevent this material or substance from entering and polluting any water resources; • Ensure that water used in any process at a mine or activity is recycled as far as practicable, and any facility, sump, pumping installation, catchments dam or other impoundment used for recycling water, is of adequate design and capacity to prevent the spillage, seepage or release of water containing waste at any time; • At all times keep any water system free from any matter or obstruction which may affect the efficiency thereof; and		

INTERESTED AND AFFECTED PARTIES		DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFERENCE
			• Cause all domestic waste, including wash-water, which cannot be disposed of in a municipal sewage system, to be disposed of in terms of an authorisation under the Act.		
OTHER COMPETENT AUTHORITIES AFFECTED					
GREATER TAUNG LOCAL MUNICIPALITY	X	-	-	-	-
LAND USE AND HUMAN SETTLEMENT	X	-	-	-	-
NORTH WEST SOCIAL DEVELOPMENT	X	-	-	-	-
NORTH WEST LOCAL GOVERNMENT & HUMAN SETTLEMENTS	X	-	-	-	-
NORTH WEST TOURISM, REGIONAL TOURISM OFFICER NORTH WEST CULTURE ARTS & TRADITIONAL AFFAIRS	X	-	-	-	-
DR RUTH SEGOMOTSI MOMPATI DISTRICT MUNICIPALITY	X	-	-	-	-
NORTH WEST PUBLIC WORKS AND ROADS, DIRECTOR INTEGRATED & PLANNING	X	-	-	-	-
NORTH WEST RURAL ENVIRONMENT AND AGRICULTURAL DEVELOPMENT, DR. RUTH SEGOMOTSI MOMPATI DISTRICT	X	-	-	-	-
WARD 1	X	-	-	-	-
OTHER AFFECTED PARTIES					
VAALTYN CHIEF – MOSES SEOLESENG		-	-	-	-
TSEPO MANKUROANE					

INTERESTED AND AFFECTED PARTIES	DATE OF COMMENTS RECEIVED	ISSUES RAISED	EAPS RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	REFEREN CE
INTERESTED PARTIES				
-	-	-	-	-

iv) The Environmental attributes associated with the alternatives

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

Finsch Diamond Mine (Pty) Ltd has previously applied for prospecting rights over the area to the south and to the east of the current application during 2014 and 2015. These studies revealed the possibility of Diamond Reserves on the properties subject to this Prospecting Right Application.

The company has therefore applied for prospecting rights on the proposed site to determine whether any reserves found are feasible for an application for a Mining Right. As a result, there are no alternatives sites available that will change the impact of the proposed activity on the environment since the project entails prospecting on the properties in this application.

(1) Baseline Environment

(a) Type of environment affected by the proposed activity

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

The abiotic environment

The abiotic environment refers to the non-living physical environment. This provides the physical context in which the biotic or living environment is found. This information is used as a basis during the impact identification processes to assess the significance and extent of potential impacts which may result from the proposed prospecting activities.

Topography

The topography assists in understanding the landscape as well as the flow of water through the site and different habitats that may exist on the site.

Generally, the site slopes in an easterly direction towards the Harts River valley. The western and central portion of the site have gentle slopes, while the eastern portion of the site has steeper slopes.

The far western portion of the site begins at an altitude of 1,420 meters above sea level (masl) and gradually descends to 1,340masl in the eastern portion as illustrated in Figure 6. This represents a drop in altitude of 80m over a distance of 34km. At this point the slope begins to intensify and the altitude decreases by 40m over a distance of 3.5km. The slope then becomes gentler forming a step prior to forming a much steeper drop from 1,240 to 1,140 masl of 120m over a distance of 4.5 km to the east of the site.

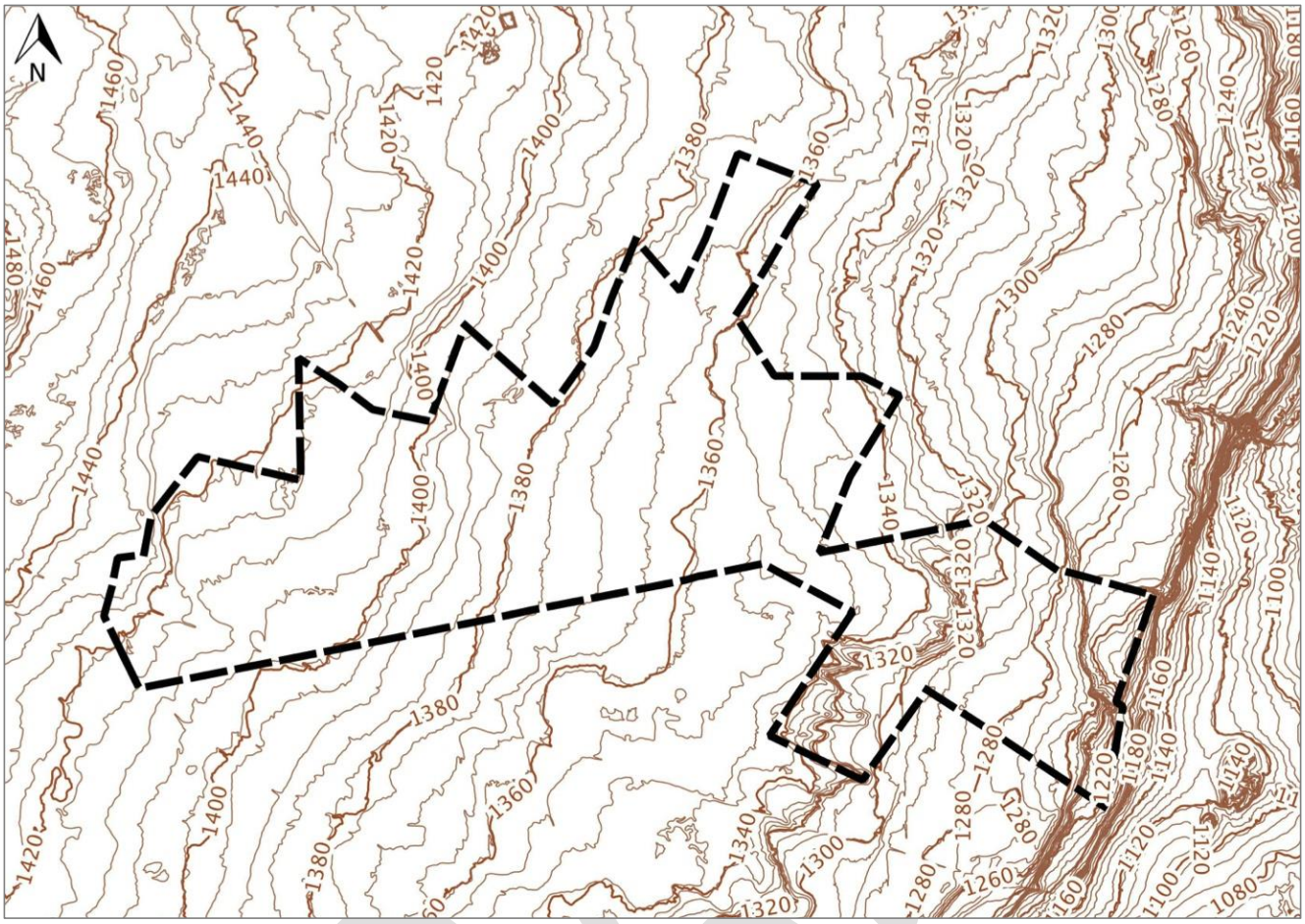


Figure 6: Contour map with 5 meter contours (Source: (Chief Directorate Surveys & Mapping, 2003))

Steeper slopes may represent unique / different habitats for fauna and flora and may also mean increased soil erosion potential.

Climate

Meteorological data averaged over 30 years provides climatic conditions. This data is used to develop an understanding of the type of habitats and biotic environments which may exist on site as a result of factors such as precipitation, temperature ranges, frost etc. The meteorological data utilized was obtained from the South African Weather Service (SAWS), Taung Weather Station.

The predominant wind direction, as measured at the Taung Weather Station, is from the north-north-west and wind speeds are higher during the spring and summer months (between 5.7 and 8.8m/s occur around 2% and 1% of the time respectively). Any emissions which might emanate from the prospecting activities are therefore likely to disperse in this direction and the impact will be more significant during the spring and summer months.

Table 10: Wind Speed and Direction

Wind direction and speed	
Period of data	2007-2011
Dominant wind direction	North-north-west & north
Dominant daytime wind direction	North-north-west
Dominant nighttime wind direction	North & north east
Maximum wind speed	8.8 m/s

	Stronger winds are more commonly during the spring and summer seasons, wind speeds between 5.7 and 8.8 m/s occur around 2% and 1% respectively.
Wind calms	18.82% Calm conditions are more abundant during autumn and winter months, 14.9% and 14.13% respectively.
Daytime calms	10.08%
Nighttime calms	21.91%

The site falls within a semi-arid rainfall region with relative low rainfall which slightly reduced the potential impacts associated with soil erosion. Rainfall is strongly seasonal with most rain occurring in the summer period (October to April). The peak rainfall months are December and January. Rainfall occurs generally as convective thunderstorms and is sometimes accompanied by hail. The overall range of the MAP for the entire Water Management Area is 100mm to 500mm.

Based on the information contained in the Overview of Water Resources Availability and Utilisation Report for the Lower Vaal Management Areas published by the DWA (2003), the average annual rainfall is reported to be 300-400mm per annum (DWAF, 2004).

The maximum, minimum and average monthly temperatures for Taung for the year 2011 are reflected in Table 11.

Table 11: Maximum, Minimum and Average Monthly Temperature: Taung 2011 (°C)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max	27.8	28.9	28.9	23.6	22.1	18.8	19.1	23.8	28.5	29.4	31	30
Min	19.2	18.1	17.3	12.7	7.6	1.8	1.2	5.2	9.4	11.9	13.1	17.2
Ave	23.5	22.9	22.6	17.4	13.9	9.2	9.1	14.1	18.7	20.6	22.4	23.5

Frost occurs throughout the study area in winter, typically over the period mid-May to late August. There are an average of 30 frost days per year for the study area (DWAF, 2004).

Humidity is generally highest in February (the daily mean over the study area ranges from 66% in the east to 62% in the west) and lowest in August (the daily mean over the study area ranges from 53 % in the east to 57 % in the west).

Average gross potential mean annual evaporation (as measured by Class A- pan) ranges from 2,646mm to 2,690mm in the Lower Vaal WMA. The highest A-pan evaporation occurs in December and ranges between 300mm and 380mm.

During the third prospecting phase (scout and delineation drill activities), emission sources from prospecting activities are limited to machine exhaust fumes and dust. While these emissions are not expected to be of high concentrations, depending on the location of the selected drill sites, impacts may affect receptors.

Low rainfall and humidity suggests that any on-the-ground activities which may be undertaken during the dry months will have to be monitored and dust suppression measures may be required.

The climate information further highlights the water resource concerns.

Cumulative impacts associated with greenhouse gas emissions are recognised though regarded as insignificant though general management measures in this regard will be prescribed.

<u>Geology</u>

Much of the southern region of the North West Province is underlain by flat-lying lithologies of the Proterozoic Transvaal supergroup, overlain in places by remnants of the Palaeozoic Karoo Supergroup. The Transvaal Supergroup consists of dolomitic sediments and mafic lavas. Permian Dwyka-Ecca Group tillites, shales and marine sediments form the base of the Karoo succession and are overlain by arenaceous continental sediments of the Beaufort and Stormberg Groups which are found predominantly in the Free State Province to the South West. The Karoo sedimentary succession is capped by an accumulation of Cretaceous amygdaloidal basalt flows up to 1,700 m thick belonging to the Drakensburg Group. Feeder dykes and sills of basalt are common within the underlying 1,000 m of sediments. Kimberlite intrusions, some of which are diamondiferous, represent the final phase of igneous activity in the region. They were emplaced during the Cretaceous in parallel north-northeast and east-west trending structures. Xenoliths of the Drakensberg lavas in kimberlite pipes such as Finsch show that the whole Karoo succession once covered this area, but has been removed by erosion.

Southern African kimberlites intrusions are divided into Group I (basaltic) and Group II (micaceous) kimberlites. This division was originally made along mineralogical grounds. However, the Group I/Group II distinction is better defined by isotopic ratios. Group I kimberlites have lower 87Sr/86Sr and higher 143Nd/144Nd ratios than Group II kimberlites. Mineralogically the Group I kimberlites have olivine, monticellite, serpentine-rich groundmass, while the Group II kimberlites have a phlogopite, tetraferriphlogopite, olivine groundmass.

Spatially, the occurrence of Group I and Group II kimberlites overlap, though Group II kimberlites (110Ma – 200 Ma.) are older than the majority of Group 1 kimberlites (generally less than 90 Ma.). Economically viable Group II kimberlites occur as both pipes and dykes (fissures), while the only economically viable Group I kimberlites to date are pipes.

The area applied for covers an area of approximately 60,796 Ha, and is situated approximately 95 km South West of Schweizer Reneke, on the provincial border between the North West Province and the Northern Cape (Figure 7).

The area lies within the Kaapvaal craton, on the Eastern edge of the Griqualand West basin, and consists of dolomite, limestone and chert of the Reivilo formation (2567Ma). These shallow water carbonate deposits form the lower section of the Campbellrand Sub- group of the Ghaap Group, and are overlain in places by recent cover of calcrete and sand which can exceed 30m in thickness. Ghaap Group sediments are underlain by andesitic lavas and rare tuffaceous sediments of the Ventersdorp Supergroup. These lithologies are known to occur at a depth of approximately 400m from surface at Sedibeng Diamond mine 50km to the south, and are separated from the overlying Ghaap Group sediments by a major geological unconformity.

Historically, several kimberlite occurrences are known in the area, and number of these have been exploited for diamonds in the past (e.g. the Bobbejaan and Bellsbank fissures on the edge of the Ghaap plateau). There have also been various alluvial diamond operations in this region (e.g. Mahura Muthla approximately 50km to the North West), how- ever, the calcretised nature of these deposits has made them relatively difficult to mine.

The detailed geology and economic potential of the area under application is currently unknown, though the area is perceived to have good potential for hosting economically viable kimberlites due to the proximity of known kimberlites such as Duiwelskop 10km to the south, and the Bellsbank and Bobbejaan kimberlite fissure systems 50km to the south (currently being mined). The regional geology is also conducive to the possibility of alluvial diamonds in palaeochannels.

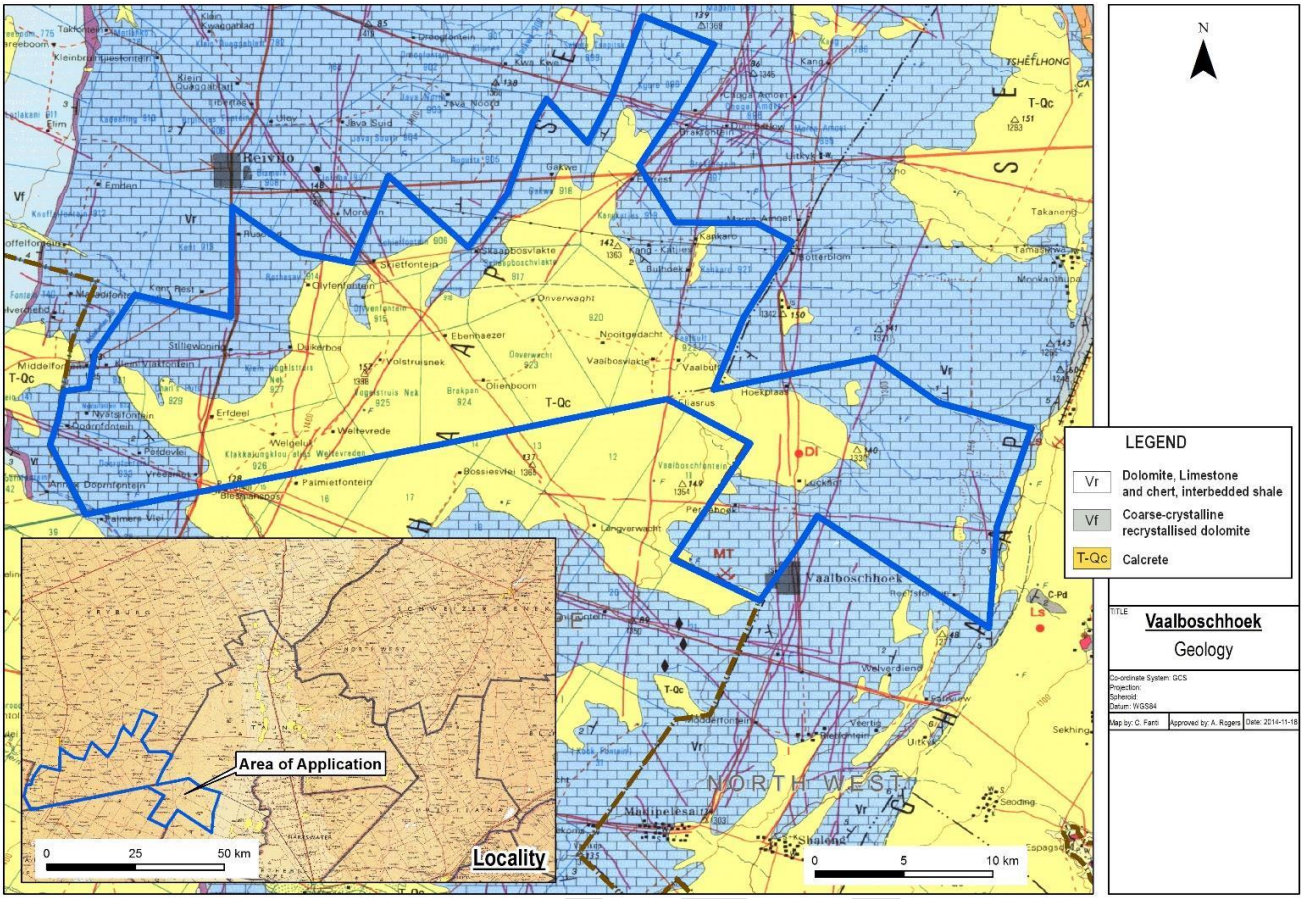


Figure 7: 1:250 000 Geological Map

Based on what is known of the geological conditions underlying the proposed prospecting area, the applicant has reason to believe that there might be a reserve and thus applied for a prospecting right.

Soils

According to the district geographical planning database, Glenrosa and/or Mispah soil forms (other soils may occur) and lime are generally present throughout the entire landscape and data, obtained from the Agricultural Research Council, indicates that the soils for the site are classed as Lithosols of Class S13 which are shallow soils on hard or weathered rock.

Site activities may result in the localised removal of vegetation for the purposes of soil sampling and during scout and delineation drilling activities. As vegetation is one of the major aspects which assist in limiting soil erosion, the removal of vegetation may exacerbate soil erosion. Certain soils are more susceptible to erosion that others based on their physical properties.

Land capability and cover

The determination of the existing site specific and surrounding land use provides input into the process of impact identification and the establishment of closure objectives.

As illustrated in Figure 8, the predominant land cover on the site is low shrubland, grassland, as well as both dense and open bush. The land cover provides an indication of the predominant land uses which are cattle and game farming. There are isolated patches of cultivation on the western portion of the site. The area is scattered with isolated farmhouses and barns. There is a small village on the south-eastern corner of the site used for residential

purposes which is not depicted in the 2013/2014 land cover but does appear on the Google Earth imagery.

The land use is in line with the major economic activity in Taung which is agricultural and the low soil capabilities of the site.

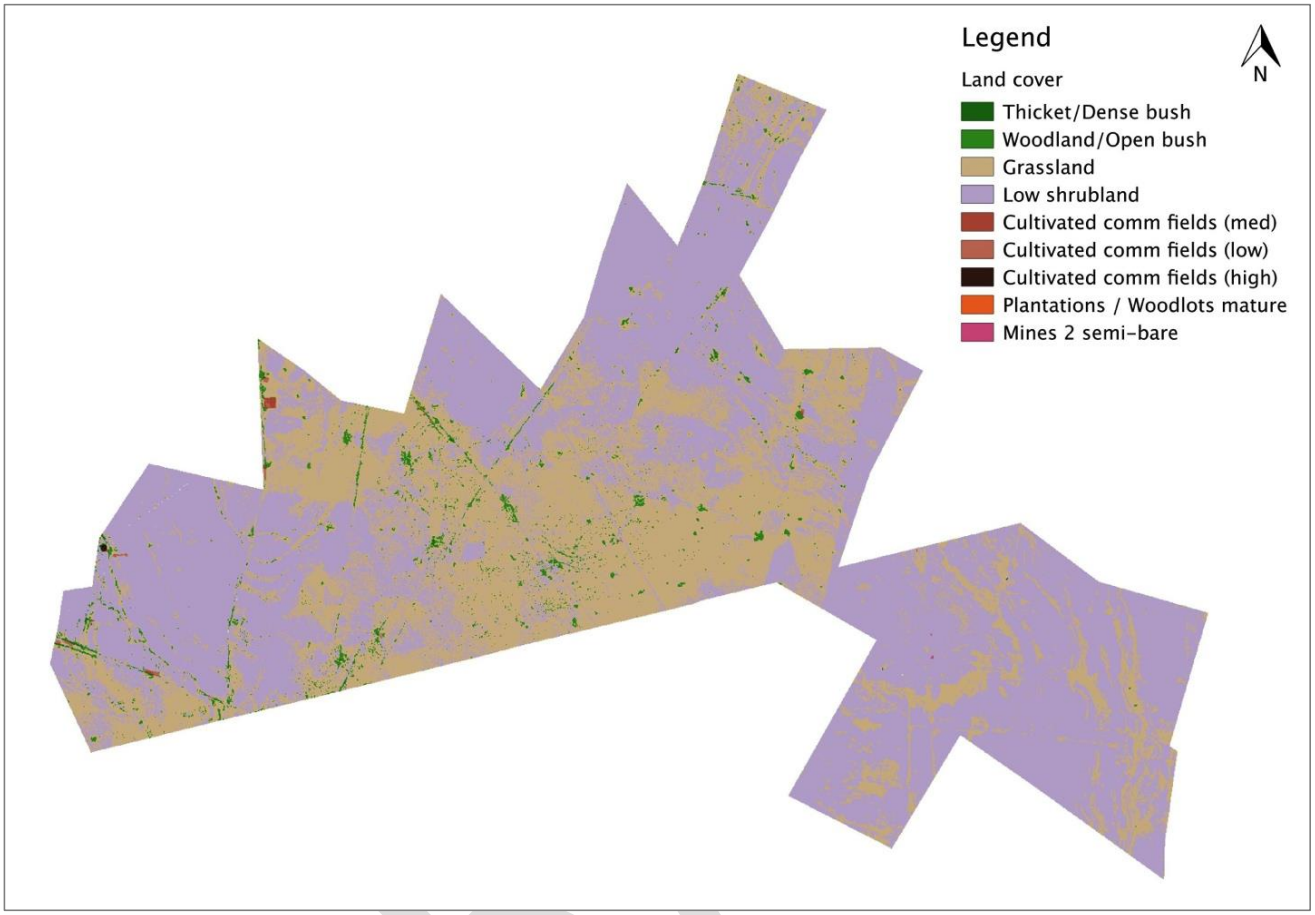


Figure 8: Land cover for 2013-2014 based on satellite imagery (Source: (Thomson, 2014))

Site specific land use has been confirmed as cattle and game farming and prospecting activities may present a disturbance to the animals within the fenced properties. Additionally, during on-the-ground activities, access control (opening and closing of gates between camps and farms) must be managed effectively to eliminate the possibility of the unintentional movement of animals between camps and farms.

Rehabilitation objectives to restore the site must consider safety matters and an effective re-vegetation efforts (where required).

Land Claims

An enquiry was submitted to the North West Department of Rural Development and Land Reform on 25 September 2015, to determine whether any current land claims affect the land portions for which prospecting rights are being applied for. A response from the Department is currently pending.

The information was requested as part of the stakeholder consultation process and as requested by the Department of Mineral Resources.

Water resources

The protection of water resources is of key importance. The prospecting site is located in a semi-arid region where both water availability and quality are of strategic importance.

Regionally, there is a high dependency on surface and ground water sources. Prospecting activities must be undertaken in a manner to ensure that no significant additional contribution is made to water quality deterioration.

The information contained in this section of the report is based on desktop information as referenced. No specialist studies were undertaken to assess surface or groundwater resources.

The proposed prospecting site falls within the Lower Vaal Water Management Area (WMA), the Quaternary Catchment Area C33B (SANBI, 2015).

According to the ISP (DWAF, 2004), the Lower Vaal WMA is dependent on water releases from the Middle Vaal WMA for meeting the bulk of the water requirements by the urban, mining and industrial sectors within its area of jurisdiction, with local resources mainly used for irrigation and smaller towns. Water quality in the Lower Vaal is strongly influenced by usage and management practices in the Upper and Middle Vaal WMA. Major rivers in the Lower Vaal Water Management Area include the Molopo, Harts, Dry Harts, Kuruman and Vaal rivers, of which the Harts River is in close proximity to this prospecting area.

The Department of Water Affairs (DWA) considers this catchment area to be of moderate ecological sensitivity. Based on the information contained in the Overview of Water Resources Availability and Utilisation Report for the Lower Vaal Management Areas (DWAF, 2003), the primary water use is agricultural irrigation and comprise more than 80% of water utilised in the region.

According to the Lower Vaal WMA Overview of Water Resources Availability Report, DWAF (2003) (as stated in the ISP, 2004), "As a result of the low rainfall, flat topography and sandy soils over much of the water management area, little usable surface runoff is generated in the water management area. The runoff which does occur is highly variable and intermittent."

Based on a review of the DWA Aquatic Database, 1:50 000 topographical maps 2724, SANBI BGIS and Google Earth maps; several water features have however been identified on site including non-perennial pans, dry pans, dams, wetlands and non-perennial rivers (refer to Figure **9**).

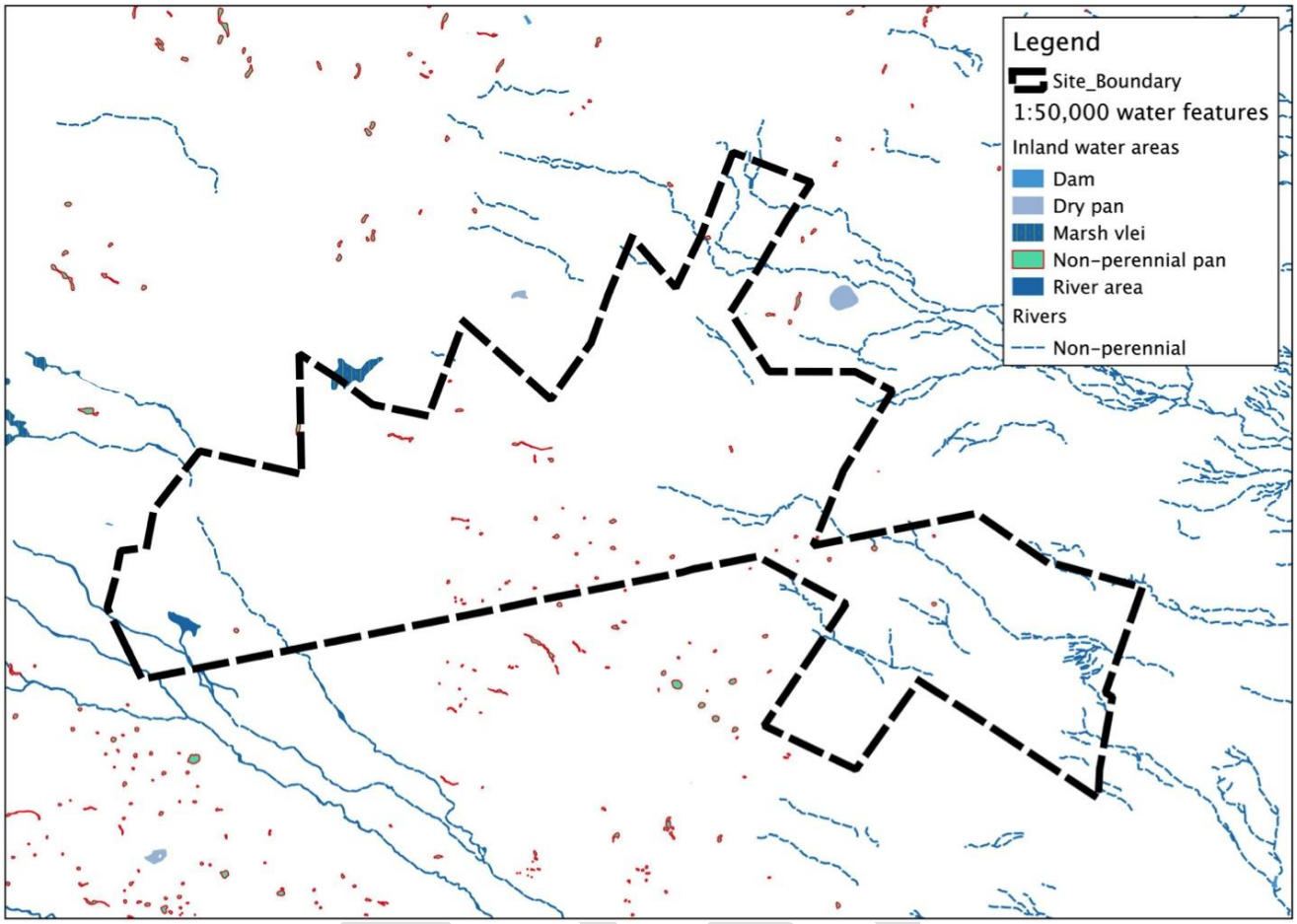


Figure 9: Water bodies and adjacent rivers according to the 1:50,000 topographical map

All rivers identified on site are non-perennial. The closest major perennial rivers are the Hol River 1.8km to the south-west of the site and the Harts River 8.5km to the east. The Mean Annual Runoff of the Harts Sub Catchment is approximately 138 million m^3/annum.

The non-perennial rivers on the eastern portion of the site drain into the Harts River and on the west into the Hol River. Both the Harts and Hol Rivers then drain into the Spitskop Dam. The Harts River is a tributary of the Vaal River and flows in a south-westerly direction from the Spitskop dam for approximately 40km until it merges with the Vaal River.

The National Freshwater Ecosystem Protected Areas database was consulted regarding the status of the watercourses on the site (SANBI, 2015). The database indicates that the river units on site (illustrated in Figure 10) are all listed as "Condition C" meaning that they are "moderately modified". None of these rivers are indicated as flagship rivers.

The 1:50 000 topographical maps indicate that there are larger flood plains described as river areas for the non-perennial rivers on the south-western portion of the site, as illustrated in

Figure **9**.

The non-perennial pans on site constitute seasonal wetlands and the National Freshwater Ecosystem Protected Areas database ranks their condition as illustrated in Figure 10 and described with Table 12 and Table 13. The ecological condition of the majority of the wetlands is "AB" indicating that there is a significant portion of natural land cover remaining in the wetlands. These pans are generally known to keep water for short period of time during rain events which likely provide habitat for water birds and amphibians, discussed in the Section 0. The pans/wetlands are indicated as being a part of the ecological vegetation

type Eastern Kalahari Bushveld Group and there are wetland clusters in the central portion of the site.

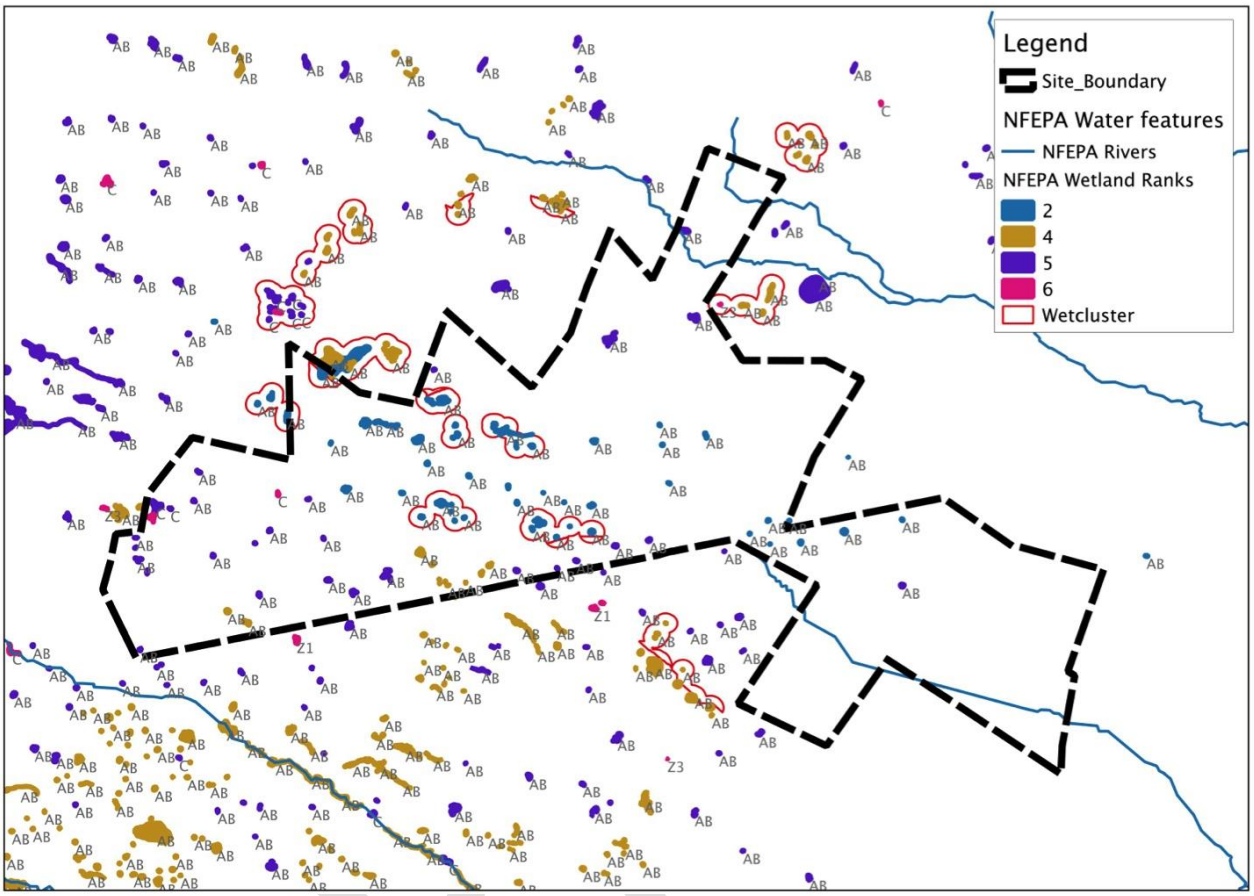


Figure 10: NFEPA wetlands and rivers (Refer to tables for a description of the condition codes. Source: (SANBI, 2015))

Table 12: NFEPA condition codes

NFEPA condition	Description	% of total wetland area
AB	Percentage natural land cover ≥ 75%	47
C	Percentage natural land cover 25-75%	18
Z1	Wetland overlaps with a 1:50 000 'artificial' inland water body from the Department of Land Affairs: Chief Directorate of Surveys and Mapping (2005-2007)	7

Table 13: NFEPA wetland condition ranks

Rank	Criterion
2	Wetlands within 500 m of a IUCN threatened frog point locality
2	Wetlands within 500 m of a threatened waterbird point locality
	Wetlands (excluding dams) with the majority of its area within a sub-quaternary catchment that has sightings or breeding areas for threatened Wattled Cranes, Grey Crowned Cranes and Blue Cranes
2	Wetlands (excluding dams) within a sub-quaternary catchment identified by experts at the regional review workshops as containing wetlands of exceptional biodiversity importance, with valid reasons documented

2	Wetlands (excluding dams) within a sub-quaternary catchment identified by experts at the regional review workshops as containing wetlands that are good, intact examples from which to choose
3	Wetlands (excluding dams) within a sub-quaternary catchment identified by experts at the regional review workshops as containing wetlands of biodiversity importance, but with no valid reasons documented
4	Wetlands (excluding dams) in A or B condition AND associated with more than three other wetlands (both riverine or non-riverine wetlands were assessed for this criterion)
4	Wetlands in C condition AND associated with more than three other wetlands (both riverine or non-riverine wetlands were assessed for this criterion)
5	Wetlands (excluding dams) within a sub-quaternary catchment identified by experts at the regional review workshops as containing impacted Working for Wetland sites
6	Any other wetland (excluding dams)

The Department of Water Affairs (2003) reports groundwater utilisation to be of major importance in the Lower Vaal WMA. Dolomitic aquifers occur in the uppermost reaches of the Harts River and Molopo River and extend north and eastwards into the Crocodile (West) and Marico, Upper Vaal and Middle Vaal Water Management Areas. Reportedly, significant quantities of groundwater are abstracted in the area, mainly for agricultural irrigation purposes.

The dolomitic aquifers underlying the site are represented in Figure 11. Comparison of these to the geological map represented in Figure 7 indicates how these aquifers occur in line with the geological conditions, i.e. the aquifers stop at the calcrete bedrock which is impervious to water.

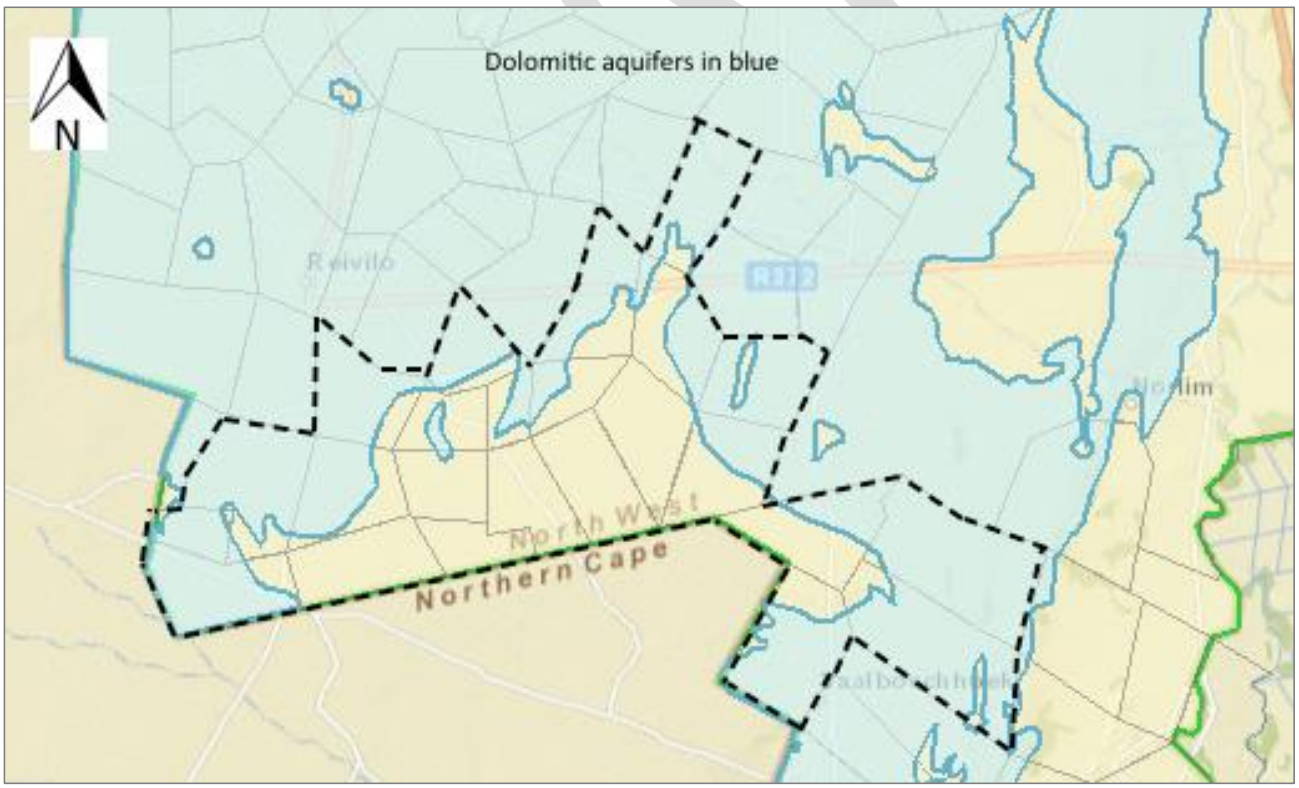


Figure 11: Dolomitic aquifers (Source: (Dr Ruth S Mompati District Municipality, 2015))

The Water Research Commission aquifer classification map was consulted regarding the importance of the aquifers as well as their susceptibility to contamination (Parsons, 1993).

The aquifers are classified as being of a major aquifer type with higher yielding good quality water. Groundwater is therefore of high importance in this area which is semi-arid.

According to Parsons (1993), the aquifers are ranked as being "most vulnerable" to the likelihood of, or tendency for, contamination to reach a specified position in the groundwater system after introduction at some location above the most upper aquifer. The aquifer classification map ranks the site as being of "high susceptibility" to contamination by anthropogenic activities based on both the vulnerability and classification of the aquifer.

At this stage, due to the extent and nature of prospecting activities, licenses for water uses are not applied for as the location of site activities (soil sampling and drilling) are not yet known. A submission in this regard will made to the Department of Water Affairs to obtain written confirmation that applications will be made once sites are known (if required).

Groundwater quality impact may occur during scout and delineation drilling activities. Management measures will be developed to specifically address potential pollution sources associated with site activities such as waste and hazardous materials management. Through limited waste will be generated and the quantities of hazardous materials kept on site will be minimal, risk control measures will be focused on containment.

The biotic environment

The biotic environment comprises the living environment and includes animal, plants and humans.

<u>Biodiversity</u>

According to information obtained from the SANBI GIS Database, a large portion of the proposed prospecting site has been indicated as Type 2 Critical Biodiversity area and smaller portions of the proposed prospecting area as Aquatic Critical Biodiversity Area. These are illustrated in Figure 12 and Figure 13 below.

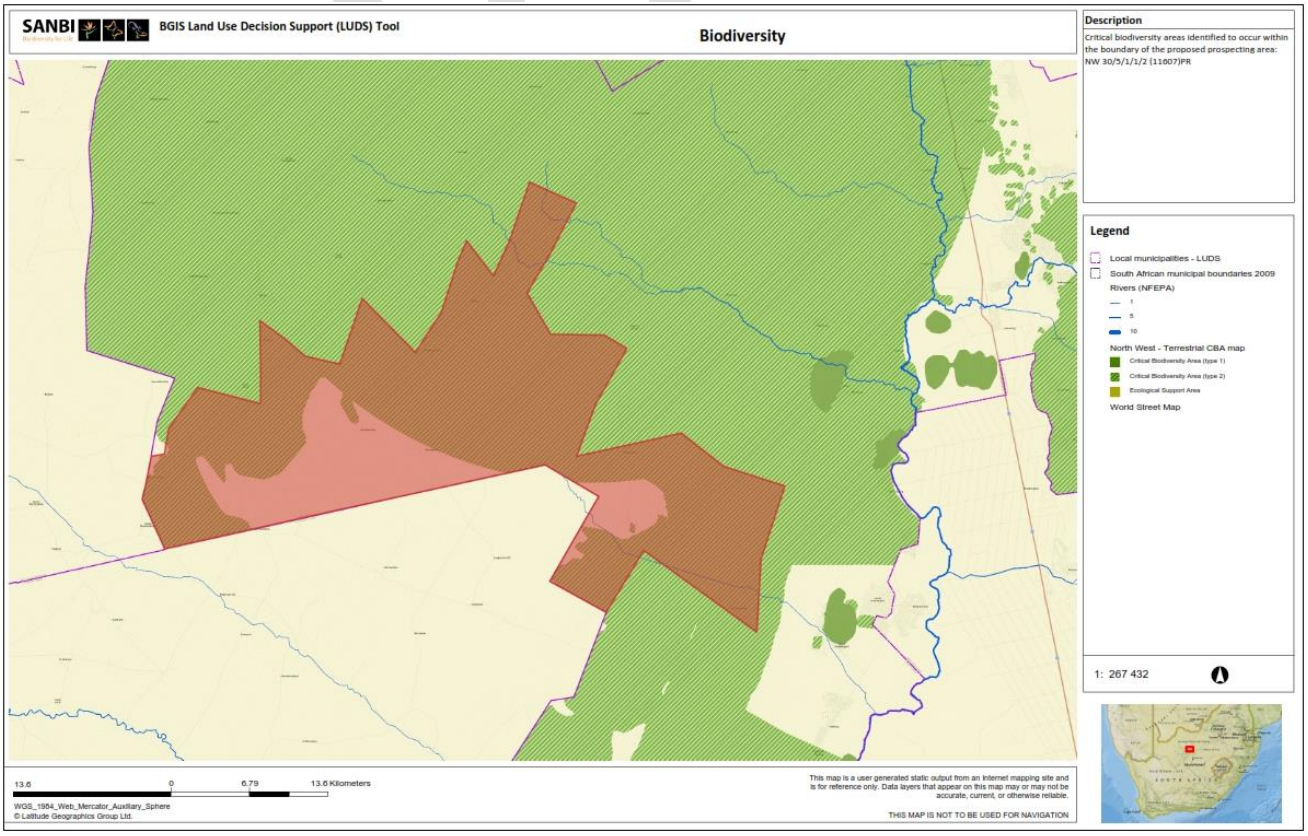


Figure 12: Critical Biodiversity Areas (Type 2) (Source: SANBI BGIS Land Use Decision Support (LUDS) Tool)

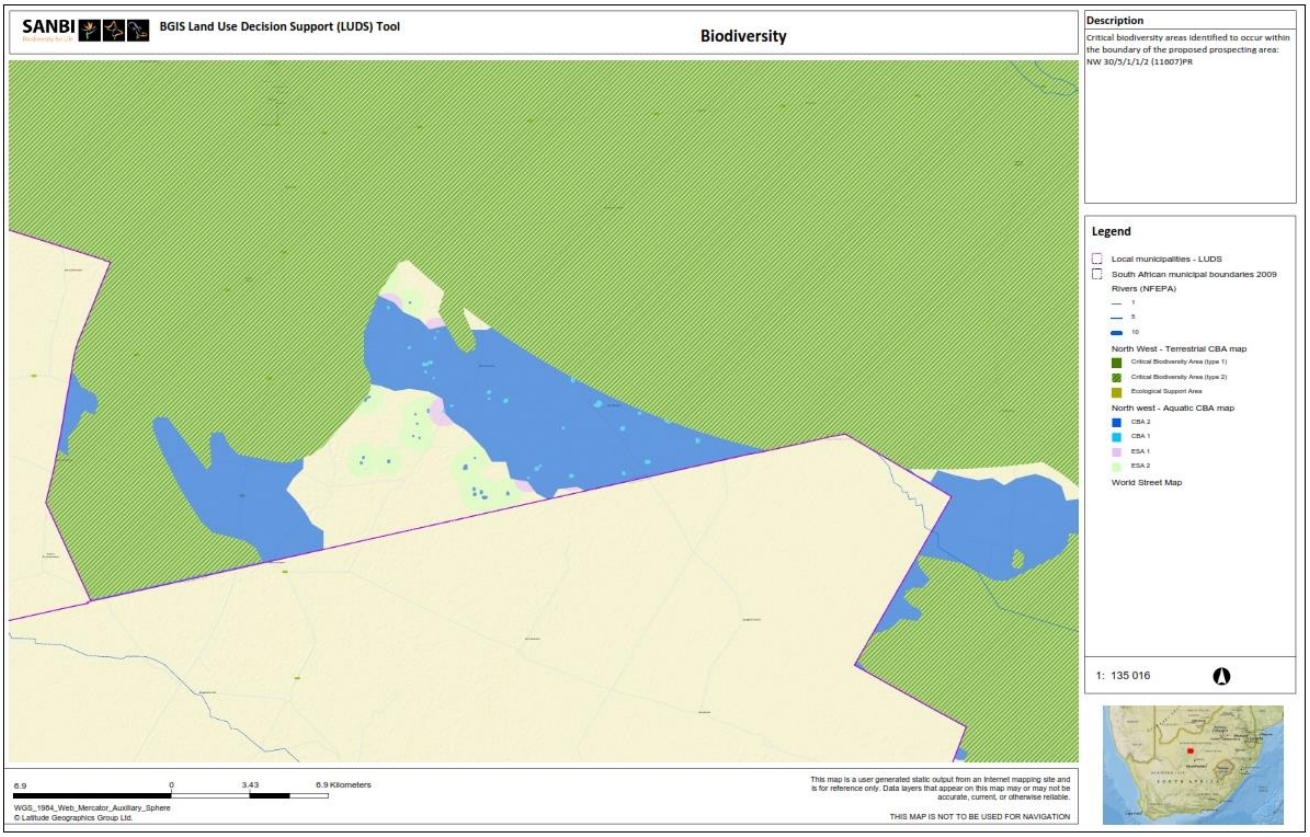


Figure 13: Aquatic Critical Biodiversity Areas (Source: SANBI BGIS Land Use Decision Support (LUDS) Tool)

Flora

The site is located within the Savanna Biome in the Ghaap Plateau Vaalbosveld Vegetation Type (SVk7) with pockets of Southern Kalahari Salt Pans (AZi 4) as defined by Mucina and Rutherford. (SANBI, 2006)

The Ghaap Plateau Vaalbosveld vegetation distribution is found in the Northern Cape and North-West Provinces around the flat plateau. This extends from around Campbell in the south, east of Danielskuil through Reivilo to around Vryburg in the north at altitudes of 1,100 to 1,500m above sea level.

The vegetation and landscape features include flat plateau with a well-developed shrub layer of Tarchananthus camphoratus and Acacia karroo. An open tree layer exists with Olea europaea subsp. africana, A. tortilis, Ziziphus mucronata and Rhus lancea. Olea is more important in the southern parts of the unit, while A. tortilis, A. hebeclada and A. mellifera are more important in the north and a part of the west of the unit. Much of the south- central part of this unit is remarkably low cover of Acacia species for an arid savanna and is dominated by the non-thorny T. camphoratus, R. lancea and O. europaea subsp. africana.

The conservation status of the area is least threatened (SANBI, 2006). Erosion in the area is very low and only about one percent of the vegetation type is conserved to have been transformed.

Important Taxa includes:

- **Tall Tree**: *Acacia erioloba*
- **Small Trees**: *Acacia mellifera subsp. detinens (d), Rhus lancea (d), Acacia karroo, A. tortilis subsp. heteracantha, Boscia albitrunca.*

- **Tall Shrubs**: *Olea europaea subsp. Africana (d), Rhigozum trichotomum (d), Tarchonanthus camphoratus (d), Ziiphus mucronata (d), Diospyros austro-africana, D. pallens, Ehretia rigida subsp. rigida, Euclea crispa subsp. ovata, Grewia flava, Gymnosporia buxifolia, Lessertia frutesces, Rhus tridactyla.*
- **Low Shrubs**: *Acacia hebeclada subsp. hebeclada (d), Aptosimum procumbens, Chrysocoma cilata, Helichrysum zeyheri, Hemannia comosa, Lantana rugose, Leucas capensis, Melolobium microphyllum, Peliostomum leucorrhizum, Fentzia globose, F. firidis, Zygophyllum pubescens.*
- **Succulent Shrubs**: *Hertia pallens, Lycium cinereum. o* Semi-parasitic Shrub: *Thesium hystrix.*
- **Woody Climber**: *Asparagus africanus.*
- **Graminoids**: *Anthephora pubenscens (d), Cenchrus ciliaris (d), Digitaria eriantha subsp. eriantha (d), Enneapogon scoparius (d) Eragrotis lehmanniana (d), Schmidtia pappophoroides (d), Themeda triandra (d), Aristida adscensionis, A. congesta, A. diffusa, Cymbopogon pospischilii, Enneapogon cenchroides, E. desvauxii, Eragrotis echinochloidea, E. obtuse, E. rigidior, E. superba, Fingerhuthia Africana, Heteropogon contortus, Sporobolus fimbriatus, Stipagrotis uniplumis, Tragus racemosus.*
- **Herbs**: *Barleria macrostegia, Geigeria filifolia, G. orativa, Gisekia Africana, Helichrysum cerastioides, Heliotropium ciliatum, Hermbstaedtia odorata, Hibiscus marlothianus, H. pusillus, Jamesbrittenia aurantiaca, Limeum fenestratum, Lippia scaberrima, Selago densiflora, Vahlia capensis subsp. vulgaris.*
- **Succulent Herb**: *Aloe grandidentata.*

Biographically important Taxa includes:

- **Tall shrubs**: *Lebeckia macrantha (GW), Nuxia gracilis (D).*
- **Low Shrubs**: *Blepharis marginata (GW), Putterlickia saxatilis (GW), Tarchonanthus obovatus (GW).*
- **Succulent Shrubs**: *Euphorbia wilmaniae (GW), Prepodesma orpenii (GW – endmic genus.*
- **Graminoids**: *Digitaria polyphylla (GW), Panicum kalaharense (K). o Herbs: Corchorus pinnatipartitus (GW), Helichrysum arenicola (K). o Succulent Herb: Orbea knobelii (K).*
- **Endemic** Taxon only includes an herb namely *Rennera stellate.*

The site is classified to fall within the Griqualand West Centre of Endemism which covers a large area of the Northern Cape and North West Provinces. According to van Wyk and Smith (van Wyk & Smith, 2001) the Griqualand West Centre of Endemism coincides with the surface outcrops of the Ghaap Group (previously Griqualand West Sequence) and Olifantshoek Supergroup (previously Sequence). However, in floristic terms the outer boundaries of the centre are rather diffused, as several of the Griqualand West Centre of Endemism floristic elements spill over onto related substrates, especially alkaline substrates rich in calcium.

There are no formal or informal protected areas located on the site and the site does not form a part of any national focus areas (SANBI, 2015).

Fauna

The habitats on site comprise bushveld and grasslands over the majority of the site with an area of steeper slopes on the far eastern portion of the site. The rivers, pan and wetlands are seasonal and offer an aquatic habitat at times of rain for primarily for birds and amphibians and may be regarded as areas of high biodiversity (Maxim Planning Solutions). The steep slopes areas on the eastern portion of the site may offer unique habitats for reptiles, birds and mammals, and may also be regarded as areas of high biodiversity (Maxim Planning Solutions).

Since the Ghaap Plateau Vaalbosveld is of a least threatened conservation status with the majority remaining intact, the site is not under major threat of habitat destruction however

cognisance must be taken of unique features such as the aquatic habitats offered by the water features and rocky habitats by steeper slopes.

Some of the most common fauna species found in the region are included in Table 14.

Table 14: Common fauna found in the study area

Birds	Small mammals	Reptiles	Amphibians
Pygmy Falcon	Duiker	Leopard Tortoise	Common Caco
Pale Chanting Goshawk	Steenbok	Cape Cobra	Giant Bullfrog
White Quilled Korhaan	Rock Elephant Shrew	Puff Adder	Karoo Toad
Kori Bustard	Smith's Red Rock Rabbit	Mole Snake	Common Platanna
Rock Martin	Ground Squirrel	Brown House Snake	
Mountain Chat	Suricate / Meerkat	Bibron's Gecko	
Crimson Breasted Shrike	Rock Dassie	Southern Rock Agama	
White Browed Sparrow-weaver	Yellow Mongoose	Ground Agama	
Sociable Weaver		Striped Skink	
Cape Bunting		Cape Skink	

The majority of the area targeted for the planned prospecting activities is utilized for cattle and game farming with low levels of habitat transformation. Reportedly, based on information gathered during the previous Consultation Process (2013/2014) for a close by Prospecting Area towards the south-east of this project, game animals such as (blesbuck, aarvark and porcupine) occur in the region. There is an issue of overgrazing in the area affecting the vegetation on site (Maxim Planning Solutions).

The Important Bird Area (IBA) programme (Birdlife International, 2013) was consulted and no important bird areas were identified on or close to the site. The closest IBA is at the Spitskop Dam ± 34 km from the site.

Based on the publically available information obtain from the Birdlife website (Birdlife International, 2013), the Spitskop Dam supports 10,000 birds and on occasion has supported up to 18,000 birds. The dam is regarded as an important bird area as a permanent water body in a low rainfall region. The Spitskop Dam has no protection status and a poaching as well as water pollution has been identified as habitat threats. The water courses and bodies identified on site offer seasonal habitats for bird life, some of which will be likely be similar to those recorded at the Spitskop Dam.

During on-the-ground activities, biodiversity impacts may occur. The prospecting activities does not require extensive land clearing activities / transformation activities though the following potential impacts should be managed:

- Habitat destruction / loss of species resulting from site activities; and
- Poaching and / or collection of plant species.

Socio-economic environment

Heritage Resources

A Heritage Impact Assessment was not undertaken as part of the development of the impact assessment.

The 1:50 000 topographical maps indicate that there are some recorded graves and ruins located on the site as illustrated in Figure 14. It appears that the majority of graves are in

close proximity to houses / residences within the prospecting area with exception of one grave located in the centre of the site.

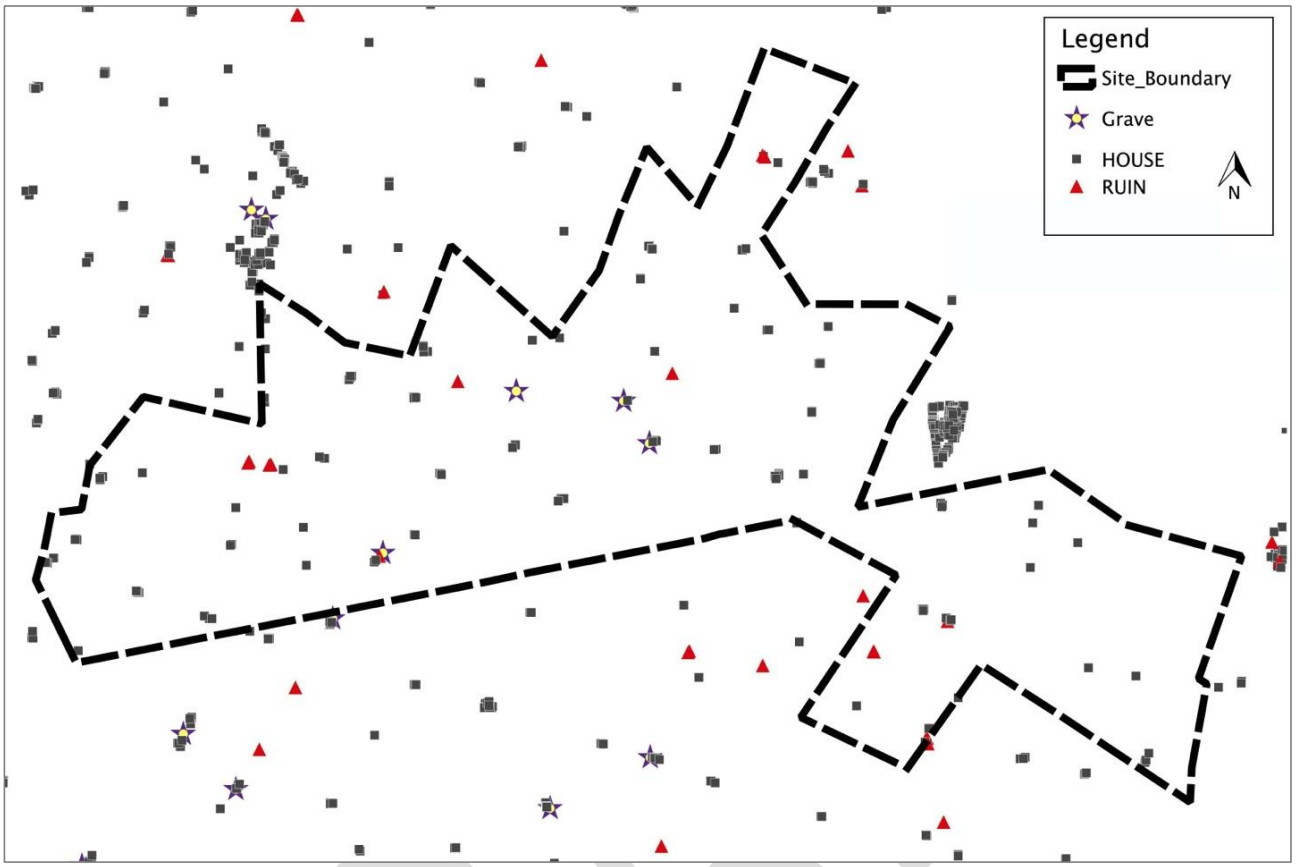


Figure 14: Graves and ruins located on the site (Source: (Chief Directorate Surveys & Mapping, 2003))

Potential heritage impact may occur once significant on-the-ground activities commence, and it is therefore recommended that the Heritage Impact Assessment only be undertaken once the extent of site activities are known (if required). This recommendation has been submitted to the South African Heritage Resource Agency (SAHRA) for approval.

Demographics and Economy

The most recent demographic information for the Greater Taung Local Municipality is from 2011 (Statistics South Africa, 2011). An overview of the demographics is provided in Table 15.

Greater Taung Local Municipality (NW 394) is situated in the western part of North West in the area of jurisdiction of Dr Ruth S Mompati District Municipality. The municipality is one of the five local municipalities in Dr Ruth S Mompati District Municipality. The municipality covers an area of 5,639 km^2, which accounts for 11.8% of the total area of Dr Ruth S Mompati District Municipality. The main rural towns/townships in the municipal area are Reivilo, Pudimoe and Taung Central. About 95% of the municipal area is predominantly rural. There are about 106 widely-scattered villages in the municipal area. There are Northern Cape areas that one passes when going from one village to the other within the municipality, namely Pampierstad and Northern Cape farms. These areas previously formed part of the municipality but were later moved to the Northern Cape during the last demarcation process. The municipality is divided into 26 administration wards and has a total of 52 councillors (both ward and PR councillors).

As the municipality is predominantly rural, villages have been divided under the three tribal authorities under three paramount chiefs, namely Mankuroane, Mothibi and Motlhabane.

The agricultural sector, both commercial and subsistence, is the major employer and contributor to the municipal economy.

The municipal population stands at 177,642 (the largest in the district), with a total of 48,612 households. When compared to the 2001 population statistics, the population size has declined from a total of 182,164 to 177,642 in 2011. The average population density stands at 31.5 km^2.

Table 15: Demographic information (Source: (Statistics South Africa, 2011))

Total population	177,642
Young (0-14)	35.8%
Working Age (15-64)	56.3%
Elderly (65+)	7.9%
Dependency ratio	77.6
Sex ratio	89.2
Population growth rate	-0.25% (2001-2011)
Population density	32 persons/km^2
Unemployment rate	49.8%
Youth unemployment rate	61.7%
No schooling aged 20+	19.2%
Higher education aged 20+	4.7%
Matric aged 20+	15.7%
Number of households	48,613
Number of Agricultural households	18,255
Average household size	3.6
Female headed households	48.2%
Formal dwellings	88.5%
Housing owned/paying off	70%
Flush toilet connected to sewerage	9%
Weekly refuse removal	7.4%
Piped water inside dwelling	10%
Electricity for lighting	88.5%

A greater proportion of the Greater Taung Municipality is 0–14 years (35.9%), followed by members of the population aged15–34 years (31.7%). Members of the population aged 35–64 years account for 24.6% and those aged 65 years and above account for 7.9% of the entire municipal population.

Only 15.7% of the population aged 20+ have attained a matriculation.

A large portion, 48.3% of the population, is not economically active.

The overall unemployment rate in 2011 was 50% and has improvement compared to 2001 it stood at 65%. There has however been a net emigration from the region and a low base of the population pyramid who do not fall within the employable population. This may therefore be an effect of statistics and not represent a true change in economic conditions.

Access to electricity is at 89%, compared to 49% in 2001. Only 10.1% of the households within the municipality have access to a flush toilet, of which 9% is a flush toilet connected to a sewage system and 1.1% is a flush toilet with a septic tank. A total of 77.8% of households use pit toilets.

The municipality is 95% rural and as such only 7.6% of the municipal households have refuse disposal removed by the municipality, whereas over 82% use their own refuse dump. A large portion of the persons live in tribal/traditional areas.

About 98% of households have access to piped (tap) water. From this percentage, 10% has access inside their dwelling units, 10.3% inside their yards, 51.2% access tap water on a community stand that is a distance of less than 200m from their yards, 18% travel between 200m and 500m to access tap water, and 8.3% travel 500m and more to access tap water.

Reportedly, the Greater Taung Municipality has an agriculture-based economy, focusing on both livestock and crops. Most of the crops produced are exported to the Northern Cape as raw materials for further processing, as the neighbouring farmers are equipped with advanced processing machinery. Thus, a large portion of income is derived from the agricultural sector which is mainly owned by individual farmers/corporations. The agricultural sector employs the majority of persons. There is also subsistence farming by villagers who, at times, sell their produce to generate a household income. (Statistics South Africa, 2011)

There are a few government sector departments (sub-district offices) that also contribute to the employment of the municipal population.

The municipality has a large number of unemployed youth with almost as many discouraged work seekers, as illustrated in Figure 15. On a household level, the income groups in Figure 15 would suggest a fairly significant gap between the poor and middle class.

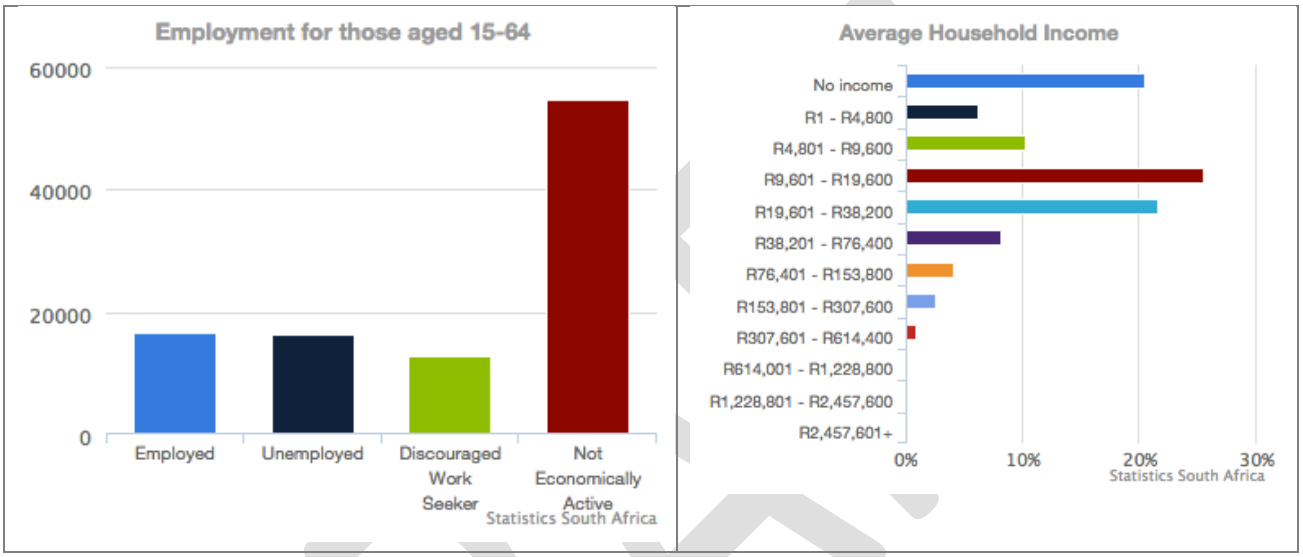


Figure 15: Select economic information (Source: (Statistics South Africa, 2011))

Crime has been raised as an important issue previous consultation processes and is currently a societal issue in South Africa at large. Crime statistics were obtained for the SAPS, North West Province as local statistics were not readily available.

Overall, contact and non-contact related crime have increased in the North West Province by 1.8% over the reporting period of 2013/2014 to 2014/2015. Murder increased by 3.5% over this period from 824 to 853 murders. This was a 4.8% contribution to the total murders in South Africa for the same period. Sexual offences in the North West are recorded to have decreased by 22.1%. Property related crime is reported to have increased by 3.3% with stock theft up by 7.8%. Theft of motor vehicles however decreased by 2.7% for the period.

It should be noted that limited / no viable job opportunities exist during the prospecting phases. All prospecting work is likely to be undertaken by pre-registered vendors.

Increased activity in the area may result in job-seekers and other persons to be attracted to the site. This combined with concerns regarding access control (as previously discussed), incidents of opportunistic crime may occur.

(b) Description of the current land uses

A description of the current land uses are provided in the section "Land capability and cover" above.

(c) Description of specific environmental features and infrastructure on the site

The rivers, pans and wetlands are important features. The largest wetland is crossed by the site boundary just south east of Reivilo as illustrated in Figure 10 on page 52.

The residential settlement to the far south east of the site is the largest settlement on site with the others being isolated farm houses.

There are graves on site as discussed in the heritage resources section on page 57.

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

Indicating all environmental features on a single map would render the map difficult to interpret. A interpret. A land use and important environmental features map has therefore been generated and generated and is presented

Figure 16. Additional maps for environmental features have been produced and included in the report.

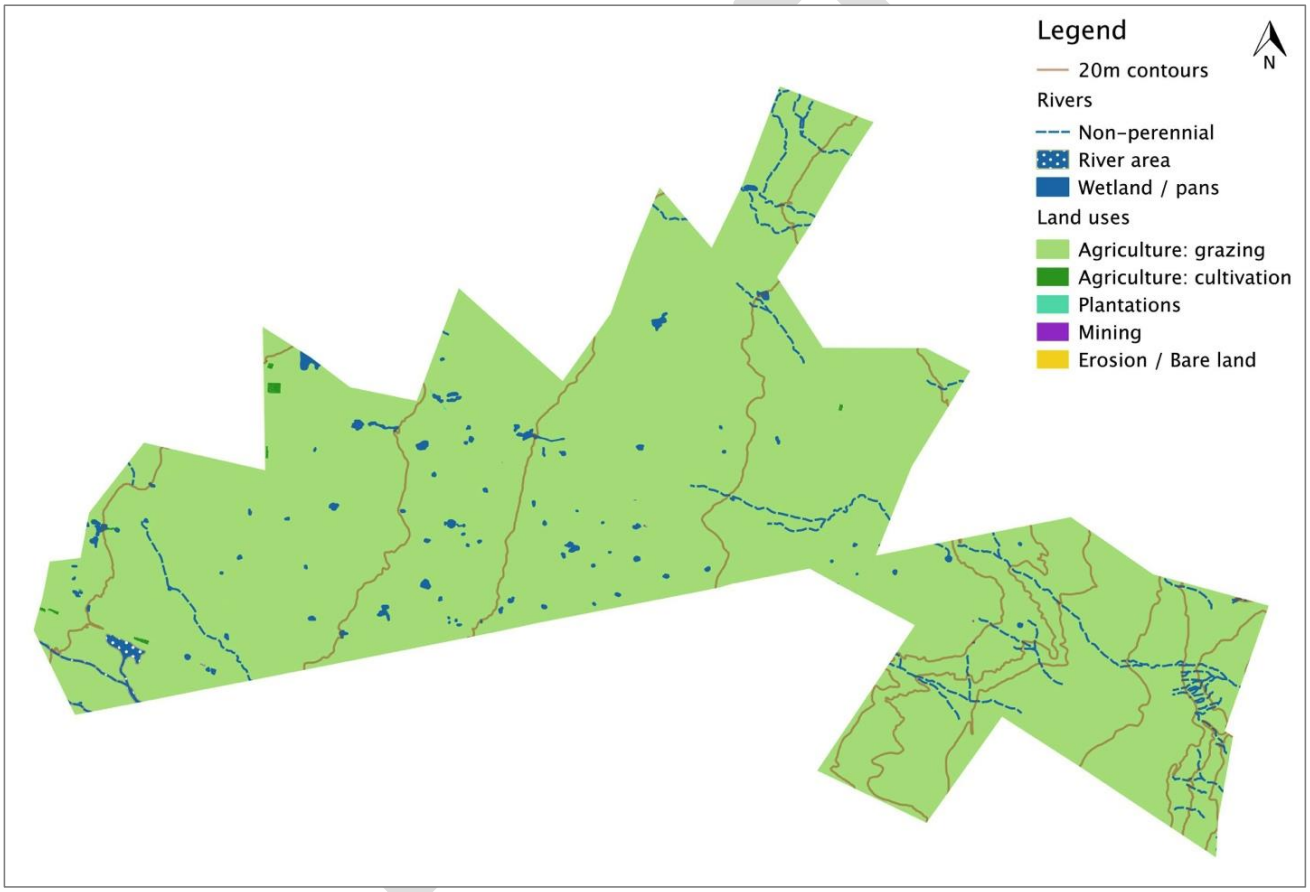


Figure 16: Land use

v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be avoided, managed or mitigated

(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).

Table 16: Impacts and risks identified and the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated

Kindly note that impact significance is indicated in Table 23 and the impact nature, significance, consequence, extent, duration and probability is detailed in ***Addendum E***.

NAME OF ACTIVITY	POTENTIAL IMPACT	REVERSIBLE	IRREPLACEABLE DAMAGE	CAN IMPACT BE AVOIDED
Phase1: Data Acquisition and Desktop Study				
Data collection and assessment (desktop only)	None identified.	N/A	N/A	N/A
Data Assessment	None identified.	N/A	N/A	N/A
Phase 2: Target Generation and Ground Truthing				
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	YES	NO	NO
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	NO	POTENTIAL	YES
	Losses as a result of fire.	PARTIAL	POTENTIAL	YES
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	YES	NO	YES
	Destruction and / or disturbance of on-site fauna and flora.	PARTIAL	NO	YES
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	NO	POTENTIAL	YES

NAME OF ACTIVITY	POTENTIAL IMPACT	REVERSIBLE	IRREPLACEABLE DAMAGE	CAN IMPACT BE AVOIDED
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	YES	NO	PARTIAL
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	YES	NO	YES
	Activities within the river bed could result in the disturbance to the natural geomorphology.	YES	POTENTIAL	YES
	Losses as a result of fire.	PARTIAL	POTENTIAL	YES
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	YES	POTENTIAL	YES
Phase 3: Scout Drilling and Delineation Drilling				
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	YES	NO	YES
	Local Employment Opportunities.	N/A	N/A	N/A
	Destruction and / or disturbance of on-site fauna and flora.	PARTIAL	NO	YES
	Soil compaction resulting from repeated use of access roads to drill sites.	YES	NO	NO

NAME OF ACTIVITY	POTENTIAL IMPACT	REVERSIBLE	IRREPLACEABLE DAMAGE	CAN IMPACT BE AVOIDED
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	YES	NO	PARTIAL
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	NO	POTENTIAL	YES
	Losses as a result of fire	PARTIAL	POTENTIAL	YES
Site establishment activities including: ▪ Vegetation clearing of drill pad area ▪ Topsoil stripping and stockpiling ▪ Drill pad compaction ▪ Excavation and lining of drill water sump ▪ Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay ▪ Erection of fuel storage tank ▪ Erection of safety barrier ▪ Waste generation and management	Destruction and / or disturbance of on-site fauna and flora.	PARTIAL	NO	YES
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	YES	POTENTIAL	YES
	Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	YES	NO	PARTIAL
	Visual Impact affecting visual character and "sense of place".	YES	NO	PARTIAL
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	YES	NO	YES
	Losses as a result of fire	PARTIAL	POTENTIAL	YES

NAME OF ACTIVITY	POTENTIAL IMPACT	REVERSIBLE	IRREPLACEABLE DAMAGE	CAN IMPACT BE AVOIDED
Exploration drilling and core sample collection and storage including: ▪ Scout and delineation drilling ▪ Drill maintenance and re-fuelling ▪ Core sample collection and storage ▪ Drill fluid collection, storage and evaporation ▪ Waste generation and management	Water and soil pollution resulting from disposal of drill fluids, storage of hazardous materials and waste generation	PARTIAL	POTENTIAL	YES
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	YES	NO	PARTIAL
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	YES	NO	PARTIAL
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	YES	NO	PARTIAL
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	NO	POTENTIAL	YES
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	YES	NO	YES
	Impact on water courses and associated ecosystems in the area.	PARTIAL	POTENTIAL	YES
	Losses as a result of fire	PARTIAL	POTENTIAL	YES
Removal of temporary infrastructure including: ▪ Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay	Destruction and / or disturbance of on-site fauna.	YES	NO	YES
	Dust emissions from decommissioning activities (including vehicle entrained dust).	YES	NO	PARTIAL
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	NO	POTENTIAL	YES

NAME OF ACTIVITY	POTENTIAL IMPACT	REVERSIBLE	IRREPLACEABLE DAMAGE	CAN IMPACT BE AVOIDED
▪ Borehole capping ▪ Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of stockpiled topsoil and re-vegetation	Potential water and soil pollution resulting from hydrocarbon spills.	PARTIAL	POTENTIAL	YES
	Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	YES	NO	YES
	Losses as a result of fire	PARTIAL	POTENTIAL	YES

vi) 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 was determined in order to decide the extent to which the initial site layout needs revision).

Criteria of assigning significance to potential impacts

The evaluation of impacts is conducted in terms of the criteria detailed in Table 17 to Table 22. The various environmental impacts and benefits of this project are discussed in terms of impact status, extent, duration, probability, and intensity. Impact significance is regarded as the sum of the impact extent, duration, probability and intensity and a numerical rating system has been applied to evaluate impact significance; therefore an impact magnitude and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance (Table 22).

In order to adequately assess and evaluate the impacts and benefits associated with the project it was necessary to develop a methodology that would scientifically achieve this and to reduce the subjectivity involved in making such evaluations. To enable informed decision-making it is necessary to assess all legal requirements and clearly defined criteria in order to accurately determine the significance of the predicted impact or benefit on the surrounding natural and social environment.

Impact Status

The nature or status of the impact is determined by the conditions of the environment prior to construction and operation. A discussion on the nature of the impact will include a description of what causes the effect, what will be affected and how it will be affected. The nature of the impact can be described as negative, positive or neutral.

Table 17: Status of Impact

RATING	DESCRIPTION
Positive	A benefit to the receiving environment.
Negative	A cost to the receiving environment.

Impact Extent

The extent of an impact is considered as to whether impacts are either limited in extent of if it affects a wide area or group of people. Impact extent can be site specific (within the boundaries of the development area), local, regional or national and/or international.

Table 18: Extent of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Low	Site Specific; Occurs within the site boundary.	1
Medium	Local; Extends beyond the site boundary; Affects the immediate surrounding environment (i.e. up to 5 km from the Project Site boundary).	2
High	Regional; Extends far beyond the site boundary; Widespread effect (i.e. 5 km and more from the Project Site boundary).	3
Very High	National and/or international; Extends far beyond the site boundary; Widespread effect.	4

Impact Duration

The duration of the impact refers to the time scale of the impact or benefit.

Table 19: Duration of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Low	Short term; Quickly reversible; Less than the project lifespan; 0 – 5 years.	1
Medium	Medium term; Reversible over time; Approximate lifespan of the project; 5 – 17 years.	2
High	Long term; Permanent; Extends beyond the decommissioning phase; >17 years.	3

Impact Probability

The probability of the impact describes the likelihood of the impact actually occurring.

Table 20: Probability of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Improbable	Possibility of the impact materialising is negligible; Chance of occurrence <10%.	1
Probable	Possibility that the impact will materialise is likely; Chance of occurrence 10 – 49.9%.	2
Highly Probable	It is expected that the impact will occur; Chance of occurrence 50 – 90%.	3
Definite	Impact will occur regardless of any prevention measures; Chance of occurrence >90%.	4
Definite and Cumulative	Impact will occur regardless of any prevention measures; Chance of occurrence >90% and is likely to result in in cumulative impacts	5

Impact Intensity

The intensity of the impact is determined to quantify the magnitude of the impacts and benefits associated with the proposed project.

Table 21: Intensity of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Maximum Benefit	Where natural, cultural and / or social functions or processes are positively affected resulting in the maximum possible and permanent benefit.	5
Significant Benefit	Where natural, cultural and / or social functions or processes are altered to the extent that it will result in temporary but significant benefit.	4
Beneficial	Where the affected environment is altered but natural, cultural and / or social functions or processes continue, albeit in a modified, beneficial way.	3
Minor Benefit	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are only marginally benefited.	2
Negligible Benefit	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are negligibly benefited.	1
Neutral	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are not affected.	0
Negligible	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are negligibly affected	1
Minor	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are only marginally affected.	2

Average	Where the affected environment is altered but natural, cultural and / or social functions or processes continue, albeit in a modified way.	3
Severe	Where natural, cultural and / or social functions or processes are altered to the extent that it will temporarily cease.	4
Very Severe	Where natural, cultural and / or social functions or processes are altered to the extent that it will permanently cease.	5

Impact Significance

The impact magnitude and significance rating is utilised to rate each identified impact in terms of its overall magnitude and significance.

Table 22: Impact Magnitude and Significance Rating

IMPACT	RATING	DESCRIPTION	QUANTITATIVE RATING
Positive	High	Of the highest positive order possible within the bounds of impacts that could occur.	12 – 16
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. Other means of achieving this benefit are approximately equal in time, cost and effort.	6 – 11
	Low	Impacts is of a low order and therefore likely to have a limited effect. Alternative means of achieving this benefit are likely to be easier, cheaper, more effective and less time-consuming.	1 – 5
No Impact	No Impact	Zero impact.	0
Negative	Low	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural, and economic activities of communities can continue unchanged.	1 – 5
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and fairly possible. Social cultural and economic activities of communities are changed but can be continued (albeit in a different form). Modification of the project design or alternative action may be required.	6 – 11
	High	Of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or a combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt.	12 - 16

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

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

As discussed in the previous section, a subsidiary of Finsch Diamond Mine is successfully mining on the north-western boundary of the proposed area. Based on the outcomes of that study, the possibility to encounter further Diamond Reserves was identified.

The proposed prospecting area is targeted as, several kimberlite occurrences are known in the area, and number of these have been exploited for diamonds in the past, or are currently in operation. The Finsch kimberlite forms part of a cluster of Group II (Micaceous Kimberlites). The other Kimberlites in the cluster, Shone and Bowden as well as Botha, Smuts and Bonza were emplaced as satellite pipes and dyke sets, respectively. The kimberlite cluster was emplaced into the Karoo and Precambrian Griqualand West Supergroups. The Karoo units, as well as a good portion of the crater and diatreme facies of the kimberlites have since been eroded into paleo channels draining into the lower lying surrounding areas.

The site is therefore regarded as the preferred site and alternative sites are not considered.

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

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

POTENTIAL IMPACT	POSSIBLE MANAGEMENT MEASURES
Phase 1: Data Acquisition and Desktop Study	
1. No anticipated impacts	It is not anticipated that prospecting activities will result in conflict in terms of land use planning. If the event that a viable reserve is identified, additional assessment in the regard will be required as part of an application for a mine right. No mitigation measures apart from consultation are proposed at this stage.
Phase 2: Target Generation and Ground Truthing	
2. Noise impacts resulting from site fly-overs affecting cattle and game farm animals.	It is proposed that impacts be managed through consultation with landowners affected by these prospecting activities. All stakeholders are to be informed of the planned airborne geophysics to ensure that (where appropriate), animals are not restricted in holding pens. Facilitated contact with the aircraft pilot must be established during the fly-overs in the event that adverse reaction is noted and alternate flight path should be considered.
3. Nuisance noise impacts on communities and landowners and other persons.	
4. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Formal access control procedures must be agreed through additional consultation processes with each landowners affected by on-site activities.
5. Destruction and / or disturbance of on-site fauna and flora.	Soil sampling areas must be rehabilitated in accordance with the proposed rehabilitation plans.
6. Vehicle traffic noise impact affecting cattle and / or wildlife.	A programme related to on-the-ground prospecting activities must be developed and management measures must be agreed with landowners affected by on-site activities.
7. Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	Appropriate waste management practices must be implemented.

8. Activities within the river bed could result in the disturbance to the natural geomorphology.	Prospecting activities within and / or within a distance of 100 meters or the 1:100 year floodline, whichever is greatest) of any water courses must be assessed once drill locations are known. All required environmental authorisations must be obtained.
9. Activities within the river bed could result in safety hazards during rainy periods.	
10. Soil disturbance from soil sampling resulting in soil structure disturbance / destruction and possibly soil erosion.	Soil sampling areas must be rehabilitated in accordance with the proposed rehabilitation plans.
11. Arson and / accidental fire.	Restrictions (cooking fires and smoking) as well as emergency response requirements are outlined in Table 23.
Phase 3: Scout Drilling and Delineation Drilling	
12. Destruction and / or disturbance of on-site fauna and flora.	Drill sites must be rehabilitated in accordance with the proposed rehabilitation plans.
13. Soil compaction resulting from repeated use of access roads to drill sites.	
14. Vehicle traffic noise impact affecting cattle and / or wildlife.	A programme related to on-the-ground prospecting activities must be developed and management measures must be agreed with landowners affected by on-site activities
15. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Formal access control procedures must be agreed through additional consultation processes with each landowners affected by on-site activities.
16. Potential destruction of heritage resources.	Once the extent of prospecting activities are known, requirements for heritage impact assessment must be confirm.
17. Soil disturbance and compaction and topsoil stockpiling resulting in soil erosion.	Drill sites must be rehabilitated in accordance with the proposed rehabilitation plans.
18. Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	Based on visual site observation, dust suppression techniques must be implemented.
19. Visual impact affecting visual character and "sense of place".	No mitigation proposed.
20. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	The operational staff must inform the owner of land of any instance where casual employment seekers, or other persons regarded to not be employed by such landowners, is noted and / or approach operational staff. In the event that casual labour is employed, recruitment activities will be undertaken at a site within Reivilo and / or other agreed point, though not at a location on any farms.
21. Water and soil pollution resulting from disposal of drill fluids, hydrocarbon spills and drill maintenance activities.	General pollution prevention requirements have been included in Table 23.
22. Continued soil erosion from topsoil stockpile and compaction from drill pad platform.	Drill sites must be rehabilitated in accordance with the proposed rehabilitation plans.
23. Arson and / accidental fire.	Restrictions (cooking fires and smoking) as well as emergency response requirements are outlined in Table 23.

ix) Motivation where no alternative sites were considered

The proposed prospecting area is targeted as, several kimberlite occurrences are known in the area, and number of these have been exploited for diamonds in the past, or are currently in

operation. The Finsch kimberlite forms part of a cluster of Group II (Micaceous Kimberlites). The other Kimberlites in the cluster, Shone and Bowden as well as Botha, Smuts and Bonza were emplaced as satellite pipes and dyke sets, respectively. The kimberlite cluster was emplaced into the Karoo and Precambrian Griqualand West Supergroups. The Karoo units, as well as a good portion of the crater and diatreme facies of the kimberlites have since been eroded into paleo channels draining into the lower lying surrounding areas.

The site is therefore regarded as the preferred site and alternative sites are not considered.

x) Statement motivating the alternative development location within the overall site

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

Not applicable.

i) Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site

(In respect of the final site layout plan) through the life of the activity. (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.)

In order to identify the potential impacts associated with the proposed prospecting activities the following steps were undertaken:

- The stakeholder consultation process is currently undertaken in a manner to be interactive, providing landowners and identified stakeholders with the opportunity to provide input into the project. This is a key focus, as the local residence have capabilities of providing site specific information, which may not be available in desktop research material. All comments and concerns will be captured and formulated into the impact assessment.
- During 2013 - 2014 an Environmental Management Plan was undertaken for a Prospecting Right Application on the portions of land in the region. The baseline studies and impact findings, with strong focus on the views of the stakeholders at that time were incorporated into the assessment of impacts and the ranking of these.
- A detailed desktop investigation was undertaken to determine the environmental setting in which the project is located. Based on the desktop investigations various resources were used to determine the significance and sensitivity of the various environmental considerations.
- The rating of the identified impacts were undertaken in a quantitative manner. The ratings are undertaken in a manner to calculate the significance of each of the impacts. The EAP also assesses the outcomes of the calculation to determine whether the outcome reflects the perceived and actual views.
- The identification of management measures are done based on the significance of the impacts and measures that have been considered appropriate and successful, specifically as Best Practical and Economical Options.

The impact and risks are identified and the significance thereof assessed in the section below.

Kindly note that the impact nature, significance, consequence, extent, duration and probability is detailed in ***Addendum E***.

j) Assessment of each identified potentially significant impact and risk

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

Table 23: Assessment of potentially significant impact and risk

Kindly note that the detailed significance calculations are provided in ***Addendum E*** and the table below merely provides the final significance scores.

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
Phase1: Data Acquisition and Desktop Study							
Data collection and assessment (desktop only)	None identified.	N/A	Planning	N/A	N/A	No mitigation required.	N/A
Data Assessment	None identified.	N/A	Planning	N/A	N/A	No mitigation required.	N/A
Phase 2: Target Generation and Ground Truthing							
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Planning	Negative	7	1. Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of the airborne geophysics survey and a grievance mechanism will be made available. 2. Farms owners must be consulted and informed of any low fly overs which may affect cattle being held in restricted holding pens, which may result in injury or damage. 3. Facilitated contact with the aircraft pilot will be established to ensure that flight plans can be changed in the event that the reaction from cattle and game is such that significant risk may materialise.	6

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	Negative	9	4. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 5. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 6. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	8
	Losses as a result of fire.	Grazing land, cattle, game as well as property	Operational Phase	Negative	10	7. No open fires for any purpose (cooking etc.) will be allowed. 8. Smoking is prohibited. 9. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	Legal compliance	Planning	Negative	9	10. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. 11. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
						commencement of site activities (if required).	
	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Operational Phase	Negative	5	12. Existing tracks and roads must be used as far as is practicable. 13. No tracks will be cleared for once-off access to sampling sites and significant vegetation such as trees and large shrubs must be avoided in the event that driving through the veld is required to access an identified sampling site. 14. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 15. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid animal deaths by vehicle impacts. 16. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 17. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 18. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
						impact on daily farm management activities.	
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	Negative	8	19. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 20. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 21. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	8
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Operational Phase	Negative	4	22. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	Aesthetic value, water resources, fauna and flora	Operational Phase	Negative	10	23. A waste management system will be implemented.	8
	Activities within the river bed could result in the disturbance to the natural geomorphology.	Water resources, fauna and flora	Operational Phase	Negative	6	24. Only soil sampling may be undertaken in the river bed. No other activities (drilling, roads, etc.) may be undertaken. 25. Pans must be avoided, where possible. Where soil sampling is required this must be limited as far as practically possible and the area rehabilitated immediately.	6
	Losses as a result of fire.	Grazing land, cattle and game as well as property	Operational Phase	Negative	9	26. No open fires for any purpose (cooking etc.) will be allowed. 27. Smoking is prohibited. 28. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	Soil resources	Operational Phase	Negative	8	29. Soil sampling sites must be rehabilitated.	7
Phase 3: Scout Drilling and Delineation Drilling							

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	Legal compliance	Planning	Negative	8	30. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. 31. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).	4
	Local Employment Opportunities.	Economy	Planning	Positive	5	32. As far as practically possible the applicant will make use of local suppliers (for example drilling contractors). Only registered, and contractors with a good track record will be utilized.	5
	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Construction Phase	Negative	5	33. Existing tracks and roads must be used as far as is practicable. 34. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. 35. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 36. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
						37. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	
	Soil compaction resulting from repeated use of access roads to drill sites.	Soil resources	Construction Phase	Negative	7	38. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts. 39. As part of rehabilitation, all compacted roads will be ripped and re-vegetated (if required). 40. Were significant risk of erosion is identified, additional mechanical erosion control measures must be implemented.	5
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Construction Phase	Negative	4	41. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Construction Phase	Negative	8	42. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 43. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 44. An open channel of communication will be developed,	8

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
						with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	
	Losses as a result of fire	Grazing land, cattle, game and property	Construction Phase	Negative	9	45. No open fires for any purpose (cooking etc.) will be allowed. 46. Smoking is prohibited. 47. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8
Site establishment activities including: ▪ Vegetation clearing of drill pad area ▪ Topsoil stripping and stockpiling ▪ Drill pad compaction ▪ Excavation and lining of drill water sump ▪ Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay ▪ Erection of fuel storage tank ▪ Erection of safety barrier ▪ Waste generation and management	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Construction Phase	Negative	5	48. The removal of vegetation within the drill pad area will be minimized. 49. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. 50. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 51. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 52. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 53. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Soil resources	Construction Phase	Negative	7	54. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. Where practicable topsoil will be stripped to a depth of 10cm and re-used for rehabilitation purposes. 55. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad. 56. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 57. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 58. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.	5
	Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	Dust emissions	Construction Phase	Negative	4	59. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as and when needed. 60. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
	Visual Impact affecting visual character and "sense of place".	Aesthetics	Construction Phase	Negative	5	61. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.	4
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Crime	Construction Phase	Negative	5	62. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 63. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site. 64. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 65. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.	5
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	Negative	9	66. No open fires for any purpose (cooking etc.) will be allowed. 67. Smoking is prohibited. 68. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8
Exploration drilling and core sample collection and storage including:	Water and soil pollution resulting from disposal of	Water and soil resources	Operational Phase	Negative	10	69. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation.	8

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
▪ Scout and delineation drilling ▪ Drill maintenance and re-fuelling ▪ Core sample collection and storage ▪ (Drill fluid collection, storage and evaporation ▪ Waste generation and management	drill fluids, storage of hazardous materials and waste generation					70. The sump will be constructed to divert storm water away and / or around the sump to avoid clean storm water inflow. 71. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 72. Oils and lubricant will be stored within secondary containment structures. 73. Where practicable, vehicle maintenance will be undertaken off-site and / or outside the 1:100 year floodline and further than 100 meters away from any water course. 74. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil. 75. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 76. A sufficient number of waste receptacles will be provided. 77. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 78. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Soil resources	Operational Phase	Negative	6	79. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.	5
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	Ambient air quality	Operational Phase	Negative	4	80. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement. 81. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	4
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Ambient noise levels	Operational Phase	Negative	4	82. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	Negative	8	83. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 84. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 85. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	8
	Influx of persons (job seekers) to site	Crime	Operational Phase	Negative	5	86. Casual labour will not be recruited at the site to eliminate the	5

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
	as a result of increased activity resulting in increased incidents of theft and opportunistic crime.					incentive for persons travelling to site seeking employment. 87. The landowner will be notified of unauthorised persons encountered on site. 88. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 89. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.	
	Impact on water courses and associated ecosystems in the area.	Sensitive environments, fauna and flora	Operational Phase	Negative	9	90. The prospecting areas must be clearly demarcated. 91. No prospecting activities may be undertaken within or within 100m from water courses or pans.	7
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	Negative	9	92. No open fires for any purpose (cooking etc.) will be allowed. 93. Smoking is prohibited. 94. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8
Removal of temporary infrastructure including: ▪ Removal of temporary site office shaded area, potable ablution faculties, water	Destruction and / or disturbance of on-site fauna.	Sensitive environments, fauna and flora	Decommissioning	Negative	5	95. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes.	4

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
storage tanks and core bay ▪ Borehole capping ▪ Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of stockpiled topsoil and re-vegetation						96. Drill holes must be permanently capped as soon as is practicable	
	Dust emissions from decommissioning activities (including vehicle entrained dust).	Ambient air quality	Decommissioning	Negative	4	97. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 98. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	4
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Decommissioning	Negative	8	99. Access control procedures must be agreed on with farm owners and all staff trained.	8
	Potential water and soil pollution resulting from hydrocarbon spills.	Water and soil resources	Decommissioning	Negative	10	100. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 101. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	8
	Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	Soil resources	Decommissioning	Negative	6	102. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 103. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 104. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding.	5

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	STATUS (IMPACT NEGATIVE OR POSITIVE)	SIGNIFICANCE IF NOT MITIGATED	MITIGATION TYPE / MEASURES	SIGNIFICANCE IF MITIGATED
						105. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.	
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	Negative	9	106. No open fires for any purpose (cooking etc.) will be allowed. 107. Smoking is prohibited. 108. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	8

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked **Appendix**

k) Summary of specialist reports

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

Table 24: Summary of specialist reports

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 Studies have been undertaken as part of the development of the assessment report and / or Environmental Management Programme.	N/A	N/A	N/A

Attach copies of Specialist Reports as appendices

I) Environmental impact statement

i) Summary of the key findings of the environmental impact assessment

Access control measures were identified as an area of high importance. In this regard, management measures must be appropriate to address:

- The unintentional movement of cattle and game farm animals between camps and farm portions;
- The unintentional movement of cattle and game farm animals onto private and public roads; and
- The prevention of access to persons not employed by either the prospecting company and / or land owners.

Additional consultation with affected landowners will be required prior to:

- Airborne geophysics, as it relates to potential noise impacts;
- Ground geophysics as it relates to access control measures and emergency planning; and
- On-the-ground prospecting activities for the purposes of agreeing on access control requirements.

The prospecting site is located in a semi-arid region and the protection of water quality and availability has been identified as aspects of key importance within the municipality and the general region. Requirements from the Department of Water Affairs as outlined in their letter dated 25.09.2015 must be adhered to and the Management Programme address pollution prevention to adequately eliminate, manage and mitigate pollution sources and incidents.

The risk of fire has been highlighted through the stakeholder engagement process. Prevention measures and the requirements for the development of an emergency response plan has been included.

Rehabilitation must be undertaken to mitigate any impacts associated with the loss of habitat and soil erosion.

ii) Final Site Map

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

A final site map has not yet been developed as the extent of prospecting will only be determined after each phase.

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

Not replacing the impacts identified in Table 23, the summary list of potential impacts include:

- Increased ambient noise levels resulting from geophysic surveys site fly-overs and increased traffic movement during all prospecting phases as well as drilling activities.

- Property loss and destruction of habitat resulting arson and / or unintentional fire.
- Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion which may impact on environmental resources utilized by communities, landowners and other stakeholders.
- Soil erosion resulting from the removal of vegetation and disturbance of soil.
- Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
- Vehicle entrained dust emissions.
- Poor access control to farms which may impact on cattle movement, breeding and grazing practices.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.
- Potential visual impacts caused by drilling activities.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and / or regional communities will result from the prospecting activities.

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

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

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities as to avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (both social and environmental) as far as practically possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures, it is anticipated that the identified social & environmental Impacts can be managed and mitigated effectively. Through the implementation of the mitigation and management measures it is expected that:

- Noise impacts can be managed through consultation and through the restriction of operating hours;
- Early consultation with the landowners and maintaining an open channel of communication must be enforced.

- The pollution of soil and water resources can be effectively managed through containment;
- Ecological impact can be managed through the implementation of pollution prevention measures, minimizing land clearing, restricting working hours (faunal disturbance) and rehabilitation.
- Concerns regarding access control to farms can be managed through the development and ensuring compliance to an appropriate access control procedure.
- Risks associated with crime can be mitigated through avoiding recruitment activities on site, as well as monitoring and reporting.
- Visual impact can be minimized through giving consideration to drill site infrastructure placement and materials used.

n) Aspects for inclusion as conditions of Authorisation

Any aspects which must be made conditions of the Environmental Authorisation

The following conditions should be considered for inclusion in the Authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities;
- Written acknowledgement to the applicant to undertake the prospecting activities must be obtained from the landowners.
- No activities, with the exception of the soil sampling, may take place within 100m from any river and or other water course.

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

(Which relate to the assessment and mitigation measures proposed)

The following assumptions, uncertainties and gaps are applicable to this project:

- No Heritage Impact Assessment was undertaken.
- No other specialist studies were undertaken as part of the development of the impact assessment and management programme.
- No detailed site layout is available due to the nature of the prospecting activities. The study is therefore undertaken as a holistic assessment of the overall site.
- The financial provision is based on an assumptions (as outlined in 1)g)), once the drilling programme has been finalized, the financial provision must be updated accordingly.

p) Reasoned opinion as to whether the proposed activity should or should not be authorised

i) Reasons why the activity should be authorized or not

The proposed prospecting area is targeted as, historically, several kimberlite occurrences are known in the area. With the implementation of the recommended management measures, the impacts that could occur can be managed and no significant impacts should occur.

The option of not approving the activities will result in a significant loss to valuable information regarding the mineral status (in terms of diamonds) present on these properties. In addition to this, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost.

ii) Conditions that must be included in the authorization

The following conditions should be included into the authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities;
- Written acknowledgement to the applicant to undertake the prospecting activities must be obtained from the landowners.
- No activities, with the exception of the soil sampling, may take place within 100m from any river or water course.

iii) Period for which the Environmental Authorisation is required

The Prospecting Right has been applied for a period of five years. The Environmental Authorisation should therefore allow for the five years of prospecting and one year for decommissioning and rehabilitation.

q) 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.

An undertaken by the EAP and the client is provided for in PART B of the EMP.

r) Financial Provision

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

The financial provision for the environmental rehabilitation and closure of any mine/prospecting and its associated operations forms an integral part of the MPRDA. Sections 41(1), 41(2), 41(3) and 45 of the MPRDA deal with the financial provision for rehabilitation and closure.

The "Guideline Document for the Evaluation of Financial Provision made by the Mining Industry" was developed by the DMR in January 2005, in order to empower the personnel at Regional DMR offices to review the quantum determination for the rehabilitation and closure of mining sites.

With the determination of the quantum for closure it must be assumed that the infrastructure has no salvage value (clean closure). The closure cost estimate (clean closure) was determined in accordance with the DMR guidelines. The closure cost total are as follows:

Sub Total 1	R 236 019.16
Subtotal 2	R 287 943.38
VAT (14%)	R 40 312.07
Grand Total	R 328 255.45

The following sections presents the methodology for the determination of the financial provision.

i) Explain how the aforesaid amount was derived

It should be noted that the prescribed method for estimating a closure costs, as provided for by the DMR in the form of the Guideline Document for the Evaluation of Financial Provisions, was used as a guideline for assessing and reporting on the closure cost estimate. The calculator used was obtained from the Department of Mineral Resources in 2014.

Due to the fact that the total extent of the prospecting activities are not yet known (as previously discussed), the following assumptions were made in the calculation:

- The total area of Prospecting Activities were calculated as approximately 7,887.5m^2 determined as follows:
  - Drilling Activities (drill pad), assuming 1 targeted drill site with a total of 7 drill holes and 7 drill pads: Approximately: 787.5m^2.
  - Soil Sampling Activities (A typical sampling site will be approximately 1m^2). It is unlikely that more than 100 samples will be taken, however, this will be confirmed

on site as part of the prospecting activities: Approximately > 100m^2.

- Roads (If required, roads will be temporary gravel roads, not exceeding 3,5m in width): Assuming a maximum road length of 2 km: Approximately 7,000m^2.

No.	Description	Unit	A Quantity	B Master Rate	C Multiplica-tion factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m^3	0	R 11.57	1	1	R -
2 (A)	Demolition of steel buildings and structures	m^2	0	R 161.17	1	1	R -
2(B)	Demolition of reinforced concrete buildings and structures	m^2	0	R 237.51	1	1	R -
3	Rehabilitation of access roads	m^2	7000	R 28.84	1	1	R 201 880.00
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	R 279.92	1	1	R -
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	R 152.68	1	1	R -
5	Demolition of housing and/or administration facilities	m^2	0	R 322.33	1	1	R -
6	Opencast rehabilitation including final voids and ramps	ha	0	R 164 050.47	1	1	R -
7	Sealing of shafts adits and inclines	m^3	0	R 86.52	1	1	R -
8 (A)	Rehabilitation of overburden and spoils	ha	0	R 112 646.86	1	1	R -
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	R 140 299.62	1	1	R -
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	R 407 496.61	1	1	R -
9	Rehabilitation of subsided areas	ha	0	R 94 324.78	1	1	R -
10	General surface rehabilitation	ha	0.08	R 89 235.31	1	1	R 7 138.82
10A	Borehole Capping	no	7	R 2 000.00	1	1	R 17 500.00
11	River diversions	ha	0	R 89 235.31	1	1	R -
12	Fencing	m	0	R 101.79	1	1	R -
13	Water management	ha	0	R 33 929.78	1	1	R -
14	2 to 3 years of maintenance and aftercare	ha	0.7	R 11 875.42	1	1	R 9 500.34
15 (A)	Specialist study	Sum	0			1	R -
15 (B)	Specialist study	Sum				1	R -
					Sub Total 1		R 236 019.16

1	Preliminary and General	R 34 398.90	**weighting factor 2** 1	R 28 322.30
2	Contingencies	R 28 665.75		R 23 601.92
			Subtotal 2	R 287 943.38
			VAT (14%)	R 40 312.07
			Grand Total	**R 328 255.45**

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

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

The financial provision required by the holder of the mining right must be provided for by one or more of the following methods in order to achieve the total quantum of rehabilitation and remediation of environmental impacts and damage as well as final closure:

- Approved dedicated trust fund;
- Financial guarantee from a South African registered bank or any other approved financial institution;
- Cash deposit to be deposited at the office of the Regional Manager; or
- Any other manner determined by the Minister.

The applicant is required to annually assess the total quantum of environmental liability for the operation and ensure that financial provision is sufficient to cover the current liability (in the event of premature closure), as well as the end of life liability.

As per Government Legislature, the applicant is required to ensure full financial cover for the current liability at any point in the life of the operation. Pecuniary provision must be made for the shortfall between the existing trust fund balance and the premature closure or current environmental rehabilitation liability if applicable.

It should be noted that the current expenditure provided for in the Prospecting Works Programme does not included the calculated Financial Provision as included into this Basic Assessment, as these values were not available at the time of the submission of the Prospecting Works Programme.

The provision for closure, should be updated into the Prospecting Works Programme prior the decision by the DMR should this decision be positive.

s) Specific Information required by the competent Authority

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

(1) Impact on the socio-economic conditions of any directly affected person.

*(Provide 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, attach the investigation report as an **Appendix**)*

No specific report was generated for the purposes of the socio-economic conditions and anticipated impacts are presented in Table 23.

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

*(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial 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 that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein)*

Prospecting will be undertaken in phases; the first phase being a desktop assessment, followed by ground and / or aerial magnetic survey and soil sampling.

Based on the outcome of these activities, soil sampling and potential drill sites will be determined. Potential heritage impact will only occur once soil sampling and geophysics have been used to identify sites for drilling, and it is therefore recommended that the requirements for a Heritage Impact Assessment be further considered prior to drilling activities.

This recommendation will be submitted to the South African Heritage Resource Agency (SAHRA) for approval.

t) Other matters required in terms of Sections 24(4)(a) and (b) of the Act

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

The proposed prospecting area is targeted as, several kimberlite occurrences are known in the area, and number of these have been exploited for diamonds in the past, or are currently in operation. The Finsch kimberlite forms part of a cluster of Group II (Micaceous Kimberlites). The other Kimberlites in the cluster, Shone and Bowden as well as Botha, Smuts and Bonza were emplaced as satellite pipes and dyke sets, respectively. The kimberlite cluster was emplaced into the Karoo and Precambrian Griqualand West Supergroups. The Karoo units, as well as a good portion of the crater and diatreme facies of the kimberlites have since been eroded into paleo channels draining into the lower lying surrounding areas.

The site is therefore regarded as the preferred site and alternative sites are not considered and an investigation has therefore not been conducted.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1) Draft Environmental Management Programme

a) Details of the EAP

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

The requirement for the provision of the details and expertise of the EAP are included in PART A, Section 1(a).

b) Description of the Aspects of the Activity

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

The requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, Section (1)(h).

c) Composite Map

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

Indicating all environmental features on a single map would render the map difficult to interpret. A A land use and important environmental features map has therefore been generated and is presented

Figure 16. Additional maps for environmental features have been produced and included in the report.

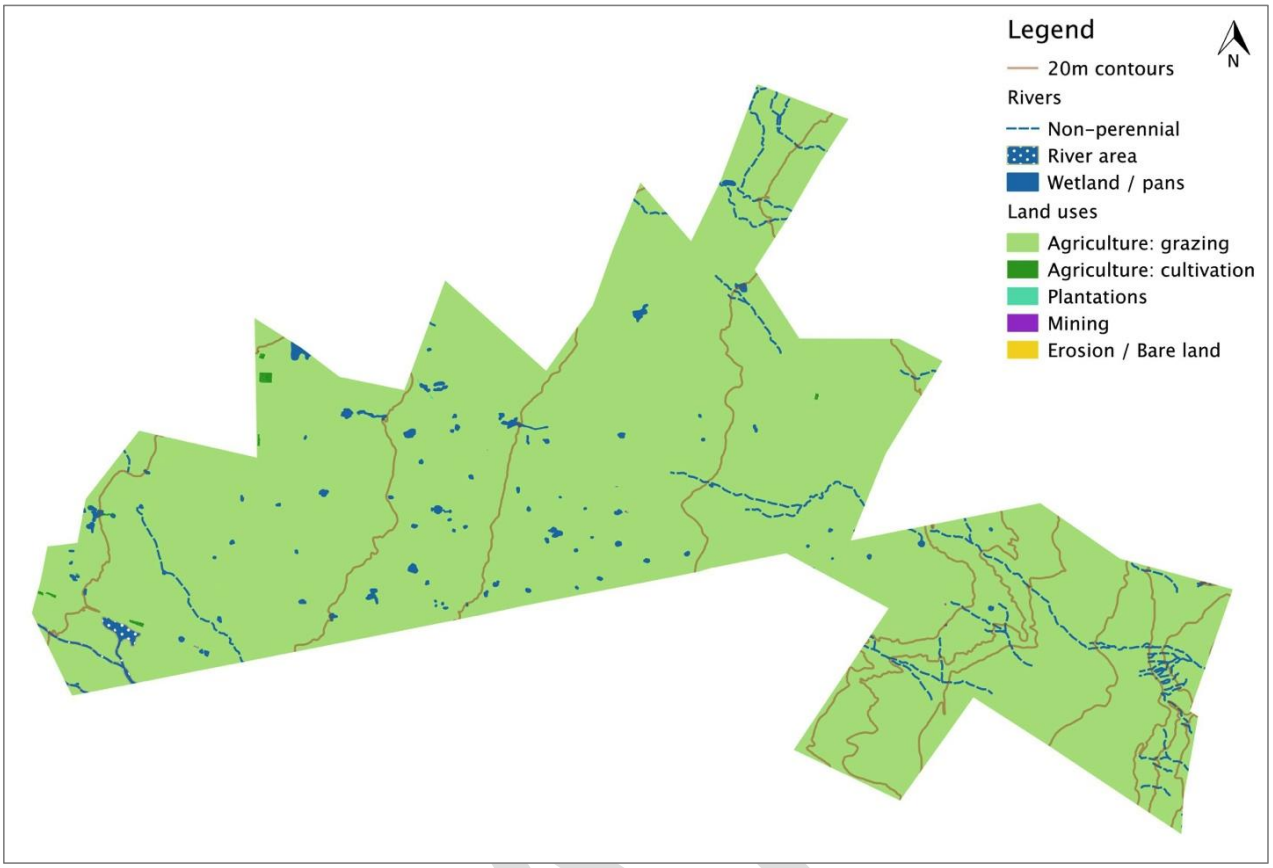


Figure 17: Land use

d) Description of Impact management objectives including management statements

i) Determination of closure objectives

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

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and are able to support a self-sustaining ecosystem similar to surrounding natural environment. The closure objectives are to:

- Eliminate any safety risk associated with drill holes and sumps though adequate drill hole capping and backfilling.
- Remove and / or rehabilitate all pollution and pollution sources such as waste materials and spills;
- To establish rehabilitated area which is not subject to soil erosion which may result in the loss of soil, degradation of the environment and cause pollution of surface water resources; and
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable.

ii) Volumes and rate of water use required for the operation

In terms of Government Notices Regulation 399, the applicant will be allowed to abstract 75m^3 of groundwater per hectare per annum from groundwater within the Quaternary Catchment of C33A and C33B. It is currently not anticipated that this quantity will be exceeded.

iii) Has a water use licence has been applied for?

In terms of Government Notices Regulation 399, the applicant will be allowed to abstract 75m^3 of groundwater per hectare per annum from groundwater within the Quaternary Catchment of C33B. This use will be Generally Authorized. Water abstraction exceeding the stated quantities is not envisaged.

Soil Sampling, Scout & Delineation Drilling activities in proximity to identified water courses (including wetlands) will require a Section 21(c) or (i) water use authorisation.

At this stage, due to the extent and nature of prospecting activities, licenses for water uses are not applied for as the location of site activities (soil sampling and drilling) are not yet known. A submission in this regard has been made to the Department of Water Affairs to obtain written confirmation that applications will be made once sites are known (if required).

Kindly refer to ***Addendum C*** for the response received from the Department of Water Affairs.

iv) Impacts to be mitigated in their respective phases

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

Table 25: Impacts to be mitigated in their respective phases

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
Phase1: Data Acquisition and Desktop Study				
Data collection and assessment (desktop only)	N/A	No mitigation required.	N/A	N/A
Data Assessment	N/A	No mitigation required.	N/A	N/A
Phase 2: Target Generation and Ground Truthing				
Site fly-over	60,796 ha	1. Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of the airborne geophysics survey and a grievance mechanism will be made available. 2. Farms owners must be consulted and informed of any low fly overs which may affect cattle being held in restricted holding pens, which may result in injury or damage. 3. Facilitated contact with the aircraft pilot will be established to ensure that flight plans can be changed in the event that the reaction from cattle and game is such that significant risk may materialise.	The applicant shall ensure service provider compliance with the relevant aviation rules and regulations. The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. The applicant shall consider the Noise Regulation Standards for Rural Areas.	Year 1 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
Ground surveys	60,796 ha	4. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 5. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 6. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 7. No open fires for any purpose (cooking etc.) will be allowed. 8. Smoking is prohibited. 9. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	The applicant shall ensure service provider compliance with the relevant aviation rules and regulations. The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993.	Year 2 & 3 Concurrently with the completion of prospecting activities in an area.
Soil sampling (30kg of soil per sample)	Unknown estimated at 325 ha (100m X100m gird resulting in 96 sampling sites)	10. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. 11. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). 12. Existing tracks and roads must be used as far as is practicable.	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts.	Year 2 & 3 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		13. No tracks will be cleared for once-off access to sampling sites and significant vegetation such as trees and large shrubs must be avoided in the event that driving through the veld is required to access an identified sampling site. 14. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 15. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid animal deaths by vehicle impacts. 16. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 17. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 18. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 19. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 20. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.	Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management.	

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		21. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 22. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances. 23. A waste management system will be implemented. 24. Only soil sampling may be undertaken in the river bed. No other activities (drilling, roads, etc.) may be undertaken. 25. Pans must be avoided, where possible. Where soil sampling is required this must be limited as far as practically possible and the area rehabilitated immediately. 26. No open fires for any purpose (cooking etc.) will be allowed. 27. Smoking is prohibited. 28. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners. 29. Soil sampling sites must be rehabilitated.		
Phase 3: Scout Drilling and Delineation Drilling				
Site Access	Access roads estimated 0.7ha (3.5m width assuming maximum length of 2km)	30. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. 31. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times.	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). 32. As far as practically possible the applicant will make use of local suppliers (for example drilling contractors). Only registered, and contractors with a good track record will be utilized. 33. Existing tracks and roads must be used as far as is practicable. 34. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. 35. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 36. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts. 37. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner. 38. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts. 39. As part of rehabilitation, all compacted roads will be ripped and re-vegetated (if required).	The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.	

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		40. Were significant risk of erosion is identified, additional mechanical erosion control measures must be implemented. 41. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances. 42. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 43. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 44. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 45. No open fires for any purpose (cooking etc.) will be allowed. 46. Smoking is prohibited. 47. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Site establishment activities including: ▪ Vegetation clearing of drill pad area ▪ (Topsoil stripping and stockpiling ▪ Drill pad compaction ▪ Excavation and lining of drill water sump	Drill pad areas estimated 0.08ha (assuming 112.m2 X 7)	48. The removal of vegetation within the drill pad area will be minimized. 49. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. 50. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment.	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times.	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
▪ Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay ▪ Erection of fuel storage tank ▪ Erection of safety barrier ▪ Waste generation and management		51. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 52. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 53. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner. 54. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. Where practicable topsoil will be stripped to a depth of 10cm and re-used for rehabilitation purposes. 55. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad. 56. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 57. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 58. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes. 59. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle	The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.	

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		movement and other construction activities as and when needed. 60. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources. 61. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured. 62. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 63. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site. 64. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 65. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants. 66. No open fires for any purpose (cooking etc.) will be allowed. 67. Smoking is prohibited. 68. Emergency preparedness and response plans will be developed and agreed to with relevant directly		

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		affected and directly adjacent landowners.		
Exploration drilling and core sample collection and storage including: Scout and delineation drilling ▪ Drill maintenance and re-fuelling ▪ Core sample collection and storage ▪ Drill fluid collection, storage and evaporation ▪ Waste generation and management	Drill pad areas estimated 0.08ha (assuming 112.m2 X 7)	69. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation. 70. The sump will be constructed to divert storm water away and / or around the sump to avoid clean storm water inflow. 71. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 72. Oils and lubricant will be stored within secondary containment structures. 73. Where practicable, vehicle maintenance will be undertaken off-site and / or outside the 1:100 year floodline and further than 100 meters away from any water course. 74. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil. 75. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 76. A sufficient number of waste receptacles will be provided. 77. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 78. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993.	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		79. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 80. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement. 81. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources. 82. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances. 83. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 84. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 85. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 86. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 87. The landowner will be notified of unauthorised persons encountered on site. 88. If deemed necessary, the South African Police Service will be informed of	The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.	

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		unauthorised persons encountered on site. 89. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants. 90. The prospecting areas must be clearly demarcated. 91. No prospecting activities may be undertaken within or within 100m from water courses or pans. 92. No open fires for any purpose (cooking etc.) will be allowed. 93. Smoking is prohibited. 94. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Removal of temporary infrastructure including: ▪ Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay ▪ Borehole capping ▪ Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of	Estimated 0.78ha	95. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 96. Drill holes must be permanently capped as soon as is practicable 97. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement.	The applicant shall undertake rehabilitation in accordance with the approved rehabilitation plan and confirm the effectiveness of the rehabilitation programme. The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts.	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
stockpiled topsoil and re-vegetation		98. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources. 99. Access control procedures must be agreed on with farm owners and all staff trained. 100. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 101. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility. 102. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 103. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 104. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding. 105. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months. 106. No open fires for any purpose (cooking etc.) will be allowed. 107. Smoking is prohibited. 108. Emergency preparedness and response plans will be developed and agreed to with relevant directly	Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.	

NAME OF ACTIVITY	SIZE AND SCALE OF DISTURBANCE	MITIGATION TYPE / MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
		affected and directly adjacent landowners.		

e) Impact Management Outcomes

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

Table 26: Impact Management Outcomes

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
Phase1: Data Acquisition and Desktop Study					
Data collection and assessment (desktop only)	None identified.	N/A	Planning	No mitigation required.	N/A
Data Assessment	None identified.	N/A	Planning	No mitigation required.	N/A
Phase 2: Target Generation and Ground Truthing					
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Planning	1. Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of the airborne geophysics survey and a grievance mechanism will be made available. 2. Farms owners must be consulted and informed of any low fly overs which may affect cattle being held in restricted holding pens, which may result in injury or damage. 3. Facilitated contact with the aircraft pilot will be established to ensure that flight plans can be changed in the event that the reaction from cattle and game is such that significant risk may materialise.	▪ Any relevant aviation rules and regulations ▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme ▪ Noise Regulation Standards for Rural Areas
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	4. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 5. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.	▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
				6. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	▪ Section 21 of the National Water Act 36 of 1998 ▪ Mine Health and Safety Act 29 of 1996 ▪ Occupational Health and Safety Act 85 of 1993 ▪ National Environmental Management Waste Act 59 of 2008
	Losses as a result of fire.	Grazing land, cattle, game as well as property	Operational Phase	7. No open fires for any purpose (cooking etc.) will be allowed. 8. Smoking is prohibited. 9. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	Legal compliance	Planning	10. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. 11. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).	▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme ▪ Section 21 of the National Water Act 36 of 1998 ▪ Heritage Resources Act 25 of 1999 Mine Health and Safety Act 29 of 1996 ▪ Occupational Health and Safety Act 85 of 1993 ▪ National Environmental Management Act 107 of 1998 as it relates to any listed activities. ▪ National Environmental Management Waste Act 59 of 2008 ▪ Noise Regulation Standards for Rural Areas ▪ National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities
	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Operational Phase	12. Existing tracks and roads must be used as far as is practicable. 13. No tracks will be cleared for once-off access to sampling sites and significant vegetation such as trees and large shrubs must be avoided in the event that driving through the veld is required to access an identified sampling site. 14. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 15. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid animal deaths by vehicle impacts. 16. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
				management and concerns regarding poaching.	
				17. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	
				18. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.	
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	19. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures.	
				20. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.	
				21. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Operational Phase	22. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	Aesthetic value, water resources, fauna and flora	Operational Phase	23. A waste management system will be implemented.	
	Activities within the river bed could result in the disturbance to the natural geomorphology.	Water resources, fauna and flora	Operational Phase	24. Only soil sampling may be undertaken in the river bed. No other activities (drilling, roads, etc.) may be undertaken. 25. Pans must be avoided, where possible. Where soil sampling is required this must be limited as far as practically possible and the area rehabilitated immediately.	
	Losses as a result of fire.	Grazing land, cattle and game as well as property	Operational Phase	26. No open fires for any purpose (cooking etc.) will be allowed. 27. Smoking is prohibited. 28. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	Soil resources	Operational Phase	29. Soil sampling sites must be rehabilitated.	
Phase 3: Scout Drilling and Delineation Drilling					
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	Legal compliance	Planning	30. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS.	▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
				31. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).	and approved Environmental Management Programme ▪ Section 21 of the National Water Act 36 of 1998 ▪ Heritage Resources Act 25 of 1999 ▪ Mine Health and Safety Act 29 of 1996 ▪ Occupational Health and Safety Act 85 of 1993 ▪ National Environmental Management Act 107 of 1998 as it relates to any listed activities. ▪ National Environmental Management Waste Act 59 of 2008 ▪ Noise Regulation Standards for Rural Areas ▪ National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities
	Local Employment Opportunities.	Economy	Planning	32. As far as practically possible the applicant will make use of local suppliers (for example drilling contractors). Only registered, and contractors with a good track record will be utilized.	
	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Construction Phase	33. Existing tracks and roads must be used as far as is practicable.	
				34. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided.	
				35. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna.	
				36. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.	
				37. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	
	Soil compaction resulting from repeated use of access roads to drill sites.	Soil resources	Construction Phase	38. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts.	
				39. As part of rehabilitation, all compacted roads will be ripped and re-vegetated (if required).	
				40. Were significant risk of erosion is identified, additional mechanical erosion control measures must be implemented.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Ambient noise levels	Construction Phase	41. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Construction Phase	42. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 43. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 44. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	
	Losses as a result of fire	Grazing land, cattle, game and property	Construction Phase	45. No open fires for any purpose (cooking etc.) will be allowed. 46. Smoking is prohibited. 47. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	
Site establishment activities including: ▪ Vegetation clearing of drill pad area ▪ Topsoil stripping and stockpiling ▪ Drill pad compaction ▪ Excavation and lining of drill water sump ▪ Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay	Destruction and / or disturbance of on-site fauna and flora.	Fauna and flora	Construction Phase	48. The removal of vegetation within the drill pad area will be minimized. 49. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. 50. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 51. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 52. An open channel of communication will be developed, with designated personnel	▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme ▪ Section 21 of the National Water Act 36 of 1998 ▪ Heritage Resources Act 25 of 1999 ▪ Mine Health and Safety Act 29 of 1996 ▪ Occupational Health and Safety Act 85 of 1993

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
▪ Erection of fuel storage tank ▪ Erection of safety barrier ▪ Waste generation and management				responsible to remain in contact with the farmers throughout the prospecting activities.	▪ National Environmental Management Act 107 of 1998 as it relates to any listed activities. ▪ National Environmental Management Waste Act 59 of 2008 ▪ Noise Regulation Standards for Rural Areas ▪ National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities
				53. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Soil resources	Construction Phase	54. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. Where practicable topsoil will be stripped to a depth of 10cm and re-used for rehabilitation purposes.	
				55. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad.	
				56. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts.	
				57. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3.	
				58. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.	
	Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	Dust emissions	Construction Phase	59. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as and when needed.	
				60. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.	
	Visual Impact affecting visual character and "sense of place".	Aesthetics	Construction Phase	61. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Crime	Construction Phase	62. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 63. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site. 64. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 65. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.	
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	66. No open fires for any purpose (cooking etc.) will be allowed. 67. Smoking is prohibited. 68. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	
Exploration drilling and core sample collection and storage including: ▪ Scout and delineation drilling ▪ Drill maintenance and re-fuelling ▪ Core sample collection and storage ▪ Drill fluid collection, storage and evaporation ▪ Waste generation and management	Water and soil pollution resulting from disposal of drill fluids, storage of hazardous materials and waste generation	Water and soil resources	Operational Phase	69. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation. 70. The sump will be constructed to divert storm water away and / or around the sump to avoid clean storm water inflow. 71. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 72. Oils and lubricant will be stored within secondary containment structures. 73. Where practicable, vehicle maintenance will be undertaken off-site and / or outside the 1:100 year floodline and further than 100 meters away from any water course. 74. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil.	▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme ▪ Section 21 of the National Water Act 36 of 1998 ▪ Heritage Resources Act 25 of 1999 ▪ Mine Health and Safety Act 29 of 1996 ▪ Occupational Health and Safety Act 85 of 1993 ▪ National Environmental Management Act 107 of 1998 as it relates to any listed activities.

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
				75. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 76. A sufficient number of waste receptacles will be provided. 77. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 78. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	▪ National Environmental Management Waste Act 59 of 2008 ▪ Noise Regulation Standards for Rural Areas ▪ National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Soil resources	Operational Phase	79. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.	
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	Ambient air quality	Operational Phase	80. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement. 81. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Ambient noise levels	Operational Phase	82. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Operational Phase	83. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 84. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 85. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Crime	Operational Phase	86. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 87. The landowner will be notified of unauthorised persons encountered on site. 88. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 89. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.	
	Impact on water courses and associated ecosystems in the area.	Sensitive environments, fauna and flora	Operational Phase	90. The prospecting areas must be clearly demarcated. 91. No prospecting activities may be undertaken within or within 100m from water courses or pans.	
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	92. No open fires for any purpose (cooking etc.) will be allowed. 93. Smoking is prohibited. 94. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	
Removal of temporary infrastructure including: ▪ Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay ▪ Borehole capping ▪ Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of stockpiled topsoil and re-vegetation	Destruction and / or disturbance of on-site fauna.	Sensitive environments, fauna and flora	Decommissioning	95. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 96. Drill holes must be permanently capped as soon as is practicable	▪ Achieve rehabilitation objectives ▪ Section 2 of the National Environmental Management Act 107 of 1998 ▪ The conditions of the Environmental Authorisation and approved Environmental Management Programme ▪ Section 21 of the National Water Act 36 of 1998 ▪ Heritage Resources Act 25 of 1999 ▪ Mine Health and Safety Act 29 of 1996
	Dust emissions from decommissioning activities (including vehicle entrained dust).	Ambient air quality	Decommissioning	97. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 98. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE IN WHICH IMPACT IS ANTICIPATED	MITIGATION TYPE / MEASURES	STANDARD TO BE ACHIEVED
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Cattle and game	Decommissioning	99. Access control procedures must be agreed on with farm owners and all staff trained.	▪ Occupational Health and Safety Act 85 of 1993 ▪ National Environmental Management Waste Act 59 of 2008 ▪ Noise Regulation Standards for Rural Areas ▪ National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities
	Potential water and soil pollution resulting from hydrocarbon spills.	Water and soil resources	Decommissioning	100. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 101. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	
	Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	Soil resources	Decommissioning	102. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 103. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 104. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding. 105. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.	
	Losses as a result of fire	Grazing land, cattle, game and property	Operational Phase	106. No open fires for any purpose (cooking etc.) will be allowed. 107. Smoking is prohibited. 108. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	

f) Impact Management Actions

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

Table 27: Impact Management Actions

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Phase1: Data Acquisition and Desktop Study				
Data collection and assessment (desktop only)	None identified.	No mitigation required.	N/A	N/A
Data Assessment	None identified.	No mitigation required.	N/A	N/A
Phase 2: Target Generation and Ground Truthing				
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	1. Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of the airborne geophysics survey and a grievance mechanism will be made available. 2. Farms owners must be consulted and informed of any low fly overs which may affect cattle being held in restricted holding pens, which may result in injury or damage. 3. Facilitated contact with the aircraft pilot will be established to ensure that flight plans can be changed in the event that the reaction from cattle and game is such that significant risk may materialise.	Year 1 Concurrently with the completion of prospecting activities in an area.	The applicant shall ensure service provider compliance with the relevant aviation rules and regulations. The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. The applicant shall consider the Noise Regulation Standards for Rural Areas.

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	4. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures.	Year 2 & 3 Concurrently with the completion of prospecting activities in an area.	The applicant shall ensure service provider compliance with the relevant aviation rules and regulations. The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993.
		5. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.		
		6. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.		
	Losses as a result of fire.	7. No open fires for any purpose (cooking etc.) will be allowed.		
		8. Smoking is prohibited.		
		9. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	10. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS.	Year 2 & 3 Concurrently with the completion of prospecting activities in an area.	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts.
		11. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).		
		12. Existing tracks and roads must be used as far as is practicable.		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	Destruction and / or disturbance of on-site fauna and flora.	13. No tracks will be cleared for once-off access to sampling sites and significant vegetation such as trees and large shrubs must be avoided in the event that driving through the veld is required to access an identified sampling site.		Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management.
		14. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna.		
		15. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid animal deaths by vehicle impacts.		
		16. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching.		
		17. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.		
		18. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.		
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	19. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures.		
		20. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.		
		21. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		farmers throughout the prospecting activities.		
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	22. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.		
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	23. A waste management system will be implemented.		
	Activities within the river bed could result in the disturbance to the natural geomorphology.	24. Only soil sampling may be undertaken in the river bed. No other activities (drilling, roads, etc.) may be undertaken.		
		25. Pans must be avoided, where possible. Where soil sampling is required this must be limited as far as practically possible and the area rehabilitated immediately.		
	Losses as a result of fire.	26. No open fires for any purpose (cooking etc.) will be allowed.		
		27. Smoking is prohibited.		
		28. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	29. Soil sampling sites must be rehabilitated.		
Phase 3: Scout Drilling and Delineation Drilling				

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	30. A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS.	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National
		31. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).		
	Local Employment Opportunities.	32. As far as practically possible the applicant will make use of local suppliers (for example drilling contractors). Only registered, and contractors with a good track record will be utilized.		
	Destruction and / or disturbance of on-site fauna and flora.	33. Existing tracks and roads must be used as far as is practicable.		
		34. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided.		
		35. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna.		
		36. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.		
		37. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.		
	Soil compaction resulting from repeated use of access roads to drill sites.	38. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts.		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		39. As part of rehabilitation, all compacted roads will be ripped and re-vegetated (if required).		Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
		40. Were significant risk of erosion is identified, additional mechanical erosion control measures must be implemented.		
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	41. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.		
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	42. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures.		
		43. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.		
		44. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.		
	Losses as a result of fire	45. No open fires for any purpose (cooking etc.) will be allowed.		
		46. Smoking is prohibited.		
		47. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Site establishment activities including: ▪ Vegetation clearing of drill pad area ▪ Topsoil stripping and stockpiling	Destruction and / or disturbance of on-site fauna and flora.	48. The removal of vegetation within the drill pad area will be minimized.	Year 4 & 5 Concurrently with the completion of prospecting	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998).
		49. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts.		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
▪ Drill pad compaction ▪ Excavation and lining of drill water sump ▪ Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay ▪ Erection of fuel storage tank ▪ Erection of safety barrier ▪ Waste generation and management		50. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 51. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. 52. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. 53. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	activities in an area.	The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	54. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. Where practicable topsoil will be stripped to a depth of 10cm and re-used for rehabilitation purposes. 55. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad. 56. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 57. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 58. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.		
	Dust emission resulting from site clearing, soil stripping	59. Based on visual observation, wet dust suppression will be undertaken to manage		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	and construction activities (including vehicle entrained dust).	dust emissions from vehicle movement and other construction activities as and when needed.		Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
		60. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.		
	Visual Impact affecting visual character and "sense of place".	61. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.		
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	62. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment.		
		63. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site.		
		64. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.		
		65. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.		
	Losses as a result of fire	66. No open fires for any purpose (cooking etc.) will be allowed.		
		67. Smoking is prohibited.		
		68. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Exploration drilling and core sample collection and storage including:	Water and soil pollution resulting from disposal of drill fluids, storage of	69. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation.	Year 4 & 5 Concurrently with the	The applicant shall conduct all prospecting activities in accordance with the approved prospecting works programme and must take

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
▪ Scout and delineation drilling ▪ Drill maintenance and re-fuelling ▪ Core sample collection and storage ▪ Drill fluid collection, storage and evaporation ▪ Waste generation and management	hazardous materials and waste generation	70. The sump will be constructed to divert storm water away and / or around the sump to avoid clean storm water inflow. 71. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 72. Oils and lubricant will be stored within secondary containment structures. 73. Where practicable, vehicle maintenance will be undertaken off-site and / or outside the 1:100 year floodline and further than 100 meters away from any water course. 74. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil. 75. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 76. A sufficient number of waste receptacles will be provided. 77. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 78. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	completion of prospecting activities in an area.	a precautionary approach (as contemplated in Section 2 of the National Environmental Management Act 107 of 1998). The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	79. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.		
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	80. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement. 81. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	82. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.		2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	83. Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. 84. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. 85. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.		
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	86. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 87. The landowner will be notified of unauthorised persons encountered on site. 88. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. 89. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.		
	Impact on water courses and associated ecosystems in the area.	90. The prospecting areas must be clearly demarcated. 91. No prospecting activities may be undertaken within or within 100m from water courses or pans.		
	Losses as a result of fire	92. No open fires for any purpose (cooking etc.) will be allowed. 93. Smoking is prohibited.		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		94. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		
Removal of temporary infrastructure including: ▪ Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay ▪ Borehole capping ▪ Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of stockpiled topsoil and re-vegetation	Destruction and / or disturbance of on-site fauna.	95. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 96. Drill holes must be permanently capped as soon as is practicable	Year 4 & 5 Concurrently with the completion of prospecting activities in an area.	The applicant shall undertake rehabilitation in accordance with the approved rehabilitation plan and confirm the effectiveness of the rehabilitation programme. The applicant must comply with the conditions of the Environmental Authorisation at all times. The approved management programme must be implemented and were new and unexpected impacts materialise (not previously identified), the applicant must mitigate and management such impacts. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required). Where applicable, the applicant will give due consideration to the requirements of the Mine Health and Safety Act 29 of 1996 and the Occupational Health and Safety Act 85 of 1993. The applicant shall further observe the provisions of the National Environmental Management Act 107 of 1998 as it relates to any activities listed which may require environmental authorisation. In the development of the emergency response plan, the applicant shall give consideration of best practice requirements as
	Dust emissions from decommissioning activities (including vehicle entrained dust).	97. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 98. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.		
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	99. Access control procedures must be agreed on with farm owners and all staff trained.		
	Potential water and soil pollution resulting from hydrocarbon spills.	100. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 101. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.		
	Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	102. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 103. Re-vegetation will be conducted through hand seeding exposed areas using		

Name Of Activity	Potential Impact	Mitigation Type / Measures	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		indigenous grass species as determined by a suitably qualified ecologist.		well as the Occupational Health and Safety Act 85 of 1993. The applicant shall consider best practice and the requirements of the National Environmental Management Waste Act 59 of 2008 in waste management. The applicant shall consider the Noise Regulation Standards for Rural Areas and the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
		104. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding.		
		105. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.		
	Losses as a result of fire	106. No open fires for any purpose (cooking etc.) will be allowed.		
		107. Smoking is prohibited.		
		108. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.		

g) Financial Provision

(1) Determination of the amount of Financial Provision

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

The closure objectives are to:

- Eliminate any safety risk associated with drill holes and sumps though adequate drill hole capping and backfilling.
- Remove and / or rehabilitate all pollution and pollution sources such as waste materials and spills;
- To establish rehabilitated area which is not subject to soil erosion which may result in the loss of soil, degradation of the environment and cause pollution of surface water resources; and
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable.

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

This Basic Assessment Report and Environmental Management Plan are now made available to each registered stakeholder for review and comment. All comments will be captured in the issues and response section and will be included into the final report.

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

As previously mentioned, each phase of the prospecting activities is dependent on the success of the previous. Depending on the outcome of the Phase 1 assessment, an airborne / ground geophysics survey and/or loam sampling programme will be initiated. Targets that have been prioritized through detailed anomaly-specific loam sampling will be tested by initial drilling.

The location and extent of soil sampling and drill sites can therefore not be determined at this stage and mapping of the prospecting activities could thus not be undertaken.

Due to the nature of the activities, the impacts will be regarded as limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities. The only rehabilitation that will specifically be required is borehole capping and revegetation:

- Borehole capping

Drill holes must be permanently capped as soon as is practicable. Figure 18 below provides the prepared procedure for the secure plugging of exploration drill holes.

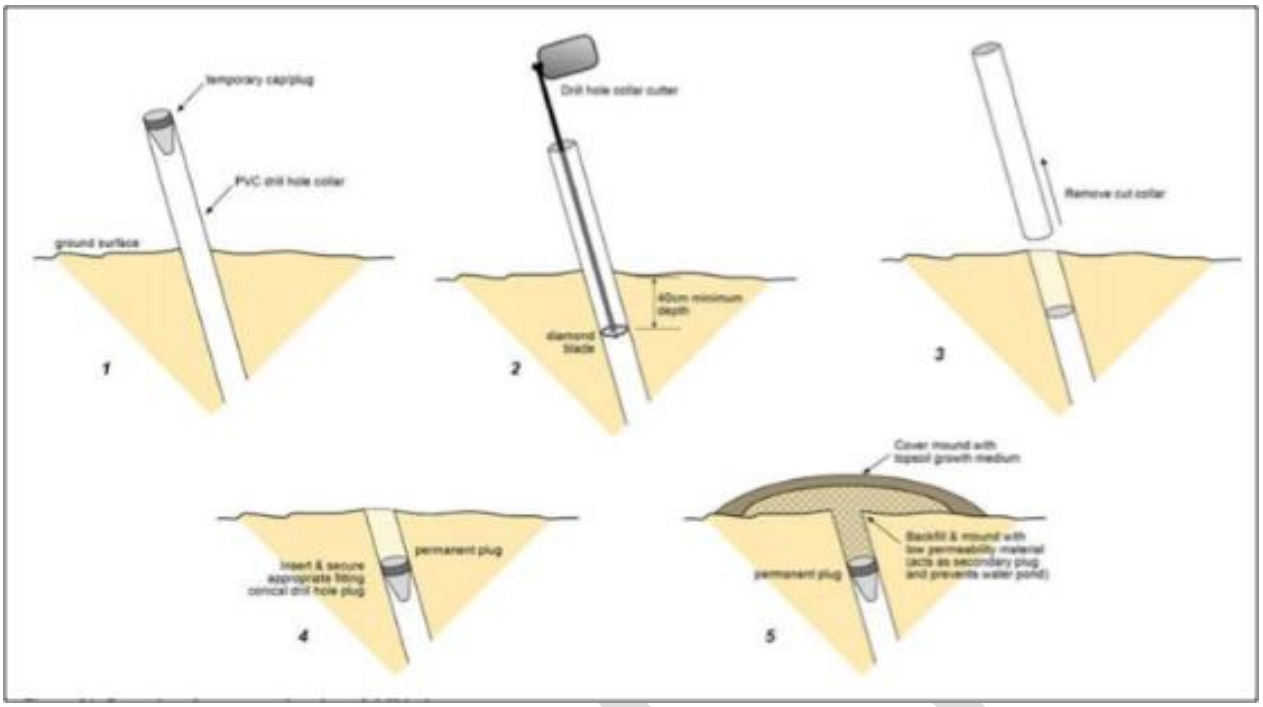


Figure 18: Borehole capping (Source: Department of Mines and Petroleum, DRAFT Guidelines for Environmentally Responsible Mineral Exploration & Prospecting in Western Australia, March 2012)

- Re-vegetation

It is recommended that a standard commercial fertilizer high in the standard elements is added to the soil before re-vegetation, at a rate of 10-20kg/ha (application rate to be confirmed based on input from a suitably qualified specialist). The fertilizer should be added to the soil in a slow release granular form.

A suitably qualified ecologist will be appointed to determine the appropriate veld grass mix for hand seeding.

Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.

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

Due to the nature of the activities, the impacts will be very limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities.

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

The financial provision for the environmental rehabilitation and closure of any mine/prospecting and its associated operations forms an integral part of the MPRDA. Sections 41(1), 41(2), 41(3) and 45 of the MPRDA deal with the financial provision for rehabilitation and closure.

The "Guideline Document for the Evaluation of Financial Provision made by the Mining Industry" was developed by the DMR in January 2005, in order to empower the personnel at Regional DMR offices to review the quantum determination for the rehabilitation and closure of mining sites.

With the determination of the quantum for closure it must be assumed that the infrastructure has no salvage value (clean closure). The closure cost estimate (clean closure) was determined in accordance with the DMR guidelines. The closure cost total are as follows:

Sub Total 1	R 236 019.16
Subtotal 2	R 287 943.38
VAT (14%)	R 40 312.07
Grand Total	R 328 255.45

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

The financial provision required by the holder of the mining right must be provided for by one or more of the following methods in order to achieve the total quantum of rehabilitation and remediation of environmental impacts and damage as well as final closure:

- Approved dedicated trust fund;
- Financial guarantee from a South African registered bank or any other approved financial institution;
- Cash deposit to be deposited at the office of the Regional Manager; or
- Any other manner determined by the Minister.

The applicant is required to annually assess the total quantum of environmental liability for the operation and ensure that financial provision is sufficient to cover the current liability (in the event of premature closure), as well as the end of life liability.

As per Government Legislature, the applicant is required to ensure full financial cover for the current liability at any point in the life of the operation. Pecuniary provision must be made for the shortfall between the existing trust fund balance and the premature closure or current environmental rehabilitation liability if applicable.

It should be noted that the current expenditure provided for in the Prospecting Works Programme does not included the calculated Financial Provision as included into this Basic Assessment, as these values were not available at the time of the submission of the Prospecting Works Programme.

The provision for closure, should be updated into the Prospecting Works Programme prior the decision by the DMR should this decision be positive.

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

- **Monitoring of Impact Management Actions**
- **Monitoring and reporting frequency**
- **Responsible persons**
- **Time period for implementing impact management actions**
- **Mechanism for monitoring compliance**

Table 28: Mechanisms for monitoring compliance

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Phase1: Data Acquisition and Desktop Study				
Data collection and assessment (desktop only)	None identified.	N/A	N/A	N/A
Data Assessment	None identified.	N/A	N/A	N/A
Phase 2: Target Generation and Ground Truthing				
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	Adjacent landowners will be informed of the planned dates of the Airborne geophysics survey and a grievance mechanism will be made available.	Prospecting Manager	<u>Once-off upfront consultation with affected parties.</u> <u>As required as grievances are received.</u> <u>Reporting Requirements:</u> 1. Consultation to be signed-off by Environmental Management. 2. All grievances to be signed-off by Environmental Management. 3. All corrective action and close out of grievances to be signed-off by Environmental Management. 4. Record of grievances, corrective action taken and close out to be submitted to the Department of Mineral resources at the end of the project phase.

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	As soon as the extent of site activities are known, these must be communicated to directly affected landowners and detailed access control procedures and requirements must be developed in consultation with such landowners.	Prospecting Manager	Reporting Requirements: Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken.
	Losses as a result of fire.	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	N/A	N/A	N/A
	Destruction and / or disturbance of on-site fauna and flora.	Visual inspection of biodiversity impacts and the occurrence of invader species	Prospecting Manager Contractor	Once-off during clearing activities Weekly inspection of secondary impacts Reporting Requirements: 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	As soon as the extent of site activities are known, these must be communicated to directly affected landowners and detailed access control procedures and requirements must be developed in consultation with such landowners.	Prospecting Manager	Reporting Requirements: Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken.

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	N/A	N/A	N/A
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	Visual inspection of pollution incidents, the integrity of secondary containment structures and waste management practices.	Prospecting Manager Contractor	<u>Weekly Inspections</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. 4. Incident reporting will be undertaken as required in terms of the relevant legislation including, but not limited to, the: a) Mineral and Petroleum Resources Development Act 28 of 2002; and b) National Water Act 36 of 1998.
	Activities within the river bed could result in the disturbance to the natural geomorphology.	N/A	N/A	N/A
	Losses as a result of fire.	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	Visual inspection of soil erosion and / or compaction	Prospecting Manager Contractor	Weekly and after rain events Reporting Requirements: 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager.
Phase 3: Scout Drilling and Delineation Drilling				
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	N/A	N/A	N/A
	Local Employment Opportunities.	N/A	N/A	N/A
	Destruction and / or disturbance of on-site fauna and flora.	Visual inspection of biodiversity impacts and the occurrence of invader species	Prospecting Manager Contractor	Once-off during clearing activities Weekly inspection of secondary impacts Reporting Requirements: 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources
	Soil compaction resulting from repeated use of access roads to drill sites.	Visual inspection of soil erosion and / or compaction	Prospecting Manager Contractor	Weekly and after rain events Reporting Requirements: 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager.
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and	N/A	N/A	N/A

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
	landowners and other persons.			
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	As soon as the extent of site activities are known, these must be communicated to directly affected landowners and detailed access control procedures and requirements must be developed in consultation with such landowners.	Prospecting Manager	<u>Reporting Requirements:</u> Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken.
	Losses as a result of fire	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A
Site establishment activities including: (a) Vegetation clearing of drill pad area (b) Topsoil stripping and stockpiling (c) Drill pad compaction (d) Excavation and lining of drill water sump (e) Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay (f) Erection of fuel storage tank (g) Erection of safety barrier	Destruction and / or disturbance of on-site fauna and flora.	Visual inspection of biodiversity impacts and the occurrence of invader species	Prospecting Manager Contractor	<u>Once-off during clearing activities</u> <u>Weekly inspection of secondary impacts</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Visual inspection of soil erosion and / or compaction	Prospecting Manager Contractor	<u>Weekly and after rain events</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager.
	Dust emission resulting from site clearing, soil stripping and construction	Dust generated will be assessed through visual observation	Prospecting Manager Contractor	<u>On-going</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager.

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
(h) Waste generation and management	activities (including vehicle entrained dust).			2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Visual Impact affecting visual character and "sense of place".	N/A	N/A	N/A
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	N/A	N/A	N/A
	Losses as a result of fire	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A
Exploration drilling and core sample collection and storage including: (a) Scout and delineation drilling (b) Drill maintenance and re-fuelling (c) Core sample collection and storage (d) Drill fluid collection, storage and evaporation (e) Waste generation and management	Water and soil pollution resulting from disposal of drill fluids, storage of hazardous materials and waste generation	Visual inspection of pollution incidents, the integrity of secondary containment structures and waste management practices.	Prospecting Manager Contractor	<u>Weekly Inspections</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. 4. Incident reporting will be undertaken as required in terms of the relevant legislation including, but not limited to, the: a) Mineral and Petroleum Resources Development Act 28 of 2002; and b) National Water Act 36 of 1998.
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Visual inspection of soil erosion and / or compaction	Prospecting Manager Contractor	<u>Weekly and after rain events</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager.
	Dust emissions from drilling and general site activities	Dust generated will be assessed through visual observation	Prospecting Manager Contractor	<u>On-going</u> <u>Reporting Requirements:</u>

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
	(including vehicle entrained dust)			1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	N/A	N/A	N/A
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	As soon as the extent of site activities are known, these must be communicated to directly affected landowners and detailed access control procedures and requirements must be developed in consultation with such landowners.	Prospecting Manager	<u>Reporting Requirements:</u> Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken.
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	N/A	N/A	N/A
	Impact on water courses and associated ecosystems in the area.	Visual inspection of biodiversity impacts and the occurrence of invader species	Prospecting Manager Contractor	<u>Once-off during clearing activities</u> <u>Weekly inspection of secondary impacts</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources
	Losses as a result of fire	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Removal of temporary infrastructure including: (a) Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay (b) Borehole capping (c) Drill pad rehabilitation including ripping of drill pad and access road, re-spreading of stockpiled topsoil and re-vegetation	Destruction and / or disturbance of on-site fauna.	Visual inspection of biodiversity impacts and the occurrence of invader species	Prospecting Manager Contractor	<u>Once-off during clearing activities</u> <u>Weekly inspection of secondary impacts</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources
	Dust emissions from decommissioning activities (including vehicle entrained dust).	Dust generated will be assessed through visual observation	Prospecting Manager Contractor	<u>On-going</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	As soon as the extent of site activities are known, these must be communicated to directly affected landowners and detailed access control procedures and requirements must be developed in consultation with such landowners.	Prospecting Manager	<u>Reporting Requirements:</u> Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken.
	Potential water and soil pollution resulting from hydrocarbon spills.	Visual inspection of pollution incidents, the integrity of secondary containment structures and waste management practices.	Prospecting Manager Contractor	<u>Weekly Inspections</u> <u>Reporting Requirements:</u> 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager. 3. Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. 4. Incident reporting will be undertaken as required in terms of the relevant legislation including, but not limited to, the: a) Mineral and Petroleum Resources Development Act 28 of 2002; and b) National Water Act 36 of 1998.
	Soil erosion resulting from the re-spreading			<u>Weekly and after rain events</u>

SOURCE ACTIVITY	POTENTIAL IMPACT	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
	of topsoil before vegetation is re-established.	Visual inspection of soil erosion and / or compaction	Prospecting Manager Contractor	Reporting Requirements: 1. Monthly monitoring reports to be signed-off by the Environmental Manager. 2. Corrective action to be confirmed and signed-off by the Environmental Manager.
	Losses as a result of fire	The Emergency Preparedness and Response Plan must developed in conjunction with landowners.	Prospecting Manager	N/A

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

Annual performance assessments must be undertaken on the EMP. These reports must also include the assessment and adjustment of the financial provision.

j) Environmental Awareness Plan

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

An Environmental Awareness and Risk Assessment Schedule have been developed and is outline in Table 29. The purpose of this schedule is to ensure that employees are not only trained but that the principles are continuously re-enforced.

Table 29: Environmental Training and Awareness Schedule

FREQUENCY	TIME ALLOCATION	OBJECTIVE
Induction (all staff and workers)	1 hour training on environmental awareness training as part of site induction	1. Develop an understanding of what is meant by the natural environmental and social environment and establish a common language as it relates to environmental, health, safety and community aspects. 2. Establish a basic knowledge of the environmental legal framework and consequences of non-compliance. 3. Clarify the content and required actions for the implementation of the Environmental Management Plan. 4. Confirm the spatial extent of areas regarded as sensitive and clarify restrictions. 5. Provide a detailed understanding of the definition, the method for identification and required response to emergency incidents.
Monthly Awareness Talks (all staff and workers)	30 minute awareness talks	Based on actual identified risks and incidents (if occurred) reinforce legal requirements, appropriate responses and measures for the adaptation of mitigation and/or management practices.
Risk Assessments (supervisor and workers involved in task)	Daily task based risk assessment	Establish an understanding of the risks associated with a specific task and the required mitigation and management measures on a daily basis as part of daily tool box talks.

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

As prescribed in Table 29, Task / Issue Based Risk Assessments must be undertaken with all worker involved in the specific task in order to establish an understanding of the risks associated with a specific task and the required mitigation and management measures.

- Environmental Awareness Training Content – Induction Training

  The following environmental awareness training will be provided to all staff and workers who will be involved in prospecting activities.

- Description of the approved prospecting activities and content of the prospecting right;
- An overview of the applicable legislation and regulations as it relates to environmental, health, safety and community including (but not limited to):
  - General Environmental Legal Principles and Requirements
  - Air Quality Management
  - Water and Wastewater Management
  - Hazardous Substances
  - Non-Mining-Related Waste Management
  - The Appropriate Remediation Strategies & Deteriorated Water Resources
  - Biodiversity
  - Weeds and Invader Plants
  - Rehabilitation
  - Contractors and Tenants
  - Energy & Conservation
  - Heritage Resources
  - General Health and Safety Matters
  - Basic Conditions of Employment
  - Compensation for Occupational Injuries and Diseases
  - General Mine Health and Safety Matters
  - Smoking in the Workplace
  - Noise & Hearing Conservation
  - Handling, Storage and use of Hazardous Substances
  - Weapons and Firearms
- Content and implementation of the approved Environmental Management Plan
  - Allocated responsibilities and functions
  - Management and Mitigation Measures
  - Identification of risks and requirements adaptation
- Sensitive environments and features

- ❖ Description of environmentally sensitive areas and features
- ❖ Prohibitions as it relates to activities in or in proximity to such areas

➢ Emergency Situations and Remediation

- ❖ Methodology for the identify areas where accidents and emergency situations may occur, communities and individuals that may be impacted
- ❖ An overview of the response procedures,
- ❖ Equipment and resources
- ❖ Designate of responsibilities
- ❖ Communication, including communication with potentially Affected Communities
- ❖ Training schedule to ensure effective response.

▪ Development of procedures and checklists

The following procedures will be developed and all staff and workers will be adequately trained on the content and implementation thereof.

➢ Emergency Preparedness and Response

The procedure will be developed to specifically include risk identification, preparedness, response measures and reporting. The procedure will specifically include spill and fire risk, preparedness and response measures. The appropriate emergency control centers (fire department, hospitals) will be identified and the contact numbers obtained and made available on site. The procedure must be developed in consultation with all potentially affected landowners. In the event that risks are identified which may affected adjacent landowners (or other persons), the procedure will include the appropriate communication strategy to inform such persons and provide response measures to minimize the impact.

➢ Access Control Procedures

In consultation with directly affected landowners, access control procedures will be developed to management associated impacts. These procedures shall be specific to address landowner requirements.

➢ Incident Reporting Procedure

Incident reporting will be undertaken in accordance with an established incident reporting procedure to (including but not limited to):

- ❖ Provide details of the responsible person including any person who: (i) is responsible for the incident; (ii) owns any hazardous substance involved in the incident; or (iii) was in control when the incident occurred;
- ❖ Provide details of the incident (time, date, location);
- ❖ The details of the cause of the incident;

- ❖ Identify the aspects of the environment impacted;
- ❖ The details corrective action taken, and
- ❖ The identification of any potential residual or secondary risks that must be monitored and corrected or managed.

➢ Environmental and Social Audit Checklist

An environmental audit checklist will be established to include the environmental and social mitigation and management measures as developed and approved as part of the Environmental Management Plan. Non-conformances will be identified and corrective action taken where required.

k) Specific information required by the Competent Authority

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

No specific information has yet been requested by the Competent Authority.

2) UNDERTAKING

The EAP herewith confirms:

(a) The correctness of the information provided in the reports [X]

(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 [N/A]

(d) That the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein [X]

Signature of the environmental assessment practitioner:

Name of company:

Date:

-------END------

Addendum A to Draft Basic Assessment Report and environmental Management Programme

NW 30/5/1/1/2 (11607)PR

Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd

Company Profile

DATE: OCTOBER 2014

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Johannesburg
2193

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Founded in 2012, Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd is an owner managed company based in Johannesburg, providing environmental and sustainability services, and environmental advice to clients in all major sectors.

The company makes use of a wide network of suitably qualified specialist consultants and subject matter experts to ensure that clients receive the best possible advice as it relates to environmental, health, safety and sustainability matters.

The company's approach to providing consulting services is rooted in establishing long term client relationships, offering capacity and specialist skills to address client specific environmental, health, safety and sustainability concerns.

Service Offering	**Description**
Environmental, Social and Governance (ESG) Consulting Services	In order to address the inclusive aspects of ESG performance, Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd partners with various specialised consultancies to provide clients with expert advice regarding all matters related to environmental, social and governance matters. We partner with clients in developing and achieving their strategic ESG goals as part of a strategy for business risk mitigation, profitability, optimisation and ultimately sustainability.
ESG Reporting Support	The company offers support and capacity to clients in the development of ESG and Integrated Reports based on the requirements of the Global Reporting Initiative (G4), United Nations Global Compact and United Nations Principles for Responsible Investment Initiatives as well as other guidelines, standards and principles as adopted by the business.
Environmental, Health and Safety Compliance and Performance	Through partnering with specialised consultancies, the company provides environmental, health and safety compliance an performance auditing services to clients also including: a) Environmental, health and safety national, provincial and local legal compliance; and b) International Finance Corporation Performance Standards and World Bank Environmental, Health and Safety Guideline compliance.
Environmental Authorisations, Licenses and Permits	The company provides consulting services to clients including impact assessments, stakeholder consultation and the development of risk management strategies as part of the legal processes to obtain environmental authorisations, licenses and permits as required in terms of environmental legislation.
General environmental advice and training	Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd provides general environmental advise to client to address environmental concerns as well as to identify and manage strategic environmental and ESG risks. The company further offers environmental training services based on client needs and requirements.

Lizelle Prosch has extensive experience in sustainability and environmental consulting with a specific focus on authorisation processes, the development of management plans, risk determination, international best practice requirements, legal compliance matters, auditing, sustainability services and reporting. Since 2010, her focus has been on assisting clients to address environmental, social and governance concerns as part of an integrated approach to decision-making and performance management.

Career Highlights and Employment History

Invitation of membership for the development of the proposed Southern African Mining ESG Reporting Guideline Continuing to provide advisory & consulting services to major clients and new clients including AECOM and SAFEmap	*2014*	**Lizelle Prosch Consulting** Owner Managed Consulting Company
Successful own business start-up providing environmental and sustainability advisory & consulting services to major clients including Gem Diamonds, Petra Diamonds, Universal Coal, Royal Bafokeng Holdings and Marsh	*2013*	**Lizelle Prosch Consulting** Owner Managed Consulting Company
Appointed as team co-ordinator for the WSP Environmental Planning Team in Johannesburg securing new business and delivering on key contracts and consulting to major clients such a Sasol and EnviroServ.	*2012*	**WSP E&E** Environmental Planning Team Co-ordinator: Johannesburg **Marsh Risk Consulting** Environmental Practice Leader
Promoted to Marsh Risk Consulting Environmental Practice Leader Invitation to collaborate with the Marsh Risk Consulting Europe, Middle East and Africa Workforce Strategies Initiative (London)	*2011*	**Marsh Risk Consulting** Environmental Practice Leader
Appointed as a dedicated environmental advisor to Royal Bafokeng Holdings to manage issues as it relates to ESG	*2010*	**Marsh Risk Consulting** Environmental Planning - Business Unit Manager
Co-ordinating of the development of the 2008 Environmental Outlook for the North-West Province as well as the 2009 Royal Bafokeng Nation Strategic Environmental Assessment	*2009*	**Marsh Risk Consulting** Environmental Planning - Business Unit Manager
Successfully delivering environmental advisory & consulting services to clients	*2008*	**Marsh Risk Consulting** Environmental Planning - Business Unit Manager
Promoted to Marsh Risk Consulting Environmental Planning Business Unit Manager	*2007*	**Marsh Risk Consulting** Environmental Planning - Business Unit Manager
Appointed to manage the environmental authorisation process for the PPC Cement Secondary Materials Co-Processing Programme at six of its cement plants	*2006*	**Marsh Risk Consulting** Senior Environmental Consultant
Successfully securing new projects and delivering environmental advisory & consulting services to major clients including local and provincial government	*2005*	**KWP** Director and Environmental Consultant
Appointed as a Director of KWP Environmental Consultants	*2004*	**KWP** Director and Environmental Consultant
Successfully delivering environmental advisory & consulting services to clients	*2003*	**KWP** Environmental Consultant
Under the guidance and with the support of senior management, assisted in the repositioning of KWP Landscape Architects as environmental consultants	*2002*	**KWP** Landscape Architect and Environmental Consultant
Appointed as a Landscape Architect delivering on design projects for major clients such as the South African Reserve Bank and the Mpumalanga Legislature	*2001*	**KWP** Landscape Architect and Environmental Consultant

Project	Description
Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd	
Environmental Legal Register and Compliance Audit ***SAFEmap*** *(2014)*	The development of a comprehensive environmental legal register and International Finance Corporation Performance Standard compliance framework for a new platinum mine in the Rustenburg Region. The project also included the undertaking of an internal compliance audit to determine the environmental legal compliance status and the development of a corrective action plan.
Environmental Advisory Services ***Living Africa*** *(2013 – Current)*	Appointed to provide environmental management advice, undertake impact assessments and management planning for various brownfield sites in Gauteng.
Environmental Impact Assessment and Management Programme ***AECOM*** *(2014)*	Sub-contracted to undertake environmental impact assessments to obtain environmental authorisation for ten municipal landfill sites in the Western Cape Province.
Environmental Legal Registers ***Universal Coal*** *(2013)*	The project involved the development of a comprehensive environmental legal register for a coal mine located in the Delmas Region.
International Finance Corporation and World Bank Environmental, Health and Safety Guideline Compliance Review ***Universal Coal*** *(2013)*	In accordance with the lender requirements, the project scope included an IFC and World Bank EHS Guideline compliance review and the development of an Environmental and Social Action Plan for implementation. The review included an assessment of the adequacy of environmental, health and safety management systems to ensure the effective management of risks.
Environmental Management Programmes ***Petra Diamonds*** *(2013 – Current)*	Appointed to develop environmental management programmes for prospecting activities in the Northern Cape and North West Province.
Environmental, Health and Safety Due Diligence ***Anglo African Capital*** *(2013)*	The project involved an environmental, health and safety due diligence investigation of a mine to determine and quantify risks and liabilities to inform the investment decision-making process.
United Nations Principles for Responsible Investment and Global Compact Reporting ***Royal Bafokeng Holdings*** *(2013 and 2014)*	Appointed to prepare the UNPRI and UNGC communication on progress regarding the integration of the ESG principles as promoted by these initiatives.
Environmental, Gender Equitably and Disability Policy and Procedure Development ***Universal Coal*** *(2013)*	The development of a policy statement as it relates to gender equality and equal opportunity for persons with disabilities as well as the development of a procedure for environmental performance management for a new proposed coal mine.
Sustainable Development Report Development ***Gem Diamonds*** *(2013)*	Assisted in the development and compilation of the 2012 Gem Diamonds Sustainable Development Report. The 2012 Sustainable Development Report included all of Gem Diamond's managed mining operations and facilities globally. Active mining operations located in Lesotho, Australia and Botswana. Other facilities included the Gem Diamonds head office in London, the Gem Diamonds Technical Services office in Johannesburg, the Chiri Project in Angola which remained on care and maintenance since 2011 until its disposal in October 2012, marketing services office in Belgium and the cutting and polishing facilities in Mauritius and Belgium.

Project	Description
Environmental Management Consulting Services ***Bundu Mining*** *(2013)*	Appointed to provide general environmental management services as it relates to the mining operations including environmental legal services, environmental authorisations and risk management.
Environmental Management Consulting Services ***Marsh*** *(2013-current)*	Appointed to provide environmental consulting, management and business development services including: ▪ Environmental advisory services; ▪ Technical environmental assessment as part of alternative risk transfer investigations; and ▪ Environmental risk assessments, impact assessment and management planning.
Key project undertaken while employed at WSP Environment and Energy	
Phase 1 Environmental Due Diligence ***EnviroServ*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The project involved a phase 1 (desktop) due diligence investigation of landfill sites, incinerators and depots.
Equator Principle and IFC compliance assessments of targeting investee's on behalf of lending institution ***RMB*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The project involved the undertaking of an IFC Performance Standard and EHS Guideline Compliance Audit to determine compliance status and to develop an action plan for achieving compliance. The evaluation included an assessment of the environmental, health and safety management systems to ensure that the systems are appropriately developed for the effective management of risks.
Social and Environmental Action Plan for the Construction and Operational Phases of the Highway 20 Upgrade, Vietnam ***Vietnamese Government*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The scope of work included the development of a detailed environmental, health and safety action plan for implementation during the upgrade of Highway 20, 268 kilometres through the Dong Nai and Lam Dong Provinces.
Environmental Legal Compliance Audit ***Much Asphalt*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The project involved the undertaking of a comprehensive legal compliance audit of all facilities nationally against national, provincial and local environmental legal requirements.
Strategic Environmental Advise ***Advisory service on behalf of Marsh (Pty) Ltd to Wasteman*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The scope of work involved attendance at the ESG Risk Committee Meeting to advise board members on risk exposures, the effectiveness of environmental systems implementation and risk transfer alternatives.
Environmental and Social Impact Assessment ***Sasol*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The undertaking of a Social and Environment Impact Assessment for the proposed Sasol Concentrated Solar Plant Project in Upington.
Environmental and Social Impact Assessment ***Samancor (BHP Billiton)*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The undertaking of a Social and Environment Impact Assessment for the proposed decommissioning of five ferromanganese furnaces in Meyerton.

Project	Description
Key projects undertaken while employed at Marsh Risk Consulting	
Environmental Risk Assessment and Management Strategy ***Sekaka Diamonds (subsidiary of Petra Diamonds)*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The project involved the undertaking of a social and environmental risk assessment and the development of a management plan for a prospecting operation in Botswana. The scope of work included a strategic social and environmental risk assessment in order to advise the client on social and environmental risks associated with operating a mine in the region. The undertaking of the strategic risk assessment was a progressive step towards understanding operational resource requirements to final investment decision-making.
Equator Principle and IFC compliance assessments of investee (cement manufacturing company) on behalf of lending institution ***Standard Bank*** *(2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** The project involved the undertaking of an IFC Performance Standard and EHS Guideline Compliance Audit to determine compliance status and to develop an action plan for achieving compliance. The evaluation included an assessment of the environmental, health and safety management systems to ensure that the systems are appropriately developed for the effective management of risks.
Legal Update Service and Legal Auditing ***Various Clients (including clients such as Nampak, Safripol, Canon, Assore, Sasol and Standard Bank)*** *(2011 – 2012)*	**Responsibilities: Client Executive, Project Oversight and Assurance** Marsh provides a legal update and environmental legal compliance auditing service to clients. Clients receive monthly or quarterly updates on any environmental legislative changes. This service is extended on client request, to include occupational health and safety legislation and updates are provided by a specialised health and safety consultant appointed as part of the team.
Strategic Environmental Consulting ***Royal Bafokeng Holdings (RBH)*** *(2010-2012)*	**Responsibilities: Client Executive and Dedicated Environmental Resource** Appointed as a dedicated environmental resource for the development of the Royal Bafokeng Holding Company's Sustainability Strategy, Responsible Investment Policy, 2010 and 2011 Sustainability Reports as well as to provide Executive ESG Training.
Environmental Impact Assessment Amendment Application and Social License to Operate ***Gope Exploration Company*** *(2010-2011)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** This project scope included an Environmental impact assessment amendment application for the proposed change in mining method.
Environmental Impact Assessment: Proposed NBC Belfast Coal Mine ***Exxaro*** *(2010 - 2012)*	**Responsibilities: Client Executive, Project Leader and Project Oversight** Marsh was appointed to undertake an Environmental Impact Assessment and prepare and Environmental Management Plan for the proposed NBC Belfast Coal Mine.
Environmental Impact Assessment: Proposed re-commissioning of the Pering Zink and Lead Mine ***Pering Mine*** *(2009-2012)*	**Responsibilities: Client Executive, Project Leader and Environmental Consultant** Environmental Impact Assessment, Environmental Management Plan and Water Use License for the proposed re-commissioning of the Pering Zink and Lead Mine.
Environmental Consulting Services	**Responsibility: Project Leader**

Project	Description
Robor (Pty) Ltd *(2009)*	General environmental advice and an application to obtain environmental authorisation for the decommissioning of the pickling plant.
Royal Bafokeng Nation Strategic Environmental Assessment ***Royal Bafokeng Holdings (RBH)*** *(2009)*	**Responsibility: Project Leader and Strategic Consultant** Marsh was appointed by RBH to undertake a Strategic Environmental Assessment for the land owned by the Royal Bafokeng Nation. The purpose of the assessment was to (1) determine the current state of the environment, (2) identify development trends and its potential effect on the environment and (3) evaluate current, and propose future initiatives with the intend to achieve sustainable development. The overall aim of the assessment was to integrate environmental and sustainability considerations in strategic decision-making.
North West Province Environment Outlook ***North West Department of Agriculture, Conservation and Environment (NWDACE)*** *(2008)*	**Responsibility: Project Leader and Strategic Consultant** The North West Provincial Environment Outlook Report 2008 included a detailed analysis of the past and present state of the environment, and also included the development of possible future environmental risk and opportunity scenarios for North West Province. The purpose of undertaking scenario planning was to inform decision-makers of possible alternative options relating to the environment going forward.
PPC Secondary Materials Co-Processing Programme – Environmental Impact Assessment ***PPC Cement Company (Pty) Ltd*** *(2005-2012)*	**Responsibility: Project Manager** Marsh Environmental Services was been appointed by Pretoria Portland Cement to conduct the Environmental Impact Assessment for the proposed use of secondary materials to supplement the coal supply for the firing of the cement kilns.
Sheba's Ridge Site Selection ***Sheba's Ridge Platinum*** *(2007)*	**Responsibility: Project Consultant** Marsh undertook a site selection process to determine the sites best suited for the proposed Sheba's Ridge Smelter, thereby minimizing potential impact and managing mitigation measures required.
Pixley Prospecting and Mining Operation – Environmental Screening Report ***DMC Coal Mining*** *(2008)*	**Responsibility: Project Manager** Marsh undertook a site sensitivity analysis (Environmental Screening Analysis) of the area proposed for future mining of coal and torbanite to establish the environmental risks and associated cost relating to the mitigation of significant impacts. As part of the process, Marsh further undertook a stakeholder engagement process to assess community, NGO and public concerns.

Other projects

Project Leader for Environmental Impact Assessments, Environmental Feasibility and Due Diligence Investigations conducted by the Marsh Environmental Services Planning Team. Key clients including **Ford Motor Company, Arcelor Mittal, Adcock Ingram, ACSA, PPC, DivFoods, Gem Diamonds, The Cavaleros Group, Urban Dynamics, Bigen Africa and NuWay Housing.**

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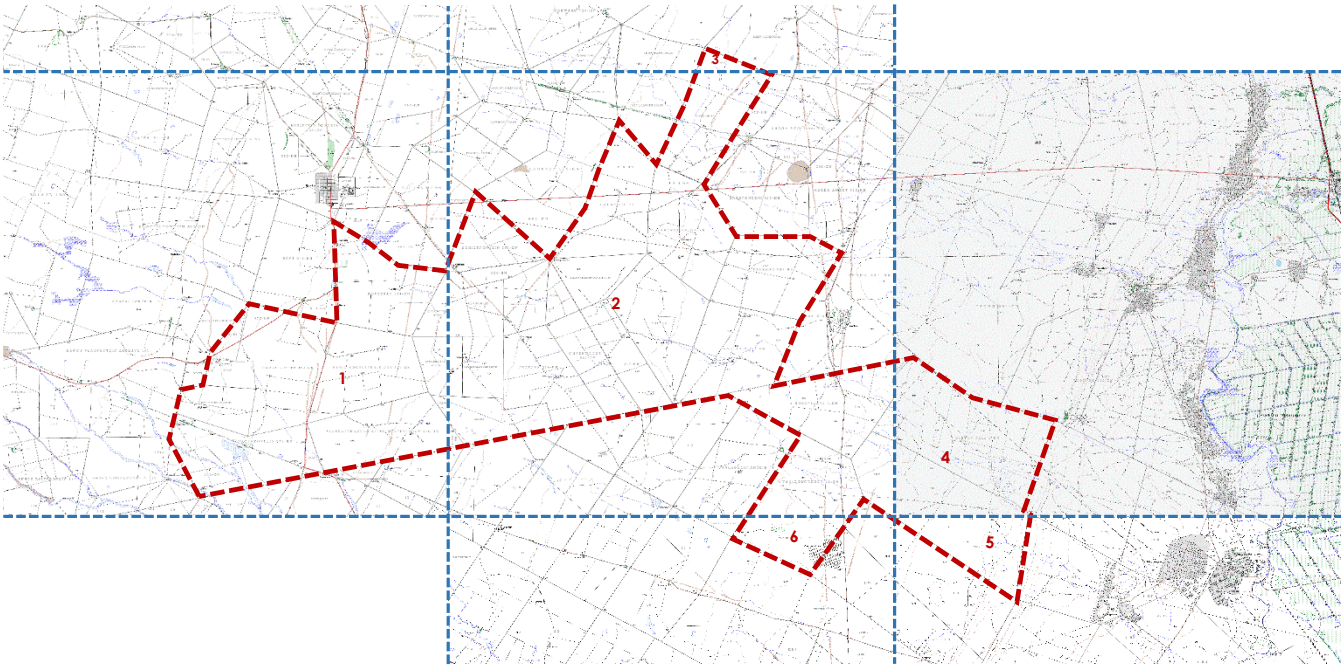
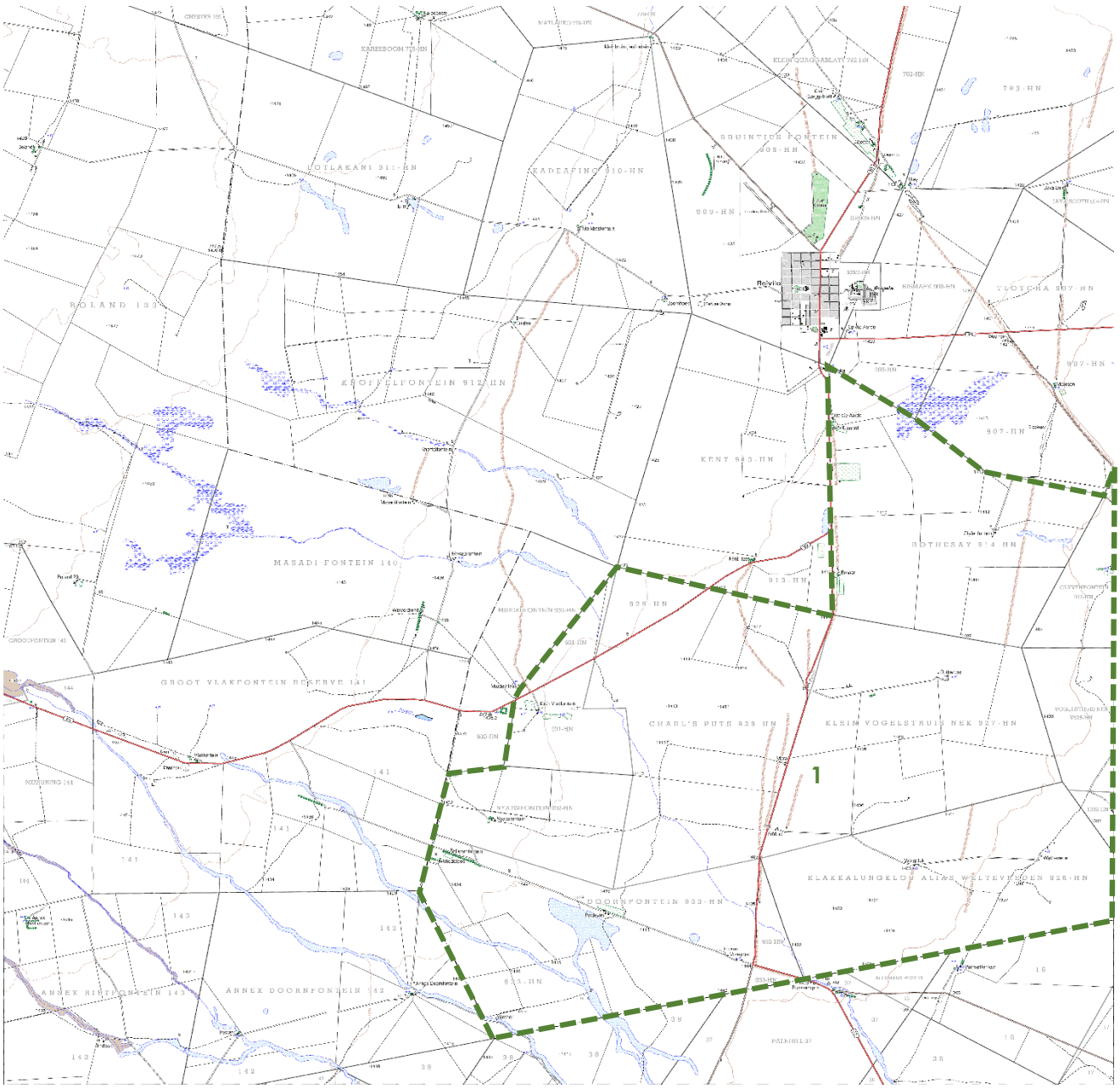
1:50 000 Topographical Maps

Map Key

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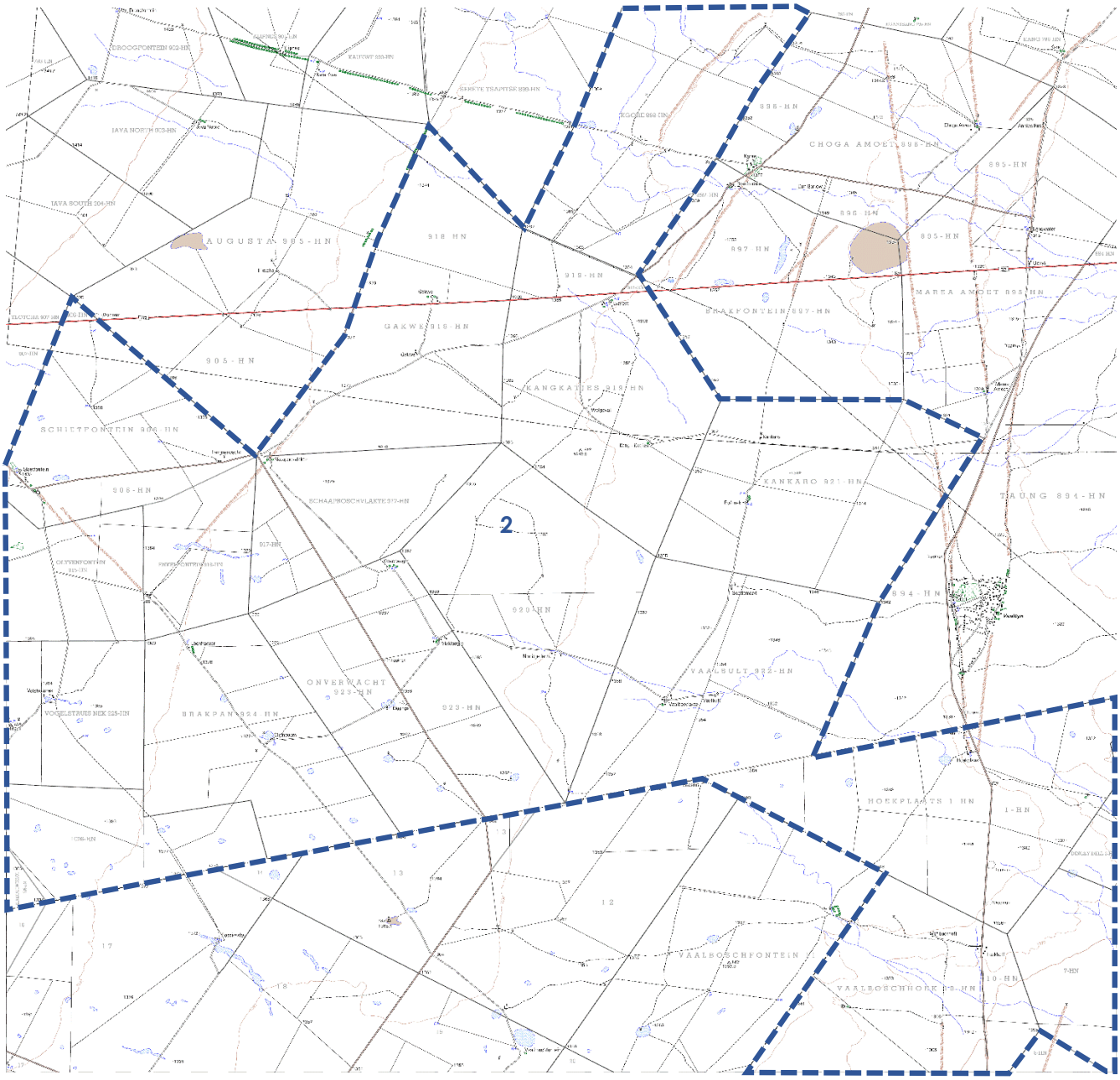
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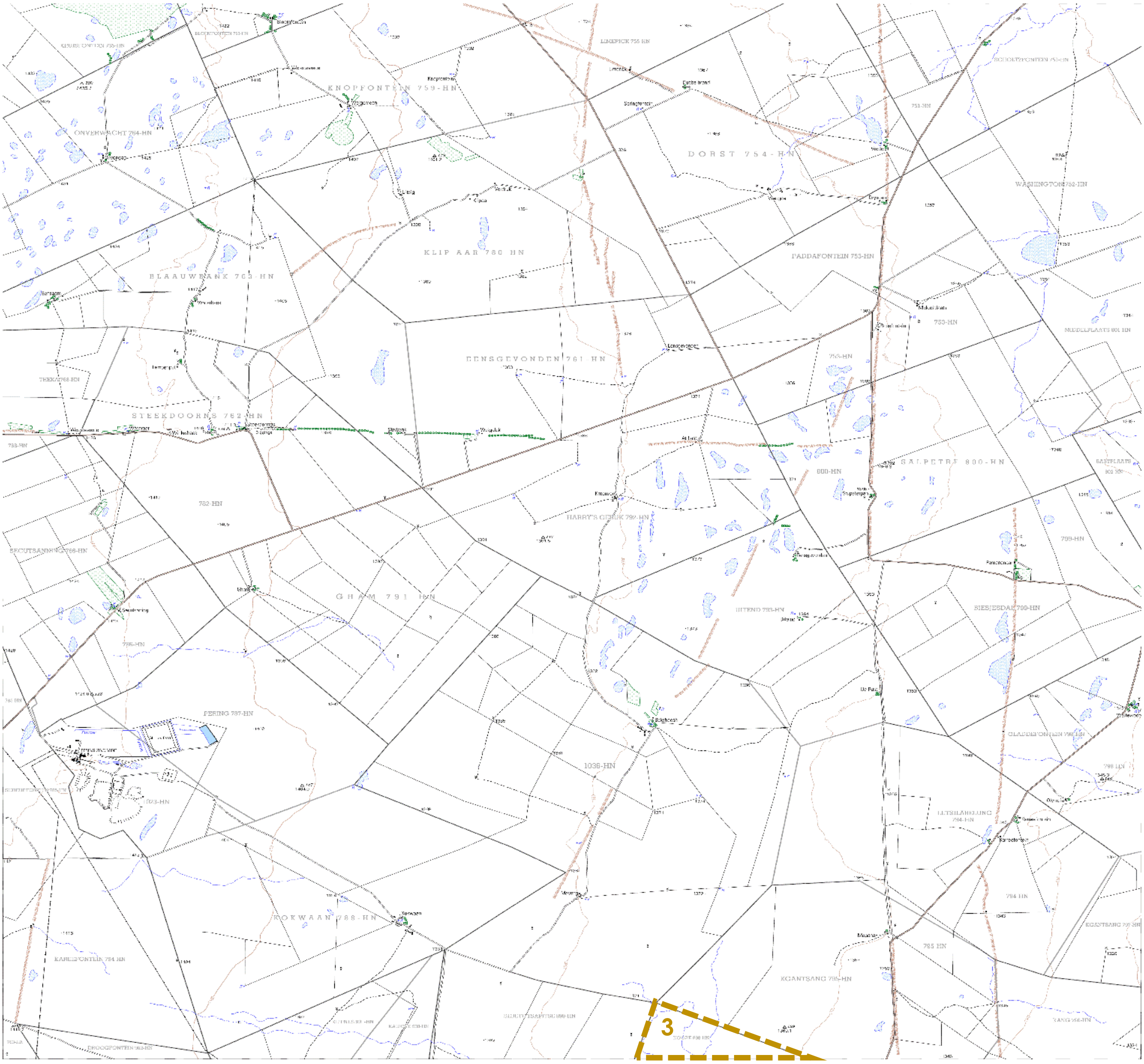
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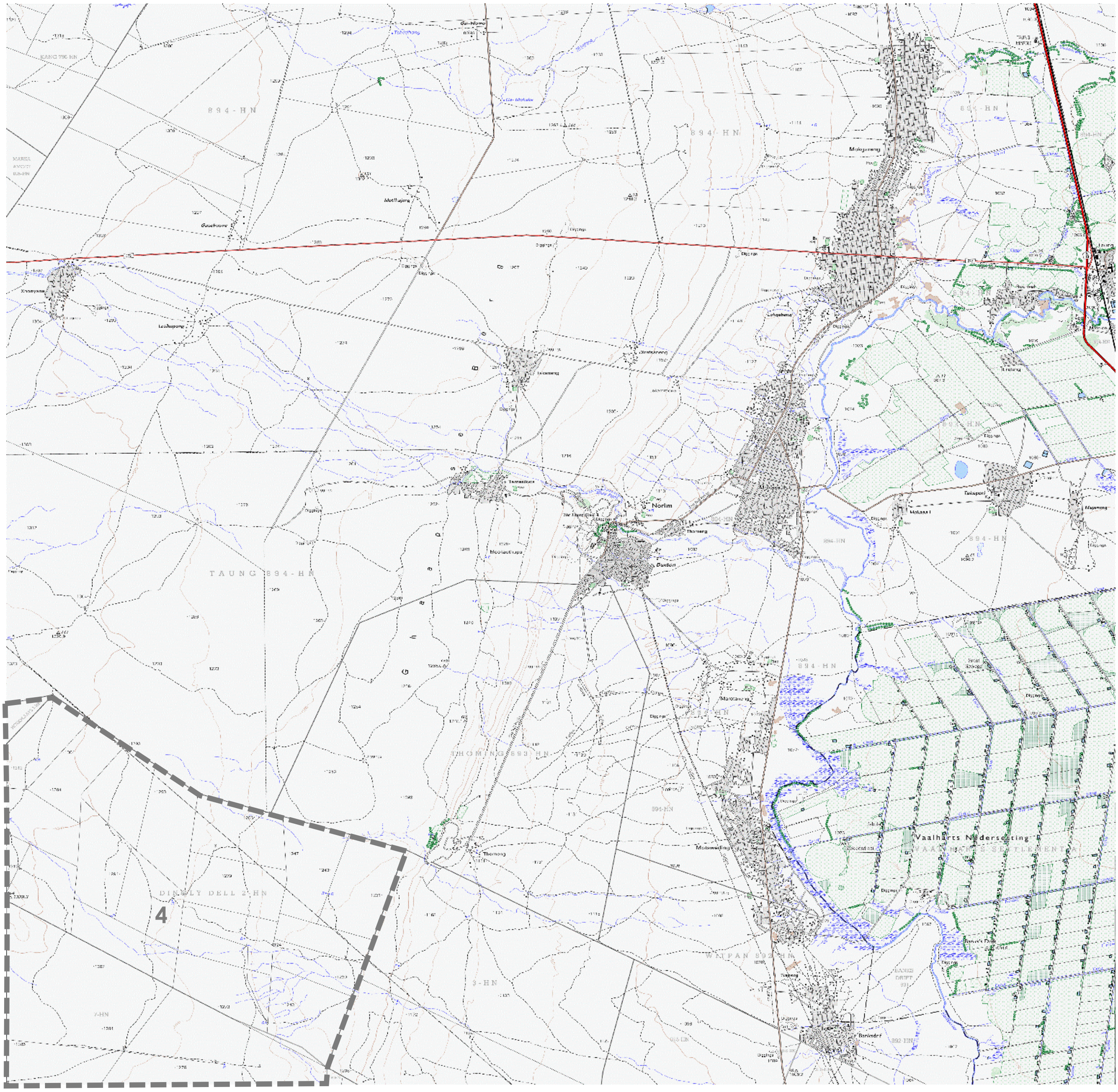
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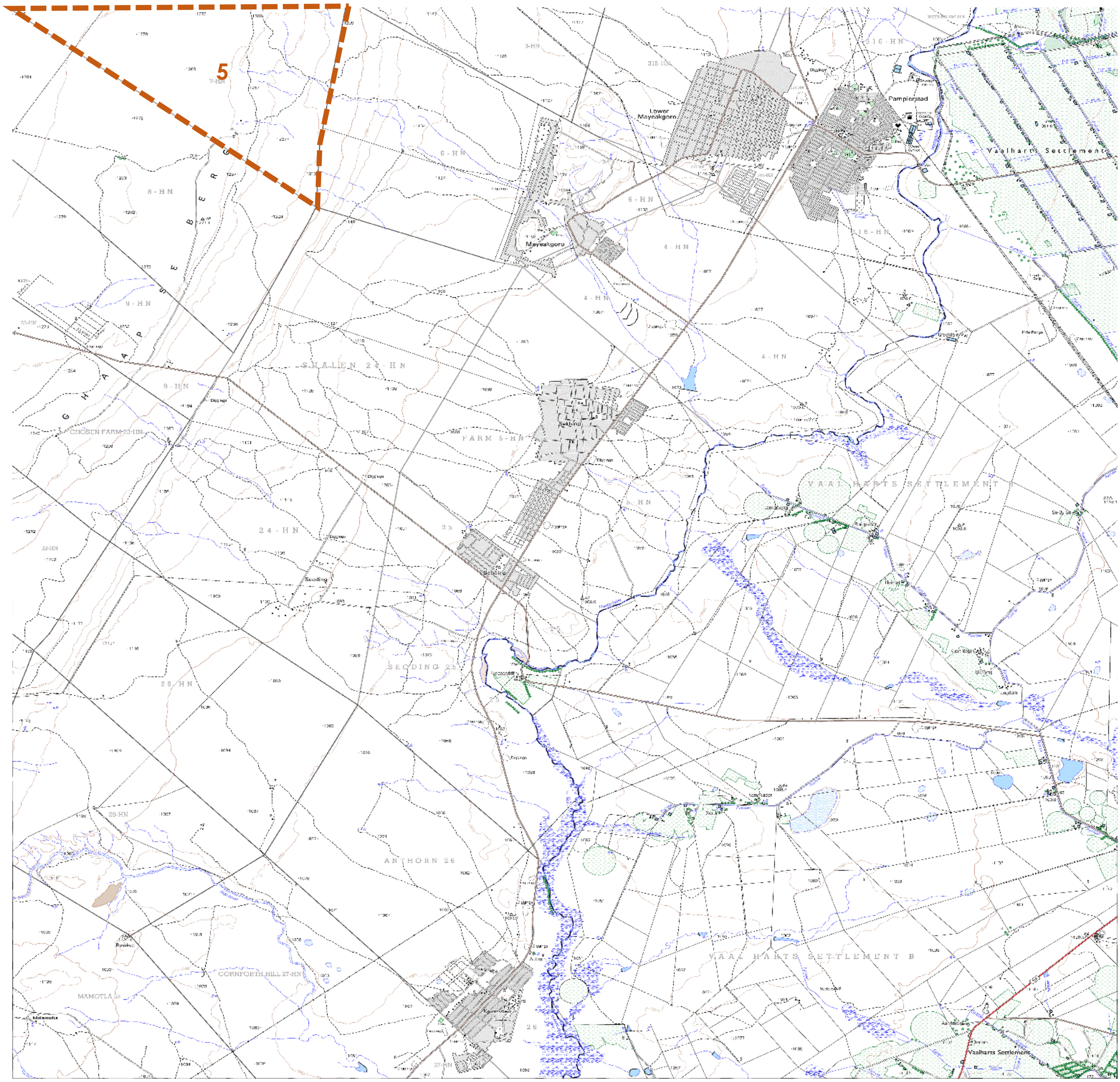
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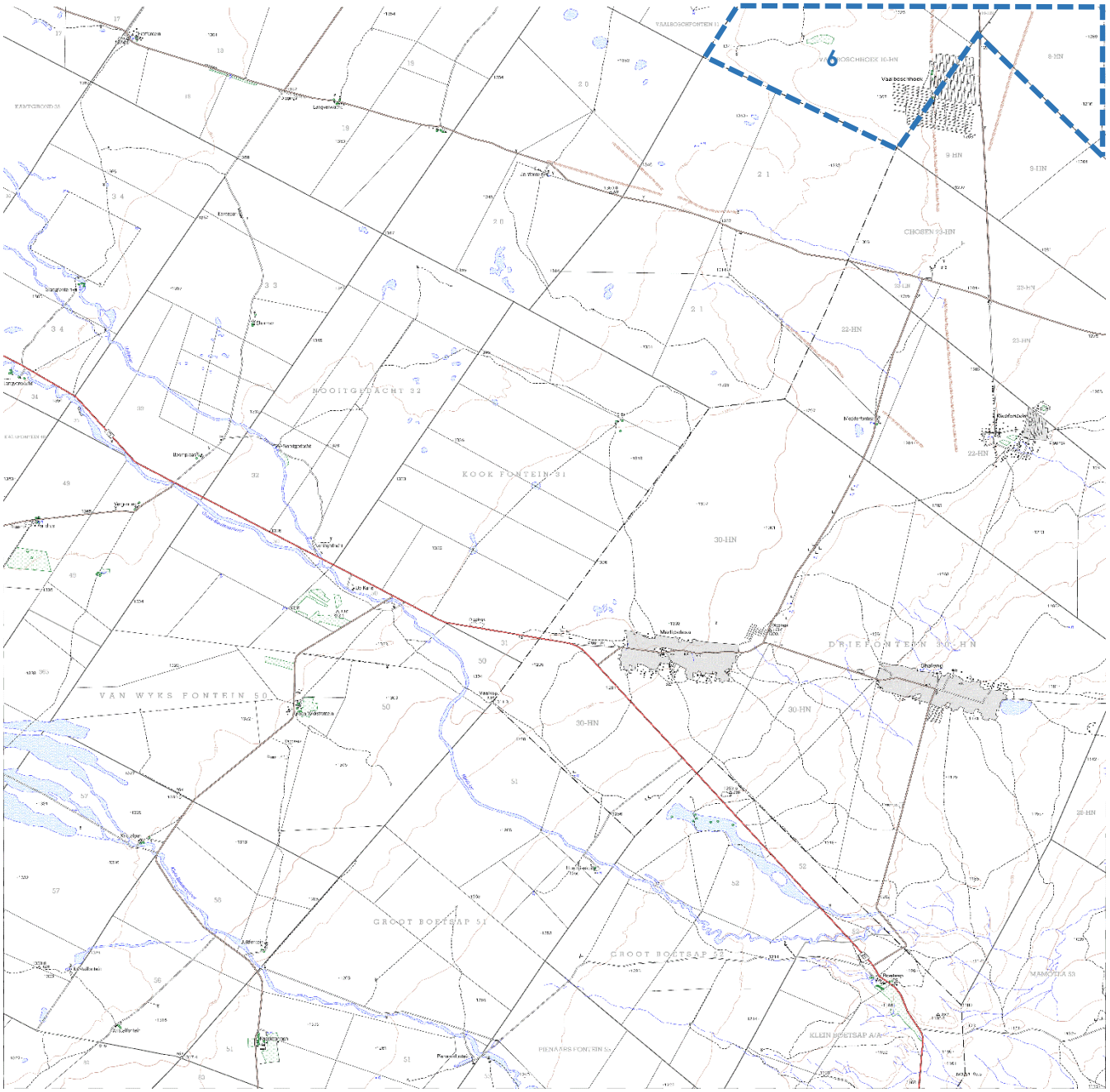
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VAN WYKS FONTEIN 50
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GROOT BOETSAP 53
GROOT BOETSAP 52
KLEIN BOETSAP 54
PIENAARS FONTEIN 55
MAMOTHA 33

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water & sanitation

Department:
Water and Sanitation
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053 836 7649
16/2/7/C33A/A/3/11607PR

LIZELLE PROSCH ENVIRONMENTAL SUSTAINABILITY CONSULTING SERVICES (PTY) LTD
41 7th Avenue, unit 35
Parktown Square
Johannesburg
2193

Attention Lizelle Prosch

RE- BACKGROUND INFORMATION DOCUMENT AND CALL FOR STAKEHOLDER REGISTRATION FOR THE COMPILATION THE BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PLAN IN APPLICATION FOR A PROSPECTING RIGHT IN THE TAUNG MAGISTERIAL DISTRICT, NORTH WEST PROVINCE.

1. Background

The Department of Water and Sanitation received a Background Information Document (BID) from Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd, requiring comments. The document was then reviewed with reference to the National Water Act (Act No. 36 of 1998) and the following are the comments;

As mentioned in the BID, the Department takes note that the proposed activity at the above mentioned locations will include:

1. Prospecting activities across various farms within the Jurisdiction of Taung Magisterial District;
2. The prospecting work programme is broken up into phases; i.e. Phase 1: Data acquisition and Desktop study, Phase 2: Target generation and Ground truthing and, Phase 3: scout drilling and delineation drilling.

The proposed mine is to target the alluvial and Kimberlite pipe diamonds. Two non-perennial drainage lines have been identified in the property given for exploration.

2. Distance from the water course

Please note that our Department rates all perennial and non-perennial rivers together with all dry river beds and natural drainage and associated riparian areas extremely sensitive to development. An option of developing furthest away from the all water course would be the preferred option.

Please note that no development should be done within 100 m or 1:100 year flood line of any water course and 500m of wetlands without authorisation from our Department. The water courses should be delineated in order to provide appropriate buffer to maintain such water course. The delineation should be done according to the appropriate Department of Water and Sanitation's delineation document.

The construction camp shall not be located within the 1:100 year flood line or within 100 meters whatever is the greatest from any watercourse. Operation and storage of equipment within the riparian zone must be limited as far as possible.

Vehicles and other machinery must be serviced well above the 1:100 year flood line or within a horizontal distance of 100 meters from any watercourse or estuary. Oils and other potential pollutants must be disposed off at an appropriate licensed site, with the necessary agreement from the owner of such a site.

3. Storm Water management

Any storm water must be diverted from the construction works and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow. Where necessary, works must be constructed to attenuate the velocity of the storm water discharge and to protect the banks of the watercourse. Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the project.

Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse. Storm water leaving the construction site must in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.

4. Invasive alien vegetation

Vegetation must be monitored and managed on and on-going basis during prospecting. Alien vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be eradicated or controlled, using standard methods approved by the Department.

5. Design and layout of prospecting

A detailed layout plan needs to be submitted to our Department showing all the facilities in the proposed development, distance from the any watercourses and bathroom facilities.

Details of the final design must also be supplied as soon as a decision has been made, as the details of this factor may influence the environmental impact both during the construction and operational phases of the project.

6. Construction

Material with pollution generating potential must be limited in any construction activities. Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance.

Any spillage of any hazardous materials including diesel that may occur during construction and operation must be reported immediately to our Department.

7. Waste Management

Rubbish bins and Enviro loose/mobile toilets must be there and enough for the people on site during construction. A letter of consent from a registered waste facility to allow contractor to empty the toilet facility at their sewer system should be submitted to our department.

All sewage, grey and wash water, as well as any waste generated during the construction phase of the facilities will be collected, contained and disposed of at the permitted and / or licensed facilities of the Local Authority and this must please be confirmed in writing by the local authority.

8. Rehabilitation

Soils that have become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination. The necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent in-stream sedimentation.

9. Water use entitlement

The Department notes that the project is to require water; please take note that, in this instance, a water use authorisation application will need to be submitted to our Department. If you have any other environmental authorisation and/or consent for the proposed project that you will want to use for this development, please provide our Department with the necessary proof as it may be considered in support of the application.

Please be informed that Construction water may not be obtained from the water course without necessary authorisation. The regulations on the use of water for mining and related activities aimed at the protection of the Water Resources as published in the Government Notice No.704 on 4 June (Government Gazette No. 20119) must be complied with. Every person in control of a mine or activity must take reasonable measures to comply with the following requirements;

a) prevent water containing waste or any substance which causes or is likely to cause pollution of a water resource from entering any water resource, either by natural flow or by seepage, and must retain or collect such substance or water containing waste for use, re-use, evaporation or for purification and disposal in terms of the Act;

b) design, modify, locate, construct and maintain all water systems, including residue deposits, in any area so as to prevent the pollution of any water resource through the operation or use thereof and

to restrict the possibility of damage to the riparian or in-stream habitat through erosion or sedimentation, or the disturbance of vegetation, or the alteration of flow characteristics;

c) cause effective measures to be taken to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or subterranean caverns, through cracked or fissured formations, subsided ground, sinkholes, outcrop excavations, audits, entrances or any other openings;

d) design, modify, construct, maintain and use any dam or any residue deposit or stockpile used for the disposal or storage of mineral tailings, slimes, ash or other hydraulic transported substances, so that the water or waste therein, or falling therein, will not result in the failure thereof or impair the stability thereof;

e) prevent the erosion or leaching of materials from any residue deposit or stockpile from any area and contain material or substances so eroded or leached in such area by providing suitable barrier dams, evaporation dams or any other effective measures to prevent this material or substance from entering and polluting any water resources;

f) ensure that water used in any process at a mine or activity is recycled as far as practicable, and any facility, sump, pumping installation, catchments dam or other impoundment used for recycling water, is of adequate design and capacity to prevent the spillage, seepage or release of water containing waste at any time;

g) at all times keep any water system free from any matter or obstruction which may affect the efficiency thereof; and

h) cause all domestic waste, including wash-water, which cannot be disposed of in a municipal sewage system, to be disposed of in terms of an authorisation under the Act

10. Conclusion

Should the above issues be considered and all the requested documentation be submitted, the Department of Water and Sanitation has no objection to the proposed development.

pp Mokhoantle

PROVINCIAL HEAD: NORTHERN CAPE OPERATIONS

25/09/2015

DATE:

Addendum D to Draft Basic Assessment Report and environmental Management Programme

NW 30/5/1/1/2 (11607)PR

Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd

Cell: 082 804 4024
Email: lizelle@proschconsulting.co.za
Fax: 086 718 1695

South Arfican Heritage Resources Agency
Attention: Mr. M Mosiane

mosianem@nwpg.gov.za
Tel: 018 388 2826

Date: 9 October 2015

Subject: Application for the prospecting of diamonds (alluvial and kimberlite) in terms of Section 16 of the Mineral and Petroleum Resources Development Act 28 of 2002: Reference Number: NW 30/5/1/1/2 (11607)PR

To whom it may concern

Finsch Diamond Mine (Pty) Ltd (a subsidiary of Petra Diamonds) submitted an application for the prospecting of diamonds (alluvial and kimberlite) in terms of Section 16 of the Mineral and Petroleum Resources Development Act 28 of 2002 ("MPRDA" or "the act"). The application was accepted by the Department of Mineral Resources ("DMR" or "the department") on the 2nd of September 2015.

The applicant is now required to prepare and submit a Basic Assessment Report and Environmental Management Programme for environmental authorizations in terms of the National Environmental Management Act, 1998 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).

Based on desktop assessments, it was found that heritage resources occur within the boundaries of the proposed prospecting area (refer to attached document: Description of the Baseline Environment).

At this stage, due to the nature and extent of the proposed prospecting activities (refer to attached document: Description of the Proposed Prospecting Activities), a Heritage Impact Assessment is not proposed. Potential heritage impact may occur once significant on-the-ground activities commence, and it is therefore recommended that the Heritage Impact Assessment only be undertaken once the extent of site activities are known (if required).

We kindly request that the Department review the information contained in this report and attachments, and provide a written response regarding any specific requirements as it relates to the application and required authorisations.

The proposed prospecting area is located on various farms within the jurisdiction of the Taung Magisterial District, North West Province. The directly affected farm portions are indicated in the table below and are illustrated in Figure 1. An aerial image (Figure 2) is also provided as reference.

Table 1: Farm portions within the boundary of the proposed prospecting area

Farm Name	Portion Number
Brakpan	924
Charl's Puts	1/929
	2/929
	3/929
	4/929
	RE/929
Dingly Dell	1/1041
	RE/1041
Doornfontein	1/933
	2/933
	3/933
	4/933
	5/933
	RE/933
Enkelfontein	1/916
	RE/916
Farm	1045

Farm Name	Portion Number
Gakwe	2/918
	3/918
	RE/1/918
	RE/918
Hoekplaats	1/1040
	2/1040
	RE/1040
Kangkatjes	1/919
	2/919
	3/919
	RE/919
Kankaro	1/921
	2/921
	RE/921
Kgore	1/898
	RE/898
Klakkalungklou	4/926
	5/926
	6/926
	RE/1/926
	RE/2/926
	RE/3/926
	RE/926
Klein Vogelstruis Nek	2/927
	3/927
	5/927
Nooitgedacht	4/920
	5/920
	6/920
	7/920
	RE/920
Nyatsifontein	932
Olienboom	1067
Olyvenfontein	915
Onverwacht	1/923
	2/923
	3/923
	4/923
	5/923
	RE/923
Rothesay	1/914
	2/914
	3/914
	RE/914
Schaapbosch Vlakte	1/917
	RE/917
Schietfontein	1/906
	RE/906
Stillerus	RE/1026
Vaalboschhoek	1/1046
	2/1046
	3/1046
	4/1046
	5/1046
	6/1046
Vaalbult	1/922
	2/922
	3/922
	RE/922
Vogelstruisnek	2/925
	RE/925

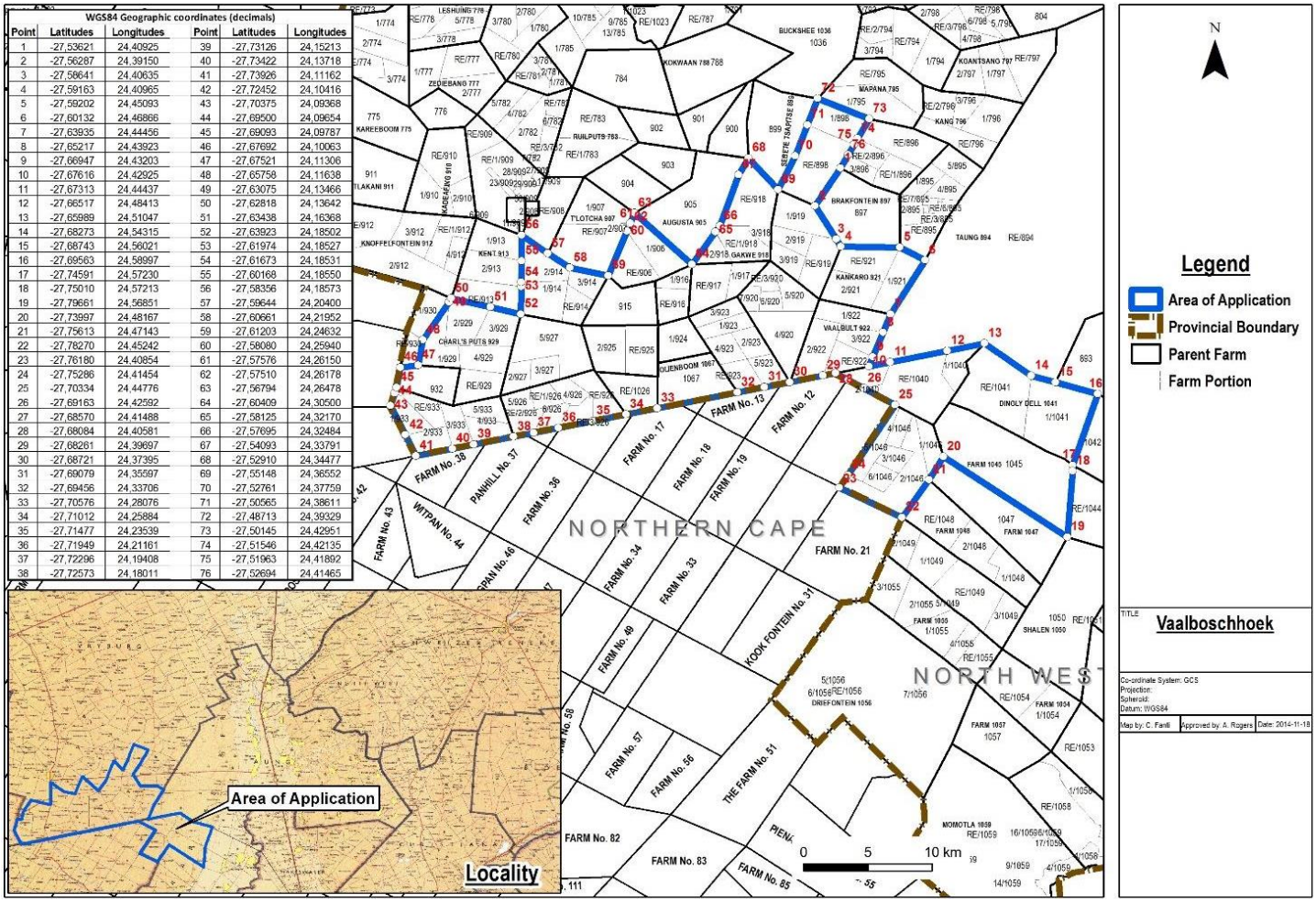

Figure 1: Farm portions within the boundary of the proposed prospecting area

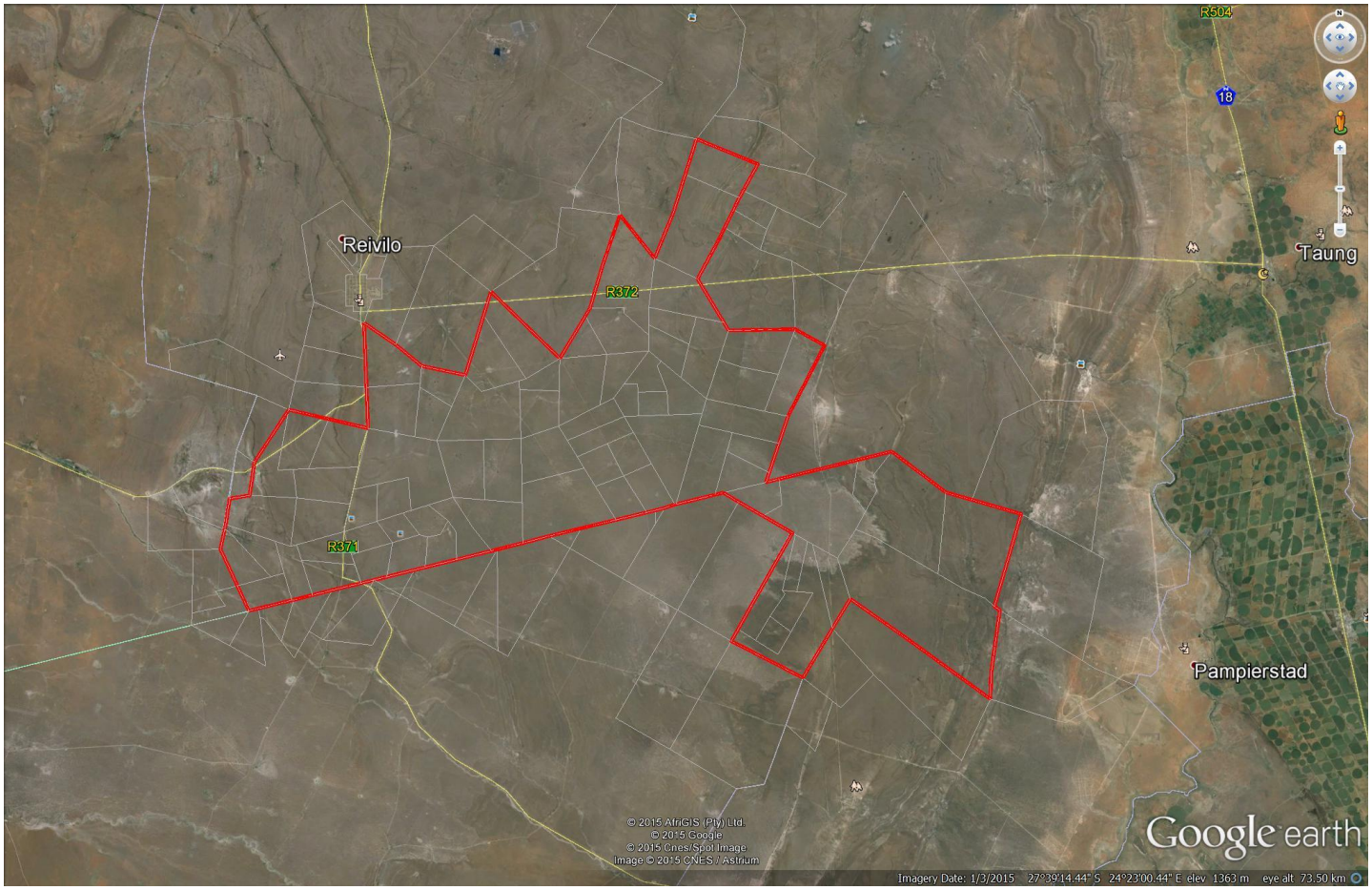

Figure 2: Aerial image indicating the proposed prospecting area

We look forward to your response.

Kind Regards

Lizelle Prosch

Lizelle Prosch Environmental and Sustainability Consulting Services (Pty) Ltd
41 7th Avenue, Unit 35, Parktown Square
Parktown North
Johannesburg
2193

Cell: 082 804 4024
Email: lizelle@proschconsulting.co.za
Fax: 086 718 1695

Lizelle Prosch

From: lizelle@proschconsulting.co.za
Sent: 13 October 2015 10:03 PM
To: lizelle@proschconsulting.co.za
Subject: Fwd: Prospecting Application: Reference Number: NW 30/5/1/1/2 (11607)PR
Attachments: Letter_SAHRA_2015.10.08 (NW11608PR).pdf; Final BID Farms_2015.09.23.pdf; Activity Description_2015.10.01.pdf; Final_Baseline Conditions Description_ 2015.10.06 Rev 0.pdf

Importance: High

-------- Original Message --------
Subject: Prospecting Application: Reference Number: NW 30/5/1/1/2 (11607)PR
Date: 2015-10-09 10:03
From: "Lizelle Prosch" <lizelle@proschconsulting.co.za>
To: <mosianem@nwpg.gov.za>

Mr. M Mosiane

Hope that you are well.

We have been attempting to submit information regarding the above-mentioned prospecting application to SAHRA electronically. It appears that an error has occurred and we could not do so.

1. According, we would like to submit the following information to you for review and comment:

2. Letter of Enquiry;

3. Background Information Document;

4. Detailed Activity Description; and

5. Description of the Baseline Conditions.

Please do not hesitate to contact me should you require any additional information and / or clarification.

Kind Regards

LIZELLE PROSCH ENVIRONMENTAL AND SUSTAINABILITY CONSULTING SERVICES
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Addendum E to Draft Basic Assessment Report and environmental Management Programme

NW 30/5/1/1/2 (11607)PR

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
Phase 1: Data Acquisition and Desktop Study														
Data collection and assessment (desktop only)	None identified.	Planning	N/A	N/A	N/A	N/A	N/A	N/A	No mitigation required.	N/A	N/A	N/A	N/A	N/A
Data Assessment	None identified.	Planning	N/A	N/A	N/A	N/A	N/A	N/A	No mitigation required.	N/A	N/A	N/A	N/A	N/A
Phase 2: Target Generation and Ground Truthing														
Site fly-over	Noise impacts affecting cattle and game farm animals as well as nuisance impacts on communities and landowners and other persons.	Planning	Negative	2	1	1	3	7	Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of the airborne geophysics survey and a grievance mechanism will be made available. Farms owners must be consulted and informed of any low fly overs which may affect cattle being held in restricted holding pens, which may result in injury or damage. Facilitated contact with the aircraft pilot will be established to ensure that flight plans can be changed in the event that the reaction from cattle and game is such that significant risk may materialise.	2	1	1	2	6
Ground surveys	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Operational Phase	Negative	2	2	2	3	9	Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.	2	2	1	3	8

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
									An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.					
	Losses as a result of fire.	Operational Phase	Negative	2	2	2	4	10	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8
Soil sampling (30kg of soil per sample)	Non-compliance to the requirements of the National Water Act and Heritage Resources Act	Planning	Negative	2	1	1	5	9	A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).	1	1	1	1	4
	Destruction and / or disturbance of on-site fauna and flora.	Operational Phase	Negative	1	1	2	1	5	Existing tracks and roads must be used as far as is practicable. No tracks will be cleared for once-off access to sampling sites and significant vegetation such as trees and large shrubs must be avoided in the event that driving through the veld is required to access an identified sampling site. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid animal deaths by vehicle impacts.	1	1	1	1	4

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
									A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities.					
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Operational Phase	Negative	2	2	2	2	8	Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	2	2	1	3	8
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Operational Phase	Negative	1	1	1	1	4	Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	1	1	1	1	4

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
	Poor housekeeping could result in littering and the associated impacts this will have on the aesthetics of the area, contamination of river systems in the rainy season and also the potential health hazard to cattle.	Operational Phase	Negative	2	2	3	3	10	A waste management system will be implemented.	2	2	1	3	8
	Activities within the river bed could result in the disturbance to the natural geomorphology.	Operational Phase	Negative	1	2	1	2	6	Only soil sampling may be undertaken in the river bed. No other activities (drilling, roads, etc.) may be undertaken. Pans must be avoided, where possible. Where soil sampling is required this must be limited as far as practically possible and the area rehabilitated immediately.	1	2	1	2	6
	Losses as a result of fire.	Operational Phase	Negative	2	2	1	4	9	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
	Soil disturbance from soil sampling resulting in soil structure destruction, compaction and erosion.	Operational Phase	Negative	2	1	3	2	8	Soil sampling sites must be rehabilitated.	1	1	2	3	7
Phase 3: Scout Drilling and Delineation Drilling														
Site Access	Non-compliance to the requirements of the National Water Act and Heritage Resources Act.	Planning	Negative	1	1	1	5	8	A map indicating the location of each of the drilling sites and proposed access routes to such areas must be submitted to the relevant landowners, as well as to the DMR, SAHRA and DWS. Any regulatory requirements must be determined (i.e. water use activities in terms of Section 21 of the National Water Act 36 of 1998 and the Heritage Resources Act 25 of 1999), and applications made to obtain any permits and / or licences prior to the commencement of site activities (if required).	1	1	1	1	4
	Local Employment Opportunities.	Planning	Positive	2	1	1	1	5	As far as practically possible the applicant will make use of local suppliers (for example drilling contractors). Only registered, and contractors with a good track record will be utilized.	2	1	1	1	5

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
	Destruction and / or disturbance of on-site fauna and flora.	Construction Phase	Negative	1	1	2	1	5	Existing tracks and roads must be used as far as is practicable. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts. The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.	1	1	1	1	4
	Soil compaction resulting from repeated use of access roads to drill sites.	Construction Phase	Negative	1	1	3	2	7	Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts. As part of rehabilitation, all compacted roads will be ripped and re-vegetated (if required). Were significant risk of erosion is identified, additional mechanical erosion control measures must be implemented.	1	1	2	1	5
	Vehicle traffic noise impact affecting cattle and / or wildlife as well as nuisance impacts on communities and landowners and other persons.	Construction Phase	Negative	1	1	1	1	4	Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	1	1	1	1	4

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Construction Phase	Negative	2	2	2	2	8	Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	2	2	1	3	8
	Losses as a result of fire	Construction Phase	Negative	2	2	1	4	9	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8
Site establishment activities.	Destruction and / or disturbance of on-site fauna and flora.	Construction Phase	Negative	1	1	2	1	5	The removal of vegetation within the drill pad area will be minimized. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. A detailed induction programme will be developed on site which will focus on the landowners' requirements for environmental management and concerns regarding poaching. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	1	1	1	1	4

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
									The applicant will be responsible for all environmental disturbance on site as a result of prospecting and will rehabilitate these impacts to the satisfaction of the landowner.					
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Construction Phase	Negative	1	1	3	2	7	In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. Where practicable topsoil will be stripped to a depth of 10cm and re-used for rehabilitation purposes. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.	1	1	2	1	5
	Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	Construction Phase	Negative	1	1	1	1	4	Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as and when needed. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.	1	1	1	1	4

Name Of Activity	Potential Impact	Phase In Which Impact Is Anticipated	Status (Impact Negative or Positive)	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Not Mitigated	Mitigation Type / Measures	Extent (1-4)	Duration (1-3)	Probability (1-5)	Intensity (+5 - -5)	Significance If Mitigated
	Visual Impact affecting visual character and "sense of place".	Construction Phase	Negative	2	1	1	1	5	The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.	1	1	1	1	4
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Construction Phase	Negative	2	1	1	1	5	Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site. No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.	2	1	1	1	5
	Losses as a result of fire	Operational Phase	Negative	2	2	1	4	9	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8
Exploration drilling and core sample collection.	Water and soil pollution resulting from disposal of drill fluids, storage of hazardous materials and waste generation	Operational Phase	Negative	2	2	3	3	10	A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation. The sump will be constructed to divert storm water away and / or around the sump to avoid clean storm water inflow. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity.	2	2	1	3	8

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									Oils and lubricant will be stored within secondary containment structures.					
									Where practicable, vehicle maintenance will be undertaken off-site and / or outside the 1:100 year floodline and further than 100 meters away from any water course.					
									In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil.					
									Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified.					
									A sufficient number of waste receptacles will be provided.					
									Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight.					
									Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.					
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Operational Phase	Negative	1	1	2	2	6	Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.	1	1	2	1	5
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	Operational Phase	Negative	1	1	1	1	4	Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement.	1	1	1	1	4
									Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.					

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	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Operational Phase	Negative	1	1	1	1	4	Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	1	1	1	1	4
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Operational Phase	Negative	2	2	2	2	8	Access control procedures must be agreed on with farm owners or occupants and all staff trained on these procedures. The applicant will prior to the commencement of prospecting activities, in consultation with farms owners and / or occupants, ensure that the prospecting schedules does not adversely impact on daily farm management activities. An open channel of communication will be developed, with designated personnel responsible to remain in contact with the farmers throughout the prospecting activities.	2	2	1	3	8
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Operational Phase	Negative	2	1	1	1	5	Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. The landowner will be notified of unauthorised persons encountered on site. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.	2	1	1	1	5

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									No accommodation will be provide for on-site. Personnel will be housed in surrounding towns. Site security may be required and in the event that night time security is provided, such person(s) must be in communication with the land owner and / or occupants.					
	Impact on water courses and associated ecosystems in the area.	Operational Phase	Negative	1	2	3	3	9	The prospecting areas must be clearly demarcated. No prospecting activities may be undertaken within or within 100m from water courses or pans.	1	2	1	3	7
	Losses as a result of fire	Operational Phase	Negative	2	2	1	4	9	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8
Removal of temporary infrastructure.	Destruction and / or disturbance of on-site fauna.	Decommissioning	Negative	1	1	2	1	5	Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. Drill holes must be permanently capped as soon as is practicable	1	1	1	1	4

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	Dust emissions from decommissioning activities (including vehicle entrained dust).	Decommissioning	Negative	1	1	1	1	4	Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	1	1	1	1	4
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Decommissioning	Negative	2	2	2	2	8	Access control procedures must be agreed on with farm owners and all staff trained.	2	2	1	3	8
	Potential water and soil pollution resulting from hydrocarbon spills.	Decommissioning	Negative	2	2	3	3	10	Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	2	2	1	3	8
	Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	Decommissioning	Negative	1	1	2	2	6	Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding.	1	1	2	1	5

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									An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.					
	Losses as a result of fire	Operational Phase	Negative	2	2	1	4	9	No open fires for any purpose (cooking etc.) will be allowed. Smoking is prohibited. Emergency preparedness and response plans will be developed and agreed to with relevant directly affected and directly adjacent landowners.	1	2	1	4	8