



**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: PHOEBE BUSINESS ENTERPRISE (PTY) LTD**

**TEL NO: 072 882 7051**

**FAX NO: 086 600 9385**

**POSTAL ADDRESS: 34 VERMONT STREET, BENONI, 1515**

**PHYSICAL ADDRESS: 34 VERMONT STREET, BENONI, 1515**

**FILE REFERENCE NUMBER SAMRAD: FS 30/5/1/1/2/10381 PR**

**FILE REFERENCE NUMBER SAMRAD: FS 30/5/1/1/2/10381 PR**



## 1. IMPORTANT NOTICE

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

Unless 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—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
  - (i) identify and motivate a preferred site, activity and technology alternative;
  - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
  - (iii) identify residual risks that need to be managed and monitored.

**PART A**  
**SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT**

**3. Contact Person and correspondence address**

**a) Details of**

**i) Details of the EAP**

Name of The Practitioner: Tshifularo Gregory Ngoma

Tel No.: 079 912 6434

Fax No. : 086 577 8970

e-mail address: tshifularo.ngoma@yahoo.com

**ii) Expertise of the EAP.**

**(1) The qualifications of the EAP**

(with evidence).

The EAP has a Bachelor of Environmental Science Degree (Hons)

**(2) Summary of the EAP's past experience.**

(In carrying out the Environmental Impact Assessment Procedure)

The EAP has over 7 years in the mining industry and has done the following:

- Applications for Prospecting Rights, Mining Rights and Permits
- Consultations and Public Participations
- Environmental Management Plans
- Basic Assessments, WULA reports
- Water Use Licence Applications
- Waste Use Licence Applications
- Soil Assessment, specialist studies
- Environmental Authorisations

See attached CV.

**b) Location of the overall Activity.**

<b>Farm Name:</b>	Blougom 92, Jagtershoek 362 and Kryspan 442
<b>Application area (Ha)</b>	2 348. 6084 Ha

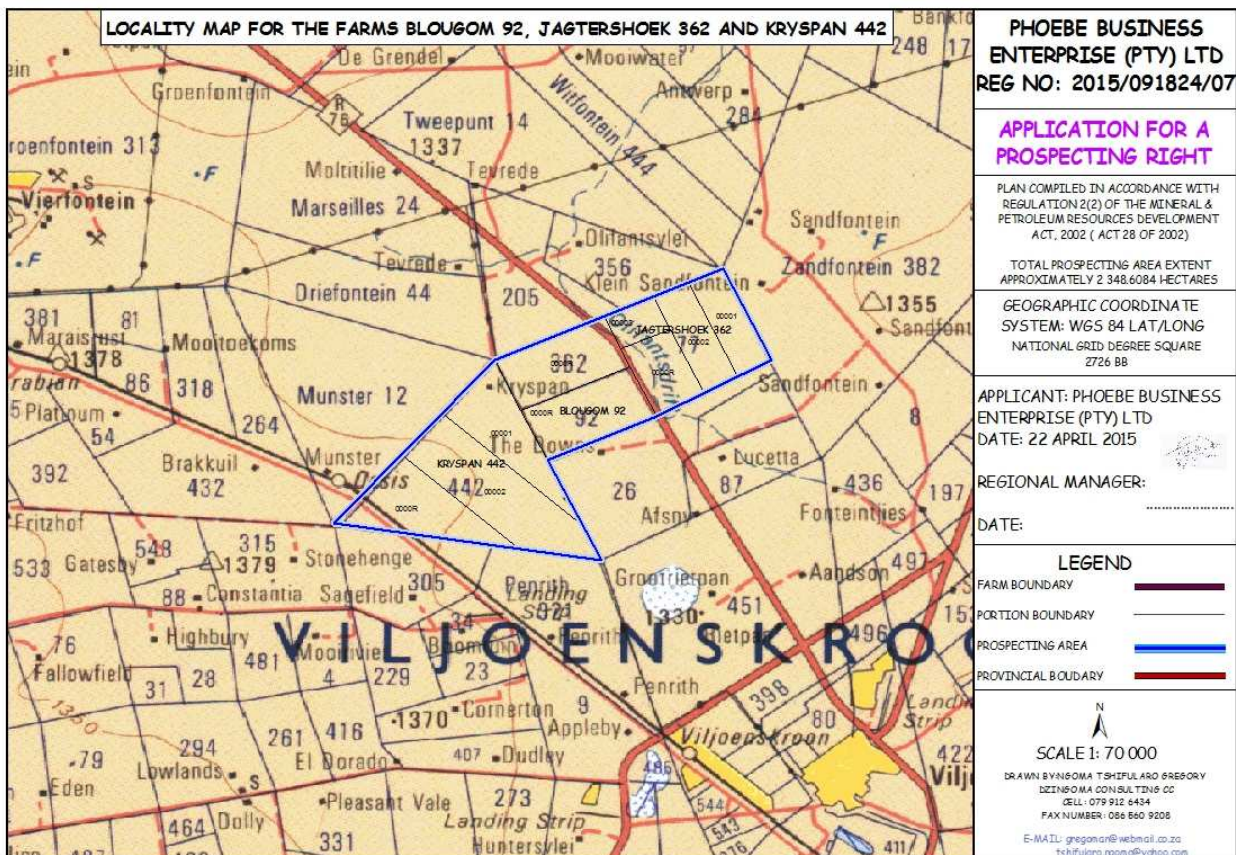
<b>Magisterial district:</b>	VILJOENSKROON
<b>Distance and direction from nearest town</b>	About 10 KM North of Viljoenskroon Town west of the R501 Road
<b>21 digit Surveyor General Code for each farm portion</b>	F0360000000009200000 F03600000000036200000 F03600000000036200001 F03600000000036200002 F03600000000036200003 F03600000000044200000 F03600000000044200001 F03600000000044200002

**c) Locality map**

(show nearest town, scale not smaller than 1:250000). SEE APPENDIX A

The centre coordinates of the farm is X = 26.905087 and Y = -27.126102. The farms lie on the 1: 50 000 Map sheet No 2726 BB.

Refer to appended Locality Map (Appendix A).

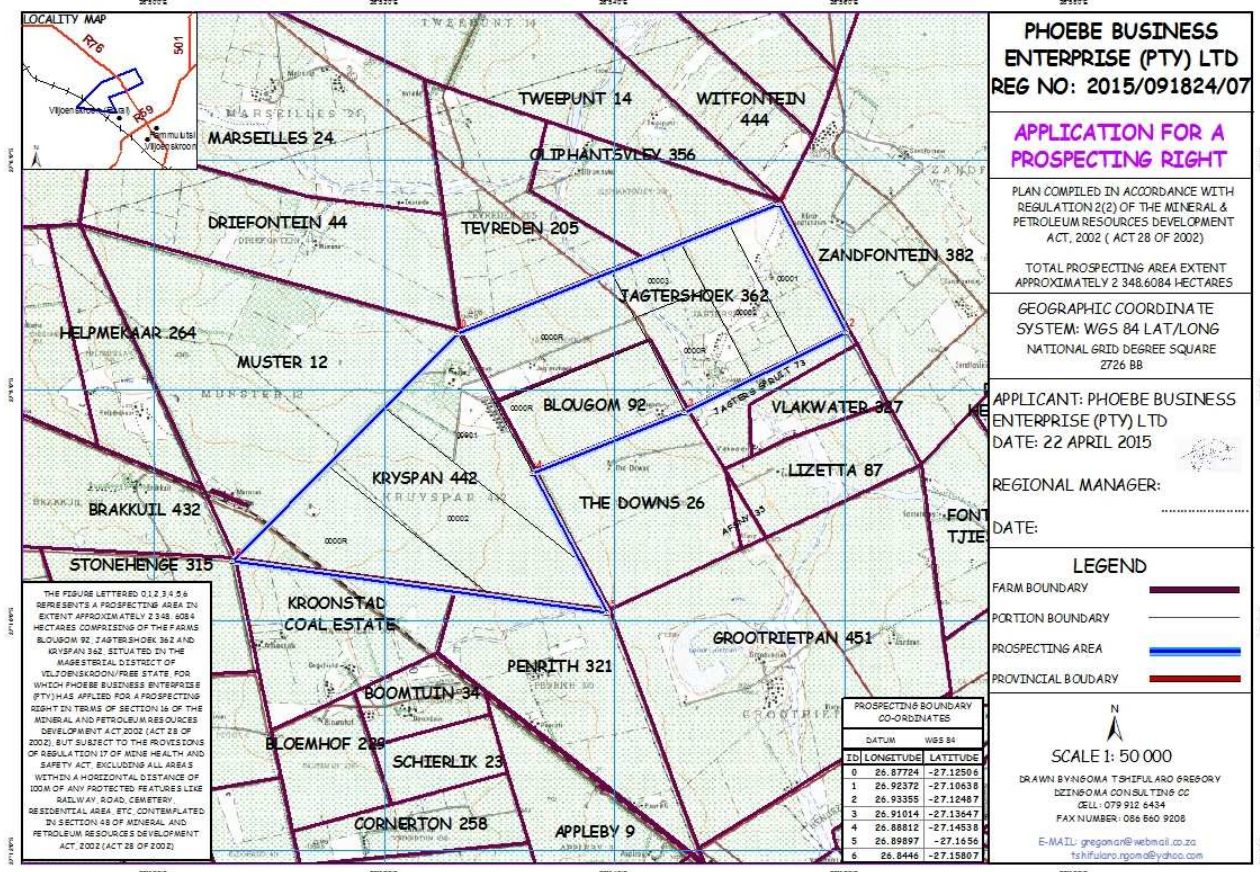




**d) Description of the scope of the proposed overall activity.**

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

Figure 1: Regulation 7 (1)(B): Plan contemplated in Regulation 2(2) showing the land to which the application relates.



Prospecting right application in terms of a proposed drilling on the farms Blougom 92, Jagtershoek 362 and Kryspan 442 situated in the magisterial district of Viljoenskroo, Free State province. in terms of the National Environmental Management Act, (Act no 07 of 1998-); where as per the EIA Regulations 04 December 2014 as amended by the Minister of National Environmental Affairs, the below listed activity will apply:

Listing Notice 1. GN R. 983, Activity No: 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, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

Descrption of the activities

Activity no 20 will be undertaking which only concentrate on the prospecting without any bulk sampling.

Activities such as : Drilling, Core Logging and Core Sampling.

**Listed and specified activities**

<b>NAME OF ACTIVITY</b>  (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc  E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>Aerial extent of the Activity</b>  <b>Ha or m<sup>2</sup></b>	<b>LISTED ACTIVITY</b>  <b>Mark with an X where applicable or affected.</b>	<b>APPLICABLE LISTING NOTICE</b>  <b>(GNR 544, GNR 545 or GNR 546)</b>
DRILLING BOREHOLES			GN 983
CORE SAMPLING			GN 983
CORE STORAGE			GN 983
CONTAMINATED WATER SUMP			GN 983

**(i) 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)

The company intends to undertake a prospecting work program which includes the following activities:

**Phase 1 (Month 1 - 12)**

Desktop studies: This will include a study of historical geological data for the commodities of interest.

Reconnaissance Mapping: Geological Mapping of the area using historical data and satellite photography;

Geochemical surveys: this involves the sampling of rock chips or surface samples to understand the geochemical make-up of the rocks and the mineralization potential;

All the specialist studies including but not limited to Geohydrological studies, Botanical Studies and/or Heritage Impact studies will be conducted during the first



year of the right before prospecting commences. No such studies have been done to date.

### **Phase 2 (Month 13 to 24)**

Percussion drilling: stratigraphic data will be obtained through drilling of boreholes; It is estimated that; drilling of 10 boreholes to an average depth of 150 meters on a *Wide Grid*.

Rehabilitation will be done concurrently.

### **Phase 3 (Month 25 to 36)**

Infill drilling of a further 10 boreholes to an average depth of 150 meters on a narrow grid to further establish the resource.

Geological Analysis: Ongoing office based mapping of information collected in the field. Ongoing data analysis to guide and prioritize prospecting activities. Rehabilitation will be done concurrently.

### **Phase 4 (Month 37 to 60)**

- a. Feasibility Study
- b. Desktop study of geological reports, drilling results, resource estimations and market research
- c. Mine Planning and Possible Mine Infrastructure and designs
- d. Environmental Impact Assessments

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

Surface Plan Depicting the planned location of Planned Geological Core Boreholes

The proposed boreholes positions are as shown on the attached map:

Figure 2: Proposed boreholes positions and coordinates

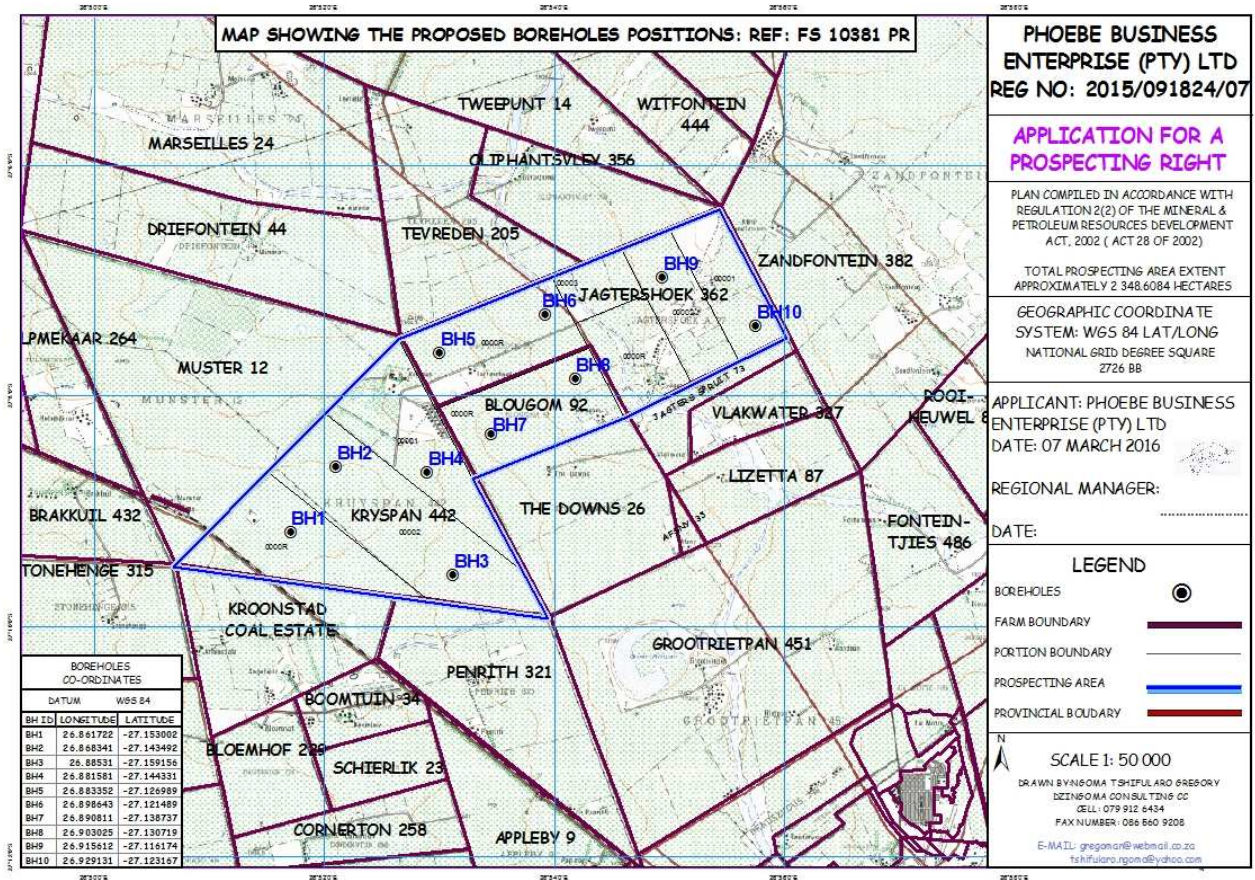
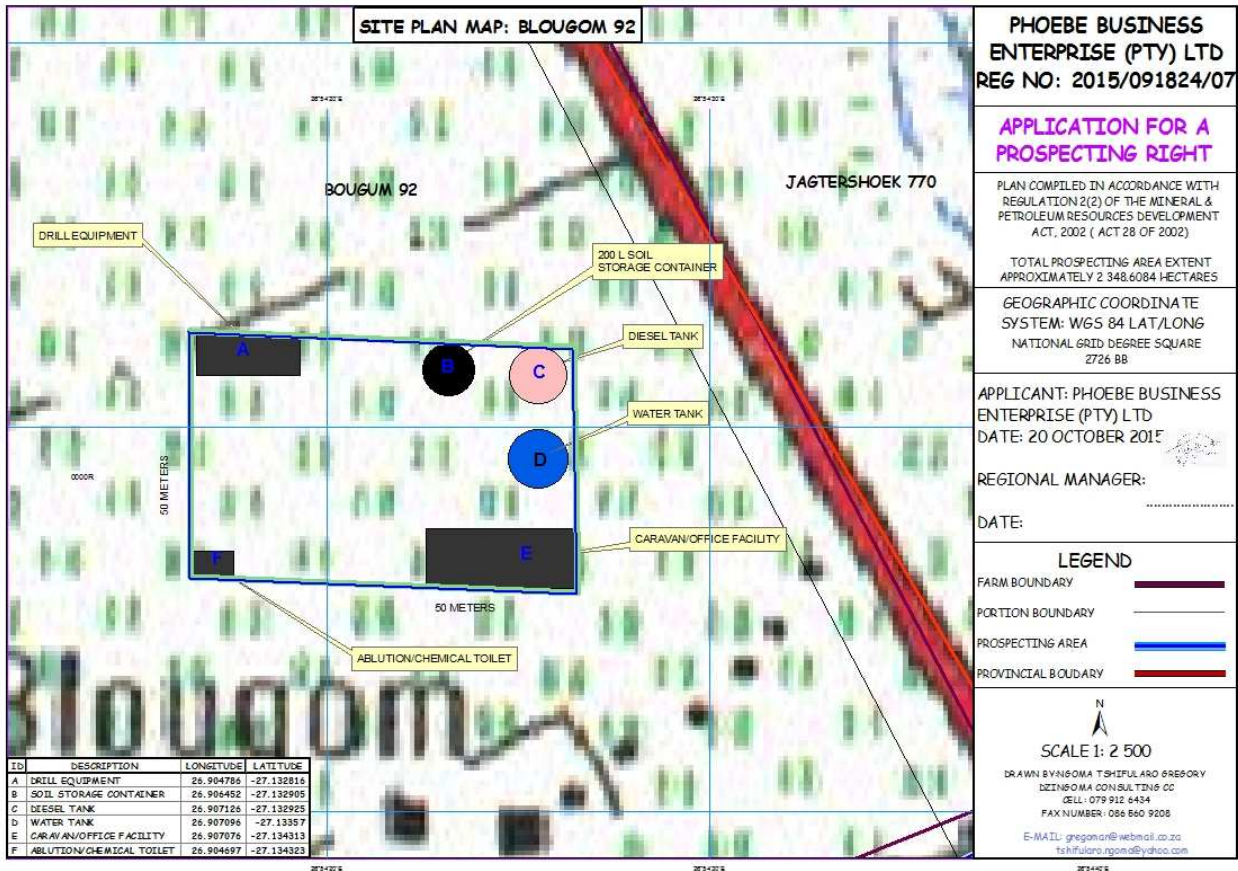


Figure 3: Proposed site map plan and coordinates is also attached.



**PHOEBE BUSINESS ENTERPRISE (PTY) LTD**  
REG NO: 2015/091824/07

**APPLICATION FOR A PROSPECTING RIGHT**

PLAN COMPILED IN ACCORDANCE WITH REGULATION 2(2) OF THE MINERAL & PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 ( ACT 28 OF 2002)

TOTAL PROSPECTING AREA EXTENT APPROXIMATELY 2 348,6084 HECTARES

GEOGRAPHIC COORDINATE SYSTEM: WGS 84 LAT/LONG NATIONAL GRID DEGREE SQUARE 2726 BB

APPLICANT: PHOEBE BUSINESS ENTERPRISE (PTY) LTD  
DATE: 20 OCTOBER 2015

REGIONAL MANAGER: .....

DATE: .....

**LEGEND**

FARM BOUNDARY	———
PORTION BOUNDARY	———
PROSPECTING AREA	———
PROVINCIAL BOUDARY	———

N  
SCALE 1: 2 500  
DRAWN BY ANOMA TSHIFULARO 092509Y  
DZINGOMA CONSULTING CC  
CELL: 079 912 6434  
FAX NUMBER: 086 860 9208  
E-MAIL: gregsona@webmail.co.za  
tshifularo.nqona@yahoo.com

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

The Construction Phase

The construction phase of the Geological drilling phases in year 2 and Year 3 entails the following arrangements to be finalised with the surface owner:

1. Access arrangements to be finalised with the surface owners
2. Arrangements for a camping site where the contractor can erect a temporary drilling camp that can host 5 drilling operators and earth moving driver.
3. No roads need to be constructed to gain access to the drilling sites.
4. Pegging of borehole drilling positions at least 100m from waterways and wetland areas

The Operational Phase

The operational phase of drilling Geological core boreholes is scheduled over a period of about 3 Months on an annual basis.

The drilling of Geological core boreholes entails the digging of water circulation sumps of approximately 1mx1m and 0.5m deep next to every drilling position. The geological core is packed in 10m rows on PVC Sheeting.

Once the borehole is completed, every borehole is rehabilitated once the Geologist mapped and sampled the resource intersections.

Rehabilitation of every drill site includes the following actions:

- a) Replacing unused core in the borehole
- b) Replacing the soil in every hole from at least 2m below surface in order to allow ploughing in the land after drilling was completed.
- c) Returning all the overburden to trenches/excavations and levelling the fields.
- d) Ensure the removal of undue oil from the drilling machine when borehole was completed.

### Decommissioning and Closure Phase

The decommissioning phase is taken to begin once all required Geological core drilling was completed. A period of one week is allowed to conduct the activities of the decommissioning phase and closure phase. The activities are scheduled in the order as described below:

- Removal of all unwanted material from site
- Cleaning of the drill camp area.
- Disestablishment of drilling equipment from the site.

### Post Closure Monitoring

The area will be inspected after drilling is completed by a Geologist and Environmentalist to ensure that:

- All Geological borehole sites is properly rehabilitated and left in an acceptable state
- Ensure the removal of undue oil from the drilling machine when the boreholes were drilled.

Camp site is well cleaned and left in an acceptable status.



**e) Policy and Legislative Context**

<p><b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b>                      (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)</p>	<p><b>REFERENCE WHERE APPLIED</b></p>	<p><b>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.</b>                       (E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)</p>
<p><b>The South African Constitution</b>                      The South African Constitution (Act 108 of 1996) constitutes the supreme law of the country and guarantee the right of all people in South Africa. Furthermore, the Bill of Rights (Chapter 2- Section 24 (a) (b) under the South African Constitution (Act 108 of 1996) emphasize that “Everyone has the right (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-                      (i) Prevent pollution and ecological degradation;                      (ii) Promote conservation; and                      (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”</p>	<p>Applied at potential impacts identification as well as mitigation measures and public participation</p>	<p>A public participation process was followed and consultations were done regarding the proposed project. An EMP and awareness plan has been designed according to the issues raised during this process</p>
<p><b>National Environment Management Act</b>                      The NEMA (Act No.107 of 1998) amended Dec 2014 is regarded as one of the important pieces of general environmental legislation as it provides a framework for environmental law reform. The main objective of this act is to ensure that ecosystem services and biodiversity are protected and maintained for sustainable development. Furthermore, Section 28 (1) of the NEMA requires that “every person who has caused or may cause significant pollution or degradation of</p>	<p>Environmental Impact Assessment</p>	<p>Baseline environmental information of the project area will be assessed. Mitigation measures and recommendations were provided according to the best practice standards.</p>

the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring”.		
<b>Mineral and Petroleum Resources Development Act</b>	The prospecting area requires a prospecting application and environmental authorisation from the Department of Mineral Resources	The prospecting right application and a section 102 application was lodged with the DMR
<b>National Environmental Biodiversity Act</b> The National Environmental Management Biodiversity Act (NEM:BA), 204 (Act No.10 of 2004), provides for: (i) The management and conservation of South Africa’s biodiversity within the framework of the National Environmental Management Act, 1998; (ii) the protection of species and ecosystems that warrant national protection; (iii) the sustainable use of indigenous biological resources; (iv) the fair and equitable sharing of benefits arising from bio prospecting involving indigenous biological resources; (v) the establishment and functions of a South African National Biodiversity Institute;	Baseline review of biodiversity	SANBI database will be used to determine conservancy status as well as mitigation measures for alien invasive species encroaching the project area
National Environmental Management: Air Quality Act, 2004 (Act No.39 of 2004);	Dust monitoring onsite during the operation	As part of SHE dust monitoring will be done on site. The area is designated as industrial.
Mine Health and Safety Act, 1996 (Act No.29 of 1996);	Health and Safety Policy	Risk Impact Assessment to be conducted

**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).



South African economy heavily relies on the Mining Sector. Successful prospecting of coal will boost the current struggling national economy as the project will advance to mining phase. The mining industry has provided more employment opportunities for the citizens in general. The citizen of Free State Province will be awarded more employment opportunities. The project will also assist with fulfilling the need of coal to Eskom's Power Stations. The project is in line with IDP, SDF, EMF and PDP. There is no reason why this development should not be considered at this particular point in time considering the growing demand of electricity in South Africa.

**g) Motivation for the overall preferred site, activities and technology alternative.**

The motivation for the overall preferred side is the high probability of getting the coal resource in the area. According to the geological maps and various literatures from the Council for Geoscience, the farms Blougom 92, Jagtershoek 362 and Kryspan 442 are located within the Vierfontein coal field belt. Mapping and drilling will be done using recent and advanced machinery to enhance the recovery process. The area is generally flat and therefore Truck mounted diamond bit drilling machine will be used.

**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:

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

The proposed project area location is Blougom 92, Jagtershoek 362 and Kryspan 442, situated in the magisterial district of Viljoenskroon as indicated in appendix A. The type of activity to be taken in the farms is drilling and logging and borehole survey.

The design layout of the activity involve drill rig platform, samp covered with plastic to avoid seepage, core storage, caravan, water wank, diesel tank, soil storage container and ablution/chemical toilet.

The technology to be utilized will be a truck mounted diamond core drill rig.

Drilling involves recovering rock cores and logging analyzing the geological characteristics of the recovered cores.

The technology will includes:

**Stores and Material:** A containerized store will be provided by the contractor, in the site yard, to hold a limited store of high use items such as oils, grease, air filters, etc. These stores will meet the requirements of the various health and safety and environmental legislation.

**Electricity:** Electricity is sourced from a mobile generator

**Water:** Potable water at the prospecting area is sourced and transported to site by the contractor. Some of the water is stored in water tank next to the Prospecting/Mine Site and offices. The same water is also used for dust suppression when necessary.

**Access Roads:** The existing access tracks on site will be used to access the drilling points. No new roads will be developed.

**Offices:** The Mobile offices/Caravan will be provided by the contractor

### **The option of not implementing the activity.**

The option of not approving the activities will result in a significant loss to valuable information regarding the coal reserves in these areas. In addition to this, should the economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for electricity generation and brick making will be lost.

### **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.

Phoebe Business Enterprise (Pty) Ltd has previously applied for coal on the farms Blougom 92, Jagtershoek 362 and Kryspan 442 under the reference number FS 30/5/1/1/2/ 10357 PR. The land owner Mr J.P Meintjies, His lawyer Mr Wilhem Boates and Interested and affected parties and there were some objections.

A reapplication was done and the project is now refenced FS 30/5/1/1/2/ 10381 PR and is for coal and clay on the same farms.

The Land Owner, interested and affected parties were supplied with an Accepted Letter, Basic Information Document (BID) and Maps containing a description of the prosposed prospecting activiies and a Questionnaire/ Reply forms with a set of questions allowing for srutiny and feedback.

The land owner was consulted telephonically on the 10<sup>th</sup> of December 2015 and he referred all the enquiries to be done through his lawyer Mr Wilhem Boates.

The land owner Mr J.P. Meintjies was consulted from the 10<sup>th</sup> of December 2015 until the 4<sup>th</sup> of March 2016 on the day of Public participation and he referred all the enquiries to be done through his lawyer Mr Wilhem Boates.

His lawyer Mr Wilhelm Boates was consulted telephonically on the 10<sup>th</sup> of December 2015 and through various emails from the 10<sup>th</sup> December 2015 up until the 4th of March 2016 on the day of Public participation.

Mr Eric Mare of Vlakvlei Boerdery (Pty) Ltd / Paul Mare Trust responded to the Site Notice on the 2nd of March 2016.

A Newspaper Advertisement appeared on the Volksblad on the week of 24 February 2016, notifying the public and any other interested and affected parties.  
Site Notices were put on all the farm entrances on the 24 February 2016.  
See Appendix B: Consultation and public participation reports



**Table 1**

**iii) Summary of issues raised by I&As**  
 (Complete the table summarising comments and issues raised, and reaction to those responses)

Interested and Affected Parties		Date	Issues raised	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
List the names of persons consulted in this column, and Mark with an <b>X</b> where those who must be consulted were in fact consulted.		Comments Received			
<b><u>AFFECTED PARTIES</u></b>					
Landowner/s	<b>X</b>	See attached consultation report		See attached consultation report	See attached consultation report
Mr J.P Meintjies Mr Wilhelm Boates (Schalk meintjies Trust and J.P meintjies Trust)	<b>X</b>	10/12/2015	See Appendix B	See Appendix B	
Mr Wilhelm Boates (Schalk meintjies Trust and J.P meintjies Trust)	<b>X</b>	10/12/2015	See Appendix B	See Appendix B	
<b>Lawful occupier/s of the land</b>					
<b>Landowners or lawful occupiers on adjacent properties</b>					

Mr Eric Mare – Vlakvlei Boerdery Trust	x		See attached consultation report		
Jackie Von Maltitz – For Strategic Environmental Focus (Pty) Ltd	x		See attached consultation report		
S.G Kruger -	x		See attached consultation report		
W.J. Coertze	x		See attached consultation report		
Niel Roodt	x		See attached consultation report		
J.F Van Huyssteen	x		See attached consultation report		
H.F Vanhyssteen	x		See attached consultation report		
B.A Naude	x		See attached consultation report		
B. Heymuny	x		See attached consultation report		
J.G Scheepers	x		See attached consultation report		
<b>Municipal councillor</b>					
<b>Municipality</b>	<b>X</b>				
<b>Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA e</b>					
N/A					
N/A					
N/A					
N/A					
<b>Communities</b>					
<b>APPENDIX B</b>					
<b>Dept. Land Affairs</b>			N/A		







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

**(1) Baseline Environment**

**(a) Type of environment affected by the proposed activity.**

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

Key aspects of the baseline environment that are likely to impact on the scope of the impact assessment and management measures that are implemented as well as project decisions regarding alternatives are listed below.

Topography

The prospecting site slopes gently to the western side of the application area.

The area is generally flat and rises in the south to an elevation of approximately 1347 metres above sea level and falls gradually to the north to an elevation of 1334 metres above sea level.

Soils

Mapping delineated mainly PT2 soils which are Red, Yellow and/or greyish soils with low to medium base status. (Low to medium base status) and VR Class which is soils well drained, dark reddish soils having a pronounced shiny, strong blocky structure (nutty), usually fine Red structured soils with high base status (Vertic, Melanic and Plinthic Soils).

The application area consists generally of the Avon, Glencoe, Glenrosa, Dresden, Clovelly and Hutton forms. These soils, with the exception of Dresden, could be described as medium potential forestry soils provided the effective rooting depth is sufficient for tree growth. The soils would probably be well leached, dystrophic to mesotrophic and luvic in character due to the rainfall status of the area.

Climate

The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for Viljoenskroon range from 18°C in June to 29°C in January. The region is the coldest during July when the mercury drops to 0°C on average during the night.

Rainfall

Viljoenskroon normally receives about 446mm of rain per year, with most rainfall occurring mainly during mid summer. It receives the lowest rainfall (0mm) in June and the highest (76mm) in January. The winter months are generally dry.

Wind

The driest months occur in between July and December with an average of 12 knots and the windiest month occurs in September (17 knots). The strongest winds are generally southerly and all year round. Wind also occurs between January and June with an average of 8 knots. Some dust can be generated in highly exposed areas but is limited to reasonable levels in this area.

Data collected from

[http://www.saexplorer.co.za/south-](http://www.saexplorer.co.za/south-africa/climate/Viljoenskroon_climate.asp)

[africa/climate/Viljoenskroon\\_climate.asp](http://www.saexplorer.co.za/south-africa/climate/Viljoenskroon_climate.asp)

### Surface Water

The drainage pattern in the prospecting area is towards the northern parts of the application area. Various runoffs to the Olifantsdrift River running through the farm Jagtershoek 362 pass through the farm during rainy seasons. The water channels/ will be evaded and no drilling is planned closer than 100m from any water feature.

### Drainage and Wetlands

There are no active or pristine watercourses or wetlands in or around the prospecting area. There are Non Perennial water ponds/dams on the farm Jagtershoek 362 and Kryspan 442 and drilling is planned more than 100m from water courses, surface runoff tributaries and river.

## **(b) Description of the current land uses.**

The farms are currently being used mainly for medium to large scale maize crops farming.

The farms are generally flat plains that have been completely cleared for the cultivation of maize crops. A few pine trees and blue gum trees are found surrounding farm houses.

There are two main rivers. Olifantsdrift rivier (Non Perennial River) runs along the western boundary of the application area joining Rhenoster Rivier about 10 km north of the application area.

The farms are accessible by dirt roads from the Provincial Road R71 from Viljoenskron towards Vierfontein on either side of the road.

There is a railway line running through the farm Kryspan 442 and no prospecting activities will be conducted within 100 meters of the railway lines.

There are power lines running through the farms and no prospecting activities will be conducted within 100 meters to the power lines.

No houses exist within 100m of the planned prospecting area. The properties are accessed by minor dust roads that cross the all sides of the prospecting area.

**Photo 1: Road, Railway and Power line passing through the prospecting area**



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

**Topography and Drainage**

The applicant intends to prevent impacts on the low lying areas, and the associated ecological corridors which represent, by avoiding prospecting activities below the 160 contour line.

The topography is described as flat plains and majority of infrastructures required for prospecting do not have an impact on topography in that the infrastructures will be visible from distance. Prospecting activities will be done in a manner that addresses expansion, waste management and disposal and rehabilitation process. Continuous consultation with interested and affected parties is ongoing.

**Soil**

Measurements will be taken, audited monthly to ensure adherence to the prospecting development plans. Soil samples must be taken and analysed to ensure that the topsoil is fertilized to enable sustainable re-vegetation, auditing of the rehabilitation and closure documentation. The post closure and topographical features will comply with the closure agreement from interested and affected parties and the state.

**Rivers**

Olifantsdrift River runs through the farm Jagtershoek 362 within the application area and flows during rainy seasons and joins Rhenoster rivier about 10 KM north of the application area. No drilling is planned closer than 100m from the river and during heavy rain season. This way the river will protected against pollution should there be any unforeseen challenges.

## **Wetlands**

There are no wetlands within the application area.

## **Vegetation/Flora**

According to the Agricultural Geo-Referenced Information System (AGIS), the area consisting of Rand Highveld Grassland and Vaal-Vet Sandy Grassland of the Pure Grassveld type. The natural vegetation has been disturbed by agriculture and farming to such an extent that few naturally pristine areas remain on the farm. The area is dominated by maize crop farming. Eucalyptus trees and Temeda Trianda grass are dominant in the outskirts of the cultivated areas.

## **Fauna**

The area has been modified by past and present agricultural practises. The remainly natural areas are mainly restricted to areas of shallow soils. Within these areas, large scale clearing of land for crop planting has resulted in an altered vegetation structure and composition as well as other factors such as a lack of area, cover and food availability has severely impacted on the fauna. However, small mammals known to occur in the area include hedgehog, rabbits, polecat, meerkat and the ubiquitous rats and mice. Given the habitat, it is likely that korhaans, larks, longclaws, species of *Euplectes* (bishops and widows), weavers, starlings and sparrows occur in the grassveld.

## **Air Quality**

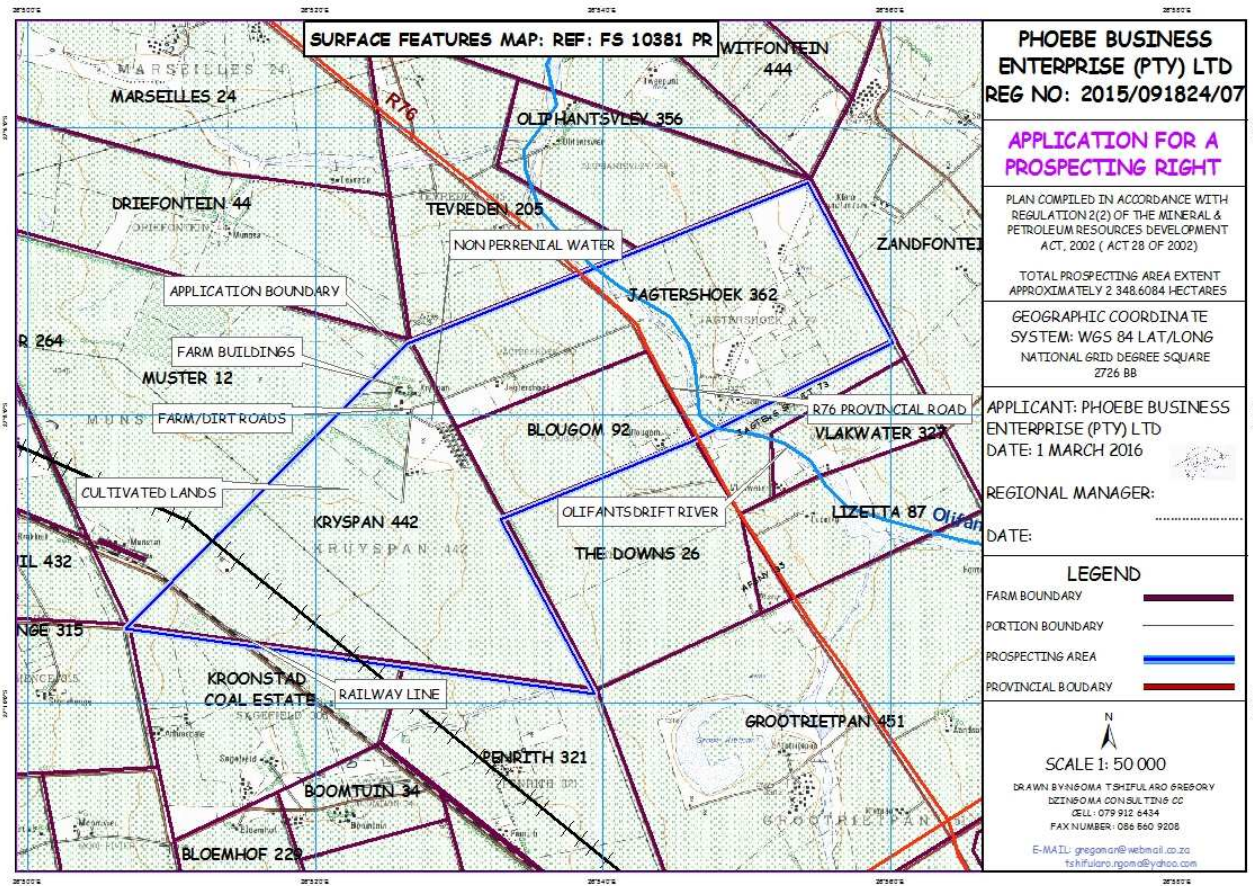
The supporting equipment for the drilling machine often produces dust. Dust is a nuisance to residents staying down dip of the prevailing wind direction of a prospecting operation. The industry generally mitigates this aspect by limiting the speed of supporting equipment. The drilling contractor will ensure that the manager on site monitor this aspect on a daily basis.

### **(d) Environmental and current land use map.**

(Show all environmental, and current land use features)



Figure 3: Environment and Land Use Map



**v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts**

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known 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 2: Potential Impacts**

ACTIVITY	ASPECT	TYPE OF IMPACT	IMPACT DESCRIPTION
Application	No Impact		
Reconnaissance site Visit	No Impact		
Desktop Study	Vegetation	Negative Medium	Clearing of crops for access to the site
Mapping & Surveying	Flora	Negative Medium	Clearing of crops for access tracks and clearing of Drill sites
Drilling	Fauna	Negative Medium	The natural habitat of the animals will be disturbed and/or destroyed
			Potential road kill
	Soil	Negative Medium	Removal of Topsoil on the Drilling Points
			Soil Disturbance from soil sampling resulting in soil erosion
			Soil compaction resulting from repeated use of access roads
			Oil and Fuel spills from drilling equipment
	Water	Negative Low	Contamination of ground water and reduction of water quantity
			Possible hydrocarbon spills from drill rig
			Increased water consumption as water will be used to control dust and for sampling
	Air	Negative Low	Generation of dust on the access tracks and drilling points

	Noise	Negative Low	Noise from the drill rig
	Air quality	Negative Low	Nuisance dust will be created by the prospecting equipment hauling materials and samples to and from site
	Fauna	Negative High	Where new haulage roads will be created the natural habitat of the animals will be disturbed and/or destroyed <ul style="list-style-type: none"> <li>• Road kills</li> </ul>
	Flora	Negative High	Where new haulage roads will be created the vegetation will be disturbed and/or destroyed
	Soil	Negative Low	Compaction of soil is expected on the roads that are used by the prospecting operation Possible hydrocarbon spills from equipment and vehicles
	Surface Water	Negative Low	If roads are not properly maintained, water erosion after thunder storms can occur Possible hydrocarbon spills from equipment and vehicles
	Visual	Negative Low	The haulage roads will be visible to some extent from the immediate surroundings
Decommissioning	Air quality	Negative Low	Dust emissions from decommissioning activities (including vehicle entrained dust)
	Ground Water	Negative Low	Possible hydrocarbon spills from equipment and vehicles in this area Sample pit backfilling
	Noise	Negative Low	Noise will be created by the vehicles and equipment in the area
	Soil	Negative Medium	Soil erosion resulting from the re-spreading of topsoil before crops are re-established Ripping of compacted areas

	Surface Water	Negative Low	Possible hydrocarbon spills by vehicles and equipment in the area
Analysis of a sample	No impact on site		
Consolidation of the results	No impact on site		

**Table 3: Potential Cummulative Impacts**

ASPECTS	IMPACTS	DETAILED DESCRIPTION
Climate	Release of greenhouse gas emissions	<ul style="list-style-type: none"> <li>The release of greenhouse gasses and other contaminants to the atmosphere is expected as a result of land based vehicle activity</li> <li>The clearing of land negatively affects carbon sequestration efficiency and increase emissions resulting from decomposition. These impacts are regarded as insignificant in terms of contributon. The risks are recognised as a cumulative impact</li> </ul>
Soils	Loss of Natural resource (topsoil)	The loss of topsoil as a natural resource as a result of soil contamination and erosion negatively affecting land capability
Hydrology	Surface water pollution	Surface water quality impacts will extend beyond the boundary of the site if not managed appropriately which in turn affects the agricultural sector highly dependent on this surface water resource.
Geohydrology	Ground water pollution	Ground water contamination is regarded as a cumulative impact. Regionally there is a high dependency on groundwater resources and all activities which may impact on ground water resources are regarded as significant
Biodiversity (flora, Fauna and Avifauna)	Loss of biodiversity and disruption of existing ecosystem functioning	The cumulative impacts relate to land transformation resulting in the loss of habitat
	Visual	The cumulative impacts relate to the visual

Visual	disturbance and change of landscape character	disturbance is regarded to impact the regional “sense of place”. Regionally the site visual has been affected by agricultural activities.
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### Potential Impacts on heritage resources

In terms of Section 34 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), all structures older than 60 years need to be identified and protected. One such structure was identified during the site visit by Jackie Von Maltitz from For Strategic Environmental Focus (Pty) Ltd. There will be no prospecting activities within 100 meters of any built environment/infrastructure hence no property will be affected.

No prospecting activity will be done near grave sites on the farms. The farm houses and graves will not be affected by the proposed prospecting activities.

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

Prospecting will not have any direct impacts on communities, individuals or competing land uses in close proximity of the prospecting area. Most of the neighbouring farms are maize crop farming and cattle farming. The farm Grootrietpan 451 which lies about 500 meters south of Kryspan 442 is a private nature reserve and will not be affected by any prospecting activity.

**Table 4: Potential Impacts on Communities**

ASPECT	TYPE OF IMPACTS	IMPACT DESCRIPTION
Air Quality	Negative Medium	The movement of vehicles into the site through gravel roads will generate dust which will affect the local air quality
Water Quality	Negative Low	The flow of stormwater from the gravel roads into the local surface from the gravel roads would be highly contaminated with sediments and spilled fuels and oils.
Noise	Negative Medium	The drill rig and the drilling tractor would potentially create noise that affects the livestock in the area. The noise generated would also affect the humans in the close proximity to the site.
		The movement of vehicles within the farm would

Soils	Negative Medium	compact the soils rendering the soils unproductive for crop farming.
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**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).

The assessment of the impacts has been conducted according to a synthesis of the criteria required by the integrated environmental management procedure.

**Table 5: Risk Assessment Technologies**

TERM	DEFINITION
Nature of Impact	This is an appraisal of the type of effect the activity will have on the affected environmental component. Its description should include what is being affected, and how.
Extent	The physical and spatial size of the impact
Duration	The lifetime of the impact that is measured in the context of the lifetime of the proposed phase.
Intensity	This describes how destructive the impact is. Does it destroy the impacted environment, after its functioning, or slightly alter it.
Probability	This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time.
Significance	Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

**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)

**Table 6: Risk Assessment Technologies**

<b>CRITERIA</b>	<b>DESCRIPTION</b>			
<b>EXTENT</b>	National (4)	Regional (3)	Local (2)	Site (1)
	The whole of South Africa	Provincial and parts of neighbouring provinces	Within a radius of 2 km of the construction site	Within the construction site
<b>DURATION</b>	Permanent (4)	Long-term (3)	Medium-term (2)	Short-term (1)
	Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	The impact will continue or last for the entire operation life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.	The impact will last for the period of the construction phase, where after it will be entirely negated	The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
<b>INTENSITY</b>	Very High (4)	High (3)	Moderate (2)	Low (1)
	Natural, cultural and social functions and processes are altered to extent that they permanently cease	Natural, cultural and social functions and processes are altered to extent that they temporarily cease	Affected environment is altered but natural, cultural and social functions and processes continue albeit in a	Impacts affects the environment in such a way that natural, cultural and social functions and processes are not affected

			modified way	
PROBABILITY OF OCCURRENCE	Definite (4)	Highly Probable (3)	Possible (2)	Improbable (1)
	Impact will certainly occur	Most likely that the impact will occur	The impact may occur	Likelihood of the impact materialising is very low

**CRITERIA FOR THE RATING OF CLASSIFIED IMPACTS**

Low Impact (3-10 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium Impact (11-20 points)	Mitigation is possible with additional design and construction inputs.
High Impact (21-30 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very High Impact (31-48 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial Impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore not all negative impacts are equally significant.



**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).

At the completion of the operation all proposed boreholes shall be filled in from the total depth to the surface with unused cores and replacing the softs from at least 2m below ground level, in such manner that no excess is deposited on the surface which may interfere with any land use activities.

All hazardous and unnatural materials will be removed from the site on completion of the prospecting activities.

To ensure excellent health is achieved on workers, the workers will be supplied with protective equipment during the operation.

Construction vehicles will be equipped with noise suppression measures to reduce noise pollution and they must be serviced constantly and be removed.

Clean up making sure that there are no waste materials such as plastics, papers, wire, nails, etc that remains on completion of the operation and disposed in a registered disposal site with respect to the quality of the waste

Plant seeds will be kept when removing the vegetation and the area where vegetation has been disturbed will be reseeded.

The construction & maintenance activities will be of such a nature as not to disturb the livelihood of adjacent property owners and the public infrastructures and on completion of the project the all social disturbing material will be removed. Once heavy machinery has cleared the, the disturbed areas will be leveled and cleared of any foreign material manually.

**ix) Motivation where no alternative sites were considered.**

The client intends to prospect in the proposed area because there is probability of high coal and clay deposits. Furthermore he wants to improve the economic activities in the Viljoenskroon area through job creations and skills development.

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

The area has already been extensively cleared for agricultural purposes in particular maize crop farming. It will be easier to drive through the farm to various parts of the farms without the need to clear any vegetation and also without road construction.

- 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.)**

See table 7 below.

**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).

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

**Table 7: Significance of the Potential Impacts**

PROSPECTING POTENTIAL IMPACTS							
E = Extent, D = Duration, I = Intensity, P = Probability of Occurrence					Where (E + D + I) X P = Significance		
Phase and Activity	Aspect	Potential Impact	Rating Before Mitigation				Significance before mitigation
			E	I	D	P	
Phase 1: Mapping & Surveying	Flora	Loss of crops through clearing of the access tracks	1	2	2	3	15 Negative
Phase 2: Drilling	Flora	Loss of crops through clearing of drilling points	1	3	2	2	12 Negative
	Fauna	<ul style="list-style-type: none"> <li>Loss of habitat during clearing of vegetation</li> <li>Potential road kill</li> </ul>	1	3	2	2	12 Negative

	Soil	<ul style="list-style-type: none"> <li>Removal of topsoil on the drilling points</li> <li>Soil disturbance from soil sampling</li> <li>Soil compaction resulting from repeated use of access tracks</li> <li>Oil and fuel spills from drilling equipment</li> </ul>	2	3	2	2	14	Negative
	Water	<ul style="list-style-type: none"> <li>Contamination of ground water and reduction of water quantity through spills of hydrocarbons from drill rig.</li> <li>Contamination of surface water through the flow of contaminated storm water from site into local streams</li> </ul>	1	2	2	2	10	Negative
	Air	Generation of dust from gravel access tracks, and drilling points	1	2	2	2	8	Negative
	Noise	Noise emanating from drill rig	1	1	1	2	6	Negative
Phase 3: Further Drilling	Flora	Loss of vegetation through clearing of drilling points	1	3	2	2	12	Negative
	Fauna	<ul style="list-style-type: none"> <li>Loss of habitat during clearing of crops</li> <li>Potential road kill</li> </ul>	1	3	2	2	12	Negative

	Soil	<ul style="list-style-type: none"> <li>Removal of topsoil on the drilling points</li> <li>Soil disturbance from soil sampling</li> <li>Soil compaction resulting from repeated use of access tracks</li> <li>Oil and fuel spills from drilling equipment</li> </ul>	2	3	2	2	14	Negative
	Water	<ul style="list-style-type: none"> <li>Contamination of ground water and reduction of water quantity through spills of hydrocarbons from drill rig.</li> <li>Contamination of surface water through the flow of contaminated storm water from site into local streams</li> </ul>	1	2	2	2	10	Negative
	Air	Generation of dust from gravel access tracks, and drilling points	1	2	1	2	8	Negative
	Noise	Noise emanating from drill rig	1	1	1	2	6	Negative
Phase 4: Decommissioning & Feasibility studies	Air Quality	Dust emissions from decommissioning activities (including vehicle entrained dust)	1	2	1	2	8	Negative
	Noise	Noise will be created by the vehicles and equipment in the area	1	2	1	2	8	

								Negative
	Soil	<ul style="list-style-type: none"> <li>• Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established</li> <li>• Ripping of compacted areas</li> </ul>						8 Negative
	Surface Water	Possible hydrocarbon spills by vehicles and equipment in the area						8 Negative

## Assesment of Potential Cumulative Impacts

**Table 8: Significance of Cumulative Impacts**

ASPECT	IMPACTS	Impact Rating Before Mitigation				Significance before mitigation
		E	I	D	P	
Climate	<ul style="list-style-type: none"> <li>Release of greenhouse gas emissions is expected as a result of land based vehicle activity</li> <li>The clearing of vegetation/crops negatively affects carbon sequestration efficiency and increase emissions resulting from decomposition. These impacts are regarded as insignificant in terms of contribution. The risks are recognised as cumulative impact</li> </ul>	1	1	1	1	6 Negative
Soils	The loss of topsoil as a natural resource as a result of soil contamination and erosion negatively affecting land capability	1	2	1	2	8 Negative
Hydrology	Surface water quality impacts will extend beyond the boundary of the site if not managed appropriately which in turn affects the agricultural sector highly dependent on the surface water resource	2	2	1	2	10 Negative

Geohydrology	Ground water contamination is regarded as a cumulative impact. Regionally there is a high dependency on ground water resources and all activities which may impact on ground water resources are regarded as significant.	1	2	1	2	8 Negative
Biodiversity (Flora, Fauna and Avifauna)	Loss of biodiversity and disruption of existing ecosystem functioning – The cumulative impacts relate to land transformation resulting in the loss of habitat	1	2	1	3	12 Negative
Visual	The cumulative impacts relate to visual disturbance is regarded to impact the regional “sense of place”. Regionally the site visual has been affected by agricultural activities.	1	1	1	2	6 Negative



## Proposed Mitigation Measures to Minimise Adverse Impacts

List of Actions, Activities, or Processes that have Sufficiently Significant Impacts to Require Mitigation.

Table 9: Activities Requiring Impacts Mitigation

ACTIVITY	IMPACT
<b>Drilling</b>	The drilling activity will create significance impact on the biodiversity, underground and surface water and has the potential to generate noise and dust
<b>Topsoil stockpile</b>	The clearing of crops for access track road to the drilling site and for hauling samples from the site for analysis in the lab. The movement of vehicles on the haul road would also compact the soils.
<b>Topsoil stockpile</b>	The removed topsoil must be stockpiled for rehabilitation purposes.
<b>Decommissioning and Rehabilitation</b>	The decommissioning includes the backfill of the sampling points. The potential impacts of this activity include water contamination and generation of dust.

**Table 10: Impact Mitigation**

Aspect	Impact	Mitigation Measures
Air Quality	Creation of nuisance dredust	<ul style="list-style-type: none"> <li>• Avoidance of unnecessary removal of vegetation</li> <li>• Routine spraying of unpaved site areas and roads</li> <li>• Utilized by the prospecting operation with water</li> <li>• Speed limits of vehicles inside the application area will be strictly controlled to avoid excessive dust or the excessive deterioration of the roads to be used.</li> <li>• All cleared disturbed or exposed areas to be re-vegetated as soon as practically possible to prevent the formation of additional sources of dust.</li> </ul>
Fauna	Loss of Fauna	<ul style="list-style-type: none"> <li>• Speed limits of vehicles inside the application area will be strictly controlled to avoid road kills</li> <li>• Continuous backfilling of open holes</li> <li>• No hunting (snares) will be allowed in the application area</li> </ul>
Flora	Loss of Flora	<ul style="list-style-type: none"> <li>• No trees or shrubs will be felled or damaged for the purpose of obtaining fire wood</li> <li>• Management will take responsibility to control declared invader or exotic species on the site. The following methods will be used               <ul style="list-style-type: none"> <li>➤ “The plants will be uprooted, felled or cut off and can be destroyed completely”.</li> <li>➤ “The plants will be treated with a herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such a herbicide”.</li> </ul> </li> <li>• Continuous backfilling of open excavations and spreading of previously stored topsoil over the rehabilitated areas.</li> <li>• All rehabilitated area, where applicable and possible, will be seeded with a vegetation seed mix adapted to reflect the local indigenous flora that was present prior to the commencement of prospecting activities, if the natural succession of vegetation is anacceptably low.</li> <li>• The end objective of the re-vegetation program will be to achieve a stable self-sustaining habitat unit.</li> </ul>

Ground Water	Contamination of Ground Water	<ul style="list-style-type: none"> <li>• Vehicle and equipment maintenance will only be allowed within the maintenance area. Only emergency breakdowns will be allowed in other areas.</li> <li>• The following procedure will be followed if a vehicle or piece of equipment would break down inside an excavation and outside of the maintenance area:</li> <li>• Drip pans will be placed at all points where diesel, oil or hydraulic fluid may drip and in so doing contaminate the soil.</li> <li>• All efforts will be made to move the broken down vehicle or piece of equipment to the maintenance area.</li> <li>• If the vehicle /piece of equipment can not be moved, the broken parts will firstly be drained of all fluid. The part will then be removed and taken to the maintenance area.</li> <li>• Equipment used as part of the proposed operation will be adequately maintained so as to ensure that oil, diesel, grease or hydraulic fluid does not leak during operation.</li> <li>• Fuel and other petrochemicals will be stored in steel receptacles that comply with SANS 10089-1:2003 (SABS 089-1:2003) standards. An adequate bund wall, 150 % of volume of the largest storage receptacle, will be provided for fuel and diesel areas to accomodate any spillage or overflow of these substances. The area inside the bund wall will be lined with an impervious lining to prevent infiltration of the fuel into the soil (and ultimately ground water). The latter will be covered by an approved bacterial hydrocarbon digestion agent that is effective in water.</li> </ul>
Noise	Generation of Noise from prospecting equipment and vehicles	<ul style="list-style-type: none"> <li>• Working hours will be kept between sunrise and sunset as far as possible</li> <li>• The management objective will be to reduce any level of noise, shock and lighting that may have an effect on persons or animals, both inside the plant area and that which may migrate outside the plant area.</li> <li>• Hearing protection will be available for all employees where attenuation cannot be implemented.</li> <li>• If any complaints are received from the public or state department regarding noise levels, the levels will be monitored at prescribed monitoring points.</li> </ul>
Soil	Contamination of soil	<ul style="list-style-type: none"> <li>• In all places of development, the first 300 mm of loose or weathered material found will be classified as a growth medium. The topsoil will be removed, where possible, from all areas where physical disturbance of the surface will occur.</li> <li>• In all areas where the above growth medium will be impacted on, it will be removed and</li> </ul>

		<p>stockpiled on a dedicated area. The maximum height of stockpiles will be 2 meters.</p> <ul style="list-style-type: none"> <li>• The growth medium/topsoil will be used during the rehabilitation of any impacted areas, after sloping in order to re-establish the same land capability.</li> <li>• If any soil is contaminated during the life of the prospecting period, it will either be treated on site, or be removed together with the contaminant and placed in acceptable containers to be removed with the industrial waste to a recognized facility or company.</li> <li>• Erosion control in the form of re-vegetation and contouring of slopes will be implemented on disturbed areas in and around the site.</li> <li>• Topsoil will be kept separate from overburden and will not be used for building or maintenance of access roads.</li> <li>• The stored topsoil will be adequately protected from being blown away or being eroded</li> <li>• Compacted areas will be ripped to a depth of 300mm, where possible, during the continuous rehabilitation, decommissioning and closure phases of the operation in order to establish a growth medium for vegetation.</li> <li>• Vehicle movement will be confined to established roads as far as practical in order to prevent the compaction of soil.</li> </ul>
Surface water	Contamination of surface water	<ul style="list-style-type: none"> <li>• All non-biodegradable (recyclable) refuse such as glass bottles, plastic bags and metal scrap will be stored in a container in the waste area and collected on a regular basis and disposed of at a recognized desposal facility.</li> <li>• Erosion and storm water control measures will be implemented.</li> <li>• During rehabilitation the applicant will endeavour to reconstruct flow patterns in such a way that the surface water flow in accordance with the natural drainage of the area as far as practically possible.</li> </ul>
Topography	Alteraton of slopes	<ul style="list-style-type: none"> <li>• All open excavations will be backfilled if and when possible and made safe so as to reflect as far as possible the pre-prospecting topography of the area.</li> <li>• All temporary features, e.g. plant, containers and stockpiling, will be removed and handled in the prescribed manner during rehabilitation.</li> </ul>
	Creation of an	<ul style="list-style-type: none"> <li>• Open excavations will be subject to progressive backfilling and made safe (including the</li> </ul>

Visual	unpleasing visual look	reestablishment of vegetation). <ul style="list-style-type: none"> <li>Waste material of any description will be removed from the prospecting area upon completion of the operation and be disposed of at a recognized landfill facility.</li> </ul>
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**Table 11: Significance of Impact after Mitigation**

Phase and Activity	Aspect	Potential Impact	Significance before mitigation	Significance after mitigation
Phase 1: Mapping & Surveying	Flora	Loss of vegetation/crops through clearing of the access tracks	15 Negative	3 Negative
Phase 2: Drilling	Flora	Loss of vegetation/crops through clearing of drilling points	12 Negative	6 Negative
	Fauna	<ul style="list-style-type: none"> <li>Loss of habitat during clearing of vegetation/crops</li> <li>Potential road kill</li> </ul>	12 Negative	6 Negative
	Soil	<ul style="list-style-type: none"> <li>Removal of topsoil on the drilling points</li> <li>Soil disturbance from soil sampling</li> </ul>	14	8

		<ul style="list-style-type: none"> <li>• Soil compaction resulting from repeated use of access tracks</li> <li>• Oil and fuel spills from drilling equipment</li> </ul>	Negative	Negative
	Water	<ul style="list-style-type: none"> <li>• Contamination of ground water and reduction of water quantity through spills of hydrocarbons from drill rig.</li> <li>• Contamination of surface water through the flow of contaminated storm water from site into local streams</li> </ul>	10 Negative	3 Negative
	Air	Generation of dust from gravel access tracks, and drilling points	8 Negative	3 Negative
	Noise	Noise emanating from drill rig	6 Negative	3 Negative
Phase 3: Further Drilling	Flora	Loss of vegetation/crops through clearing of drilling points	12 Negative	6 Negative
	Fauna	<ul style="list-style-type: none"> <li>• Loss of habitat during clearing of vegetation</li> <li>• Potential road kill</li> </ul>	12 Negative	6 Negative

	Soil	<ul style="list-style-type: none"> <li>• Removal of topsoil on the drilling points</li> <li>• Soil disturbance from soil sampling</li> <li>• Soil compaction resulting from repeated use of access tracks</li> <li>• Oil and fuel spills from drilling equipment</li> </ul>	14 Negative	8 Negative
	Water	<ul style="list-style-type: none"> <li>• Contamination of ground water and reduction of water quantity through spills of hydrocarbons from drill rig.</li> <li>• Contamination of surface water through the flow of contaminated storm water from site into local streams</li> </ul>	10 Negative	3 Negative
	Air	Generation of dust from gravel access tracks, and drilling points	8 Negative	3 Negative
	Noise	Noise emanating from drill rig	6 Negative	3 Negative
			8 Negative	3 Negative

Phase 4: Decommissioning & Feasibility studies	Air Quality	Dust emissions from decommissioning activities (including vehicle entrained dust)		
	Noise	Noise will be created by the vehicles and equipment in the area	8 Negative	5 Negative
	Soil	<ul style="list-style-type: none"> <li>• Soil erosion resulting from the re-spreading of topsoil before vegetation/crops is re-established</li> <li>• Ripping of compacted areas</li> </ul>	8 Negative	3 Negative
	Surface Water	<ul style="list-style-type: none"> <li>• Possible hydrocarbon spills by vehicles and equipment in the area</li> </ul>	8 Negative	4 Negative

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 12**

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.
See appendix B			
Strategic Environmental Focus: Viljoenskroon Prospecting Opinion.			

Attach copies of Specialist Reports as appendices



## I) Environmental impact statement

### (i) Summary of the key findings of the environmental impact assessment;

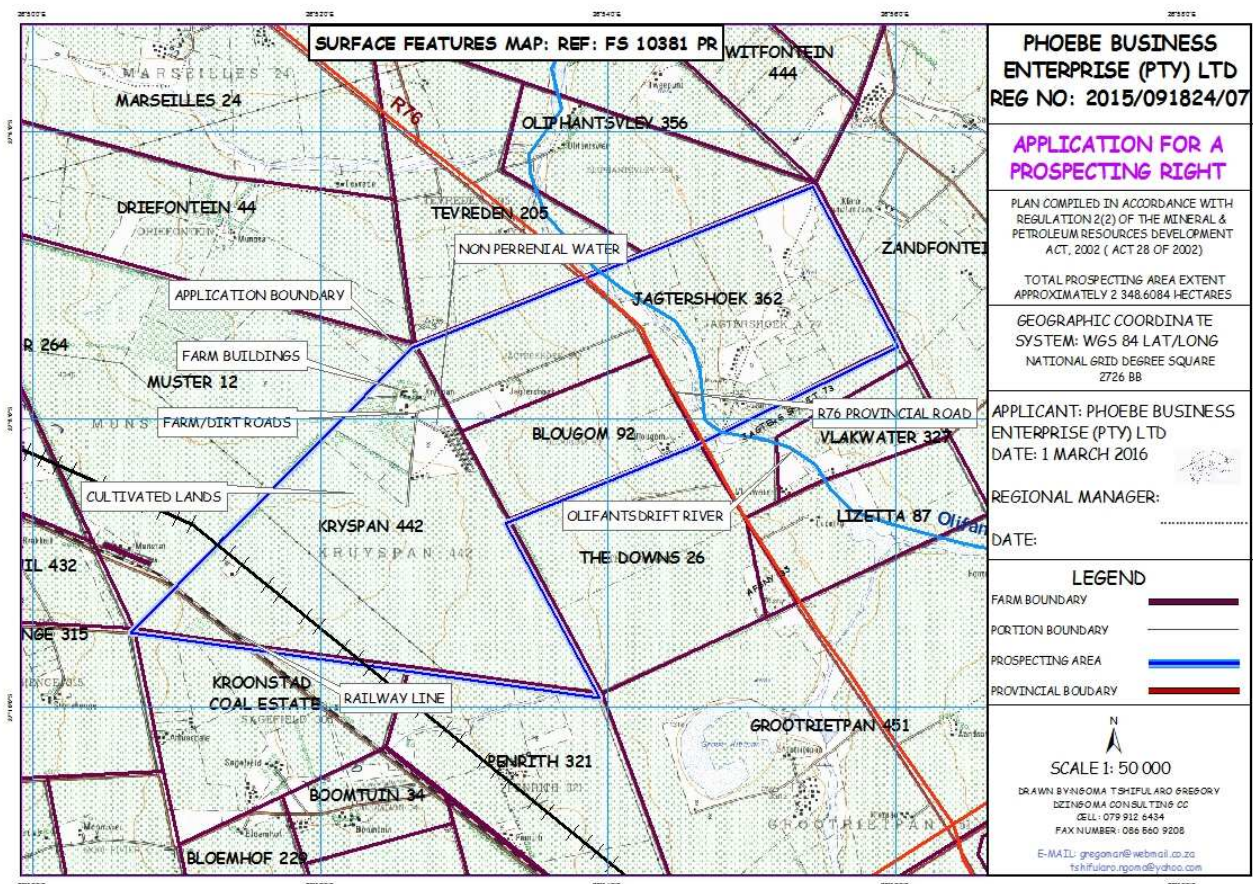
There are possible positive and negative impacts which might have a least effect on the proposed development.

The impacts deemed to be negative are not demanding and would not cause major impacts on the area and its surroundings. The proposed activity will have a positive injection to the area due to job creation and employment opportunities during operational phase.

### (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**

Figure 3: Environment and Land Use Map



The roads, river, buildings, railway and power lines will be avoided at all times and prospecting will be done at least 100 meters away.

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

See table 7-11

**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 Environmental Management Programme (EMPr) should be used as an on-site reference document during all phases of the project.

The contractor will be forced to suspend all of the work if prospecting activities cause damage to the environment.

Monthly auditing should take place in order to determine compliance with this EMPr. Parties responsible for disobedience of this document shall be held responsible for not adhering to the specifications set.

**n) Aspects for inclusion as conditions of Authorisation.**

Any aspects which must be made conditions of the Environmental Authorisation

Not applicable

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

(Which relate to the assessment and mitigation measures proposed)

None.

**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 activity should be authorised due to the fact that all the listed impacts are not of significance after mitigation.

**ii) Conditions that must be included in the authorisation**

This Environmental Management Programme (EMPr) should be used as an on-site reference document during all phases of the project.

Parties responsible for disobedience of this document shall be held responsible for not adhering to the specifications set.

**q) Period for which the Environmental Authorisation is required.**

5 years

**r) Undertaking**

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

Consultation and public participation was undertaken as a component of the BAR. The links to the land owners, interested and affected parties that have been established shall be maintained and utilized to the mutual benefit of all parties.

**s) Financial Provision**

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

**i) Explain how the aforesaid amount was derived.**

20 Boreholes x 150 m = 3000  
3000 divide by 10 000 = 0.3 ha

The rehabilitation of 0.3 ha was entered into the quantum table and the amount was derived from the table.

**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).

It is confirmed that the amount of R62 633 is available and the applicant will be able to deposit it into the rehabilitation account of the Department or Mineral Resources as part of the financial guarantees.

**t) Specific Information required by the competent Authority**

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

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

Should a mine be established after prospecting the impacts will be:  
Potential loss of farming land for the farmer.  
Employment opportunities for the local population.  
Economic development.

**(2) Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.** (Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial 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)(j)(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).

None.

**u) Other matters required in terms of sections 24(4)(a) and (b) of the Act.**

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

See attached Environmental Authorisation Application (Appendix D)

## **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).

Mr Tshifularo Gregory Ngoma  
BSC (Hons) Environmental Sciences

- 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).

Done

**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)

See Appendix A

**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 objective is to return the land as close as possible to what it was before prospecting activities commenced.

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

Not applicable.

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

Not applicable.







iv) Impacts to be mitigated in their respective phases

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

ACTIVITIES	PHASE	SIZE AND SCALE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
<p>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc)</p> <p>E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(of operation in which activity will take place.</p> <p>State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).</p>	<p><b>of disturbance</b></p> <p>(volumes, tonnages and hectares or m<sup>2</sup>)</p>	<p>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)</p>	<p>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-</p> <p>..</p> <p>Upon cessation of the individual activity or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>
<p>Mapping</p>	<p>Walking in the area analysing the rocks and the behaviour of the rocks in order to determine the site for drilling</p>	<p>Whole farm but there will be no disturbance in the area</p>	<p>No nessary since there will be no disturbance on the land</p>	<p>The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards</p>	<p>4 months</p>
<p>Planning and siting of boreholes</p>	<p>This involves walking in the area with a GPS</p>	<p>Only in the targeted portion of the farm</p>	<p>No disturbance as the activity only requires a person walking the area.</p>	<p>The work will be undertaken by the highly qualified geologist who will always work in</p>	<p>1 month</p>

	devise locating the coordinates that are planned for drilling			accordance with the MRPDA standards	
Site establishment, Site clearance, access road preparation and platform & sump digging Camp site erection and core storage erection	20 x around the proposed coordinates location.	There will be disturbance of land since the area will be cleared by a TLB but the disturbance will be kept minimum, only area that will be planned for drilling	The area where it is flat will be left without any clearance and the area will be rehabilitated to closely look like a prior environment. And the boreholes will be sealed to avoid underground water contamination. Oil spillage will be cleaned after every hole.	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards	2 months
Drilling	Involves coring a 60mm diameter hole into the ground recovering the core samples.	This exercise has a very minimal disturbance to the land. It will be sealed after completion, it will cover the earmarked areas only	Sumps and drill holes will be sealed and covered with seeds of grass.	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards	2 years
Sample transportation to the lab	Samples will be collected from the storage	A light utility vehicle will be used to transport the	No disturbance of the land	The work will be undertaken by the highly qualified geologist who will always work in	2 years concurrently with drilling

	facility to the preferred accredited laboratory	samples from the storage to the Lab,It onlu use the existing roads		accordance with the MRPDA standards	
Rehabilitation	Involves backfilling, seeds sowing by spreading, fence repairs and gates installation	Only affected areas	No further disturbance	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards	2 months

### e) Impact Management Outcomes

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

<b>ACTIVITY</b> (whether listed or not listed).  (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	<b>POTENTIAL IMPACT</b>  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	<b>ASPECTS AFFECTED</b>	<b>PHASE</b> In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	<b>MITIGATION TYPE</b>  (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> <li>• Remedy through rehabilitation..</li> </ul>	<b>STANDARD TO BE ACHIEVED</b>  (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Mapping	No Impact	Nothing will be affected	N/A	N/A	N/A
Site establishment, Site clearance, access road preparation and platform & sump digging Camp site erection and core storage erection	Dust emission Surface disturbance Surface water contamination	The livelihood of the local people because of the noise and dust	Commissioning	Dust control Noise management control such as providing people with ear plugs	Little to no disturbance will be targeted
Drilling	Noise and dust	Noise will affect the livestock normal routine	Operational	Noise Management control such as ear plugs	Little to no disturbance will be targeted
Sample	Dust	Nothing will	Operational	No need for mitigation in	No disturbance is

transportation from the site and water supply		be affected		this stage	expected in this one
Rehabilitation	Noise and dust	Noise and dust will surely affect the livelihood of the locals temporaril	Decommissioning, Closure	Proving the locals with ear plugs and temporarily locating a land for livestocks	Taking the area to as close as it was before drilling



### f) Impact Management Actions

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

<p><b>ACTIVITY</b> whether listed or not listed.</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).</p>	<p><b>POTENTIAL IMPACT</b></p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)</p>	<p><b>MITIGATION TYPE</b></p> <p>(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> </ul> <p>Remedy through rehabilitation..</p>	<p><b>TIME PERIOD FOR IMPLEMENTATION</b></p> <p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-..</p> <p>Upon cessation of the individual activity</p> <p>or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>	<p><b>COMPLIANCE WITH STANDARDS</b></p> <p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>
Boreholes	Dust, noise, chemical leaks	Noise control measures,Dust control, rehabilitation	6 months	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards
Accommodation Camps	No Impact	N/A	6 month concurrently	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards
Core storage	No Impact	N/A	6 months concurrently	The work will be undertaken by the highly qualified geologist who will

				always work in accordance with the MRPDA standards
Contaminated Sumps	Groundwater contamination	Plastic lining in the bottom	6 months concurrently	The work will be undertaken by the highly qualified geologist who will always work in accordance with the MRPDA standards



**i) 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.**

At the completion of the operation all 20 proposed boreholes shall be filled in from the total depth to the surface with unused cores and replacing the softs from at least 2m below ground level, in such manner that no excess is deposited on the surface which may interfere with any land use activities.

All hazardous and unnatural materials will be removed from the site on completion of the prospecting activities.

A clean up operation making sure that there are no waste materials such as plastics, papers, wire, nails, etc that remains on completion of the operation and disposed in a registered disposal site with respect to the quality to the quality of the waste.

Once heavy machinery has cleared the, the disturbed areas will be leveled, top soil returned and cleared of any foreign material manually. The land will be left in as state similar to before prospecting activities.

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

The objectives to return the land to its original state and cleaning all foreign materials were part of the Basic Information document and were also presented to the interested and affected parties during consultation and public participation process.

**(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.**

All working areas shall be rehabilitated once work has been completed and before the team leaves the site.

This includes closure and rehabilitation of temporary access routes

All foreign materials not utilized in the rehabilitation activities shall be removed from the site.

Re-vegetation of all exposed soil shall be done before the team leaves the site.

Any potential erosion risks shall be addressed before the team leaves the site.

Any areas that the Environmental Practitioner believes may have been impacted upon or disturbed, shall be rehabilitated to the satisfaction of the Environmental Practitioner, which includes all areas where top material has been stripped.

Once the prospecting activities are completed, the contractor shall clear everything from the site.

The area rehabilitated landscape shall match the topography of the surrounding area as it was prior to prospecting activities.

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

Payment shall not be made for work that does not comply with contract specifications. A record shall be kept of non-compliance to standards and poor performance. Copies of instructions issued to contractors to correct the deficiencies shall be kept.

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

See attached quantum

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

The financial provision of R62.633.00 will be paid to the Department of Mineral Resources (DMR) upon the granting letter before the execution of the prospecting right.





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

The project Ecologist/Environmentalist together with the project manager (Geologist) and contractors on site are responsible for ensuring compliance with the EMPr. Monthly site audits shall be undertaken by the Ecologist and a Project Inspection Report submitted to the DMR for review prior to the following audit. A Compliance Audit Report shall be submitted to the DMR collating the year's completed checklists. It is the responsibility of the Ecologist/Environmentalist to report any non-compliance, which is not correctly rectified to the DMR.

**m) Environmental Awareness Plan**

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

The applicant together with the contractor and/or employees will be provided with the EMPr, the EMPr will be on site at all times so that if any environmental dangers arise they can easily refer to it and furthermore contact Phoebe Business Enterprise (Pty) Ltd.

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

The applicant together with the contractor and/or employees will be provided with the EMPr, the EMPr will be on site at all times so that if any environmental dangers arise they can easily refer to it and furthermore contact Phoebe Business Enterprise (Pty) Ltd.

**n) Specific information required by the Competent Authority**

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

Yes.

## 2) UNDERTAKING

The EAP herewith confirms

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

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Signature of the environmental assessment practitioner:

Dzingoma Conculting CC

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Name of company:

07/02/2016

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Date:

**-END-**