



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: **Nicor Boerdery (Pty) Ltd.**
TEL NO: **082 413 9316**
FAX NO: -
POSTAL ADDRESS: **59 Kruger Street, Wolmaransstad 2630**
PHYSICAL ADDRESS: -
FILE REFERENCE NUMBER SAMRAD: **NW 30/5/1/1/2/13695 PR**



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APPENDIX 1: BASIC ASSESSMENT REPORT

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 prospecting right if among others the prospecting "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 report required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a right 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 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; and
- (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

3. SCOPE OF ASSSMENT AND BASIC ASSESSMENT REPORT

a) DETAILS OF -

(i) Details of the EAP how prepared the report

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(a)(i)

Name of the Practitioner:
DERA Environmental Consultants (Pty) Ltd
Ms. Esna Erasmus
Tel No.: 018-468 5355
Fax No. : 018-011 3760
E-mail address: dera.office@dera.co.za

(ii) Expertise of the EAP

i. The qualifications of the EAP

2) In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(a)(ii)

The EAP, Ms HM (Esna) Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management. She also completed the subjects for her Master Degree in Environmental Analysis & Management at NWU. See **Appendix 1** for copies of his qualifications and CV. She is further registered at the International Association for Impact Assessment South Africa (**IAIAsa**), **membership No: 6502** and is registered at Environmental Assessment Practitioners Association of South Africa (**EAPASA**), **registration No: 2020/2909**.



ii. Summary ii. Summary of the EAP's past experience

See **Appendix 1** for Curriculum Vitae of HM (Esna) Erasmus (maiden name Claase). She is an environmental practitioner with 25 years' experience in Agricultural and Prospecting Management and Science. Experience in the field of inspection and evaluation of Environmental Impact Assessment in North West. Since 1998 involvement in prospecting activities with Department of Minerals and Energy in the North West Province as representative for National Department of Agriculture Dir. LRM in the following: Evaluation of Environmental Management Reports Inspection and evaluation of all different prospecting entities in North West Province. A member of the Slimes Dam Core Committee of North West Province. Involved in the compiling of a strategy for rehabilitation of Gold slime Dams in NW. Give inputs and comments on the revision of EMPR for small scale diamond prospecting. Involve in setting a strategy to encounter the impact of small-scale prospecting on the environment in North West. See **Appendix 1** attached for Curriculum Vitae of H.M. Erasmus.

Appendix 1 – CV & Qualifications of EAP

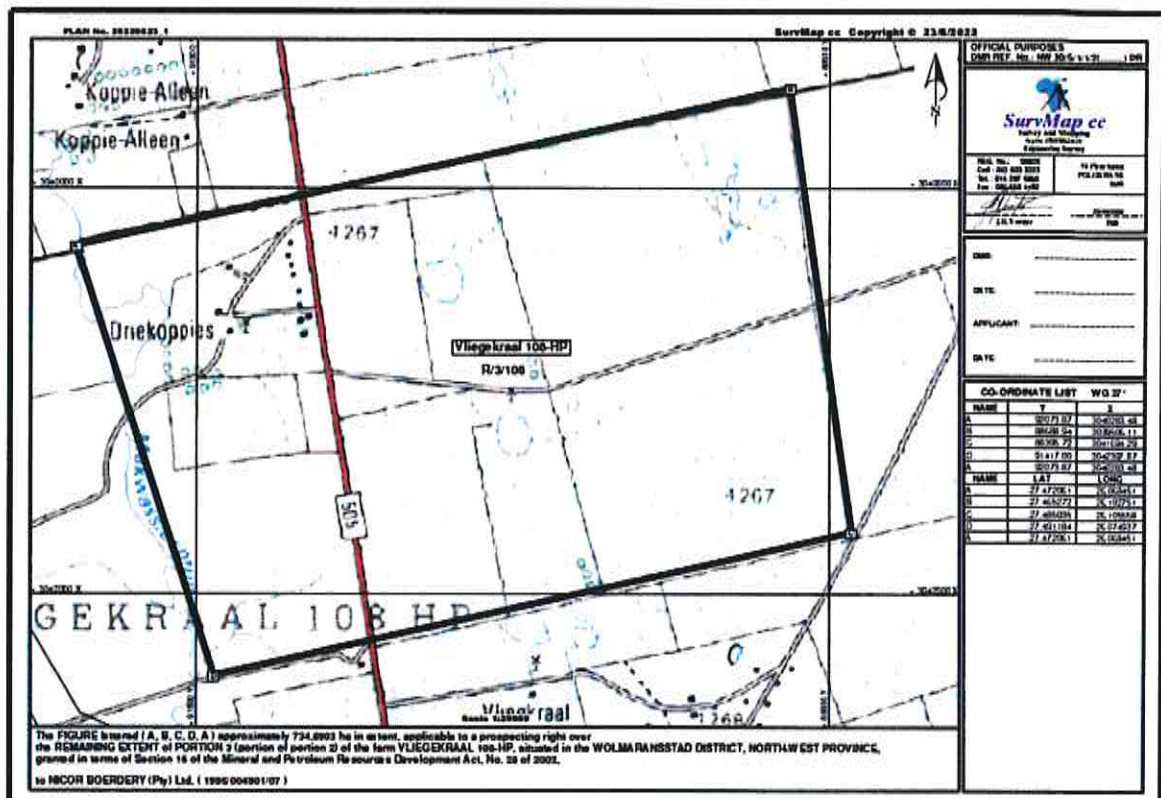
b) Location of the activity

Table 1: Property Description

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(b)

(i) 21-digit Surveyor General Code	TOHO00000000010800003																																							
(ii) Farm Name:	Vliegekraal 108 HP ✓ (Remaining extent of Portion 3 (portion of portion 2))																																							
(iii) Coordinates - Co-ordinates List WG 27°	<table border="1"> <thead> <tr> <th colspan="3">CO-ORDINATE LIST WG 27°</th> </tr> <tr> <th>NAME</th> <th>Y</th> <th>X</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>92073.87</td> <td>3040283.48</td> </tr> <tr> <td>B</td> <td>88688.94</td> <td>3039506.11</td> </tr> <tr> <td>C</td> <td>88395.72</td> <td>3041694.29</td> </tr> <tr> <td>D</td> <td>91417.00</td> <td>3042397.87</td> </tr> <tr> <td>A</td> <td>92073.87</td> <td>3040283.48</td> </tr> <tr> <th>NAME</th> <th>LAT</th> <th>LONG</th> </tr> <tr> <td>A</td> <td>-27.472061</td> <td>26.068451</td> </tr> <tr> <td>B</td> <td>-27.465272</td> <td>26.102751</td> </tr> <tr> <td>C</td> <td>-27.485035</td> <td>26.105558</td> </tr> <tr> <td>D</td> <td>-27.491184</td> <td>26.074937</td> </tr> <tr> <td>A</td> <td>-27.472061</td> <td>26.068451</td> </tr> </tbody> </table>	CO-ORDINATE LIST WG 27°			NAME	Y	X	A	92073.87	3040283.48	B	88688.94	3039506.11	C	88395.72	3041694.29	D	91417.00	3042397.87	A	92073.87	3040283.48	NAME	LAT	LONG	A	-27.472061	26.068451	B	-27.465272	26.102751	C	-27.485035	26.105558	D	-27.491184	26.074937	A	-27.472061	26.068451
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Application area (Ha)	734,6903 ha																																							
Magisterial district:	The area is situated within the district of Wolmaransstad is a maize, peanut, cattle farming town situated on the R505, 19 km south of Makwassie and 36 km south from Wolmaransstad in the <u>North West Province</u> . The town lies in an important alluvial diamond-prospecting area, and it is the main town of the <u>Maquassi Hills Local Municipality</u> , which further falls under the <u>Dr Ruth Segomotsi Mompati District Municipality</u> .																																							
Distance and direction from nearest town	The nearest town is Makwassie, which is situated 19 km north from the application area.																																							
Minerals applied for	Alluvial Diamonds (DA) & Diamonds (in Kimberlite).																																							

Figure 1 – Sketch plan of application area

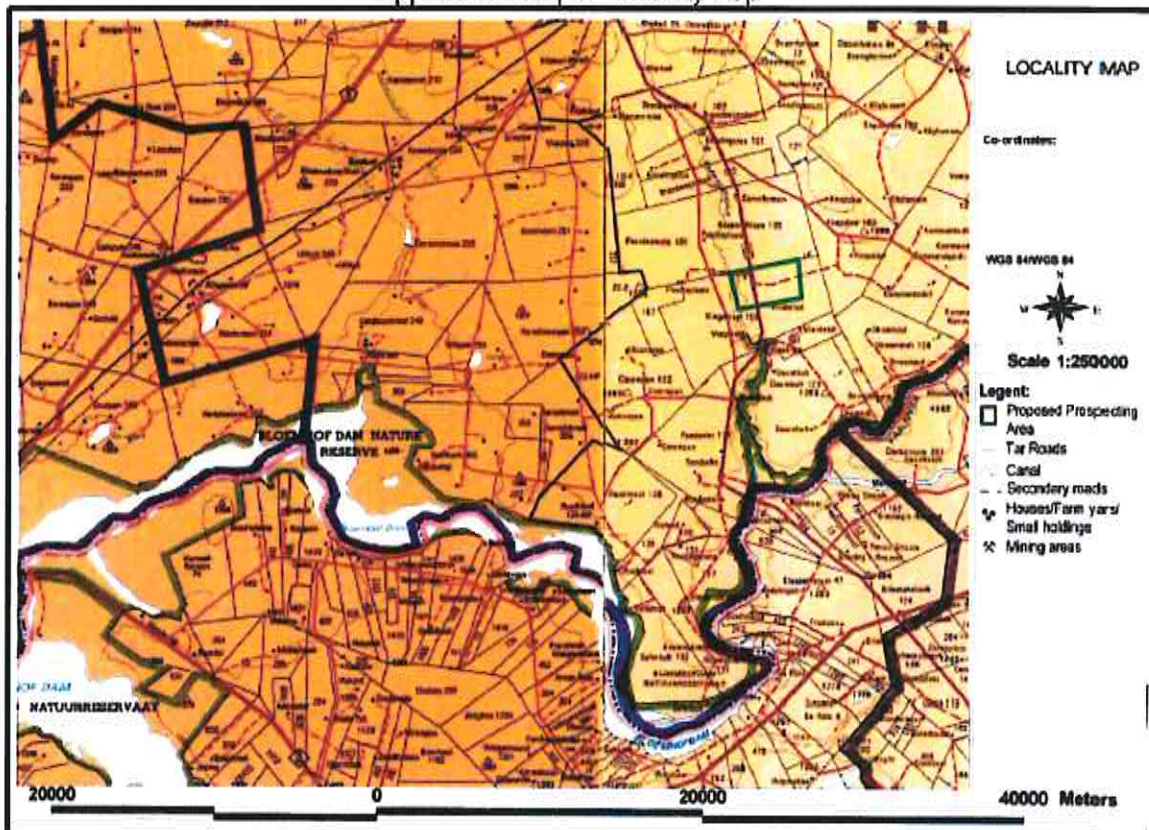


c) Locality map

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(c)

The area is situated within the district of Wolmaransstad is a maize-farming, cattle, peanuts, 19 m south of Makwassie 36 km from Wolmaransstad situated on the R505, in the North West Province of South Africa. The town lies in an important alluvial diamond-mining area and it is the main town of the Maquassi Hills Local Municipality which further falls under the Dr Ruth Segomotsi Mompati District Municipality (Course: <https://en.wikipedia.org/wiki/Wolmaransstad>). See **Figure 2** below, as well as **Appendix 2 – Map 1A - Locality Map** indication where the applied area is situated within the district of Wolmaransstad, North West Province.

Appendix 2: Map A – Locality Map



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

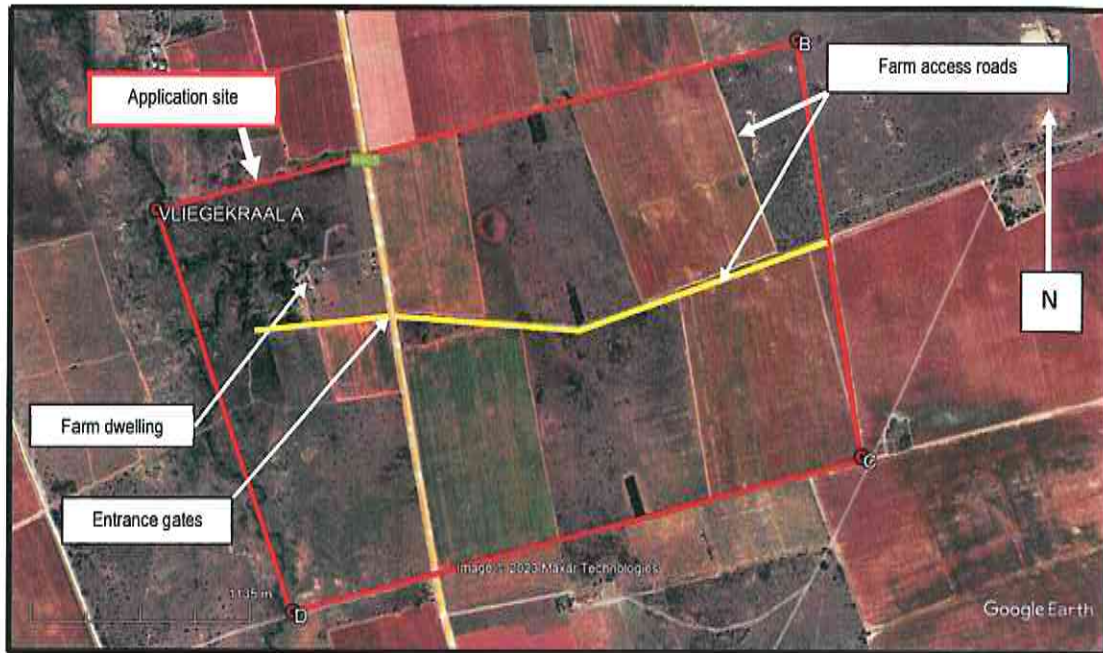
In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)

This will be a very small project with low impacts (only 0,2 ha). The application area is situated over an area that is disturbed by agriculture land uses (grazing for cattle and cultivation of maize crops). The proposed application area is situated ± 19 km south of Makwassie, as can be seen on the **Figure 2** – below for images of proposed site. There is a farm dwelling/stores, workers houses and farm access roads on the application area. Access to the application area is gained via existing R505 and a farm gravel road.

The applicant applied for a Prospecting Right over: farm Vliegekraal 108 HP (Remaining extent of Portion 3 (Portion of portion 2)). The application area is situated over a rural part of the Wolmaransstad district. The prospecting right application area is characterized by natural vegetation (grazing for cattle) and cultivated fields (maize) and rehabilitated mining areas (grazing for cattle). All these infrastructures can be seen on the Infrastructure Plan - **Appendix 2: Maps1(b1) & 1(b2)**. The surrounding farms are mostly utilized as cultivated field for cash crops (maize) and natural grazing. Access to the prospecting right application area will be from the R505 running between Wolmaransstad and Wesselsbron and a gravel road. Also see **Appendix 2: Map 1(b1) & 1(b2)** for Infrastructure Plan and Google satellite image of the application area. The scope of the prospecting activities: The extent of the prospecting area is 734,6903 hectares.

Appendix 2: Map1(b 1 & b2) – Infrastructure Plan

Figure 2 – Access to the application area



(i) Listed and specified activities

Table 2: Listed and specified activities

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)(i)

NAME OF ACTIVITY	Aerial extent of the Activity Ha or m ²	LISTED ACTIVITY	APPLICABLE LISTING NOTICE (GNR 544, GNR 545 or GNR 546) GNR 327	WASTE MANAGEMENT AUTHORISATION
<p>Listing 1 – Activity 21: Any activity including the operation of that activity which requires a prospecting right in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including —</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or</p> <p>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing. but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.</p>	734,6903 ha	X	GNR 327	
<p>Listing 1 – Activity 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	Only 0,2 ha (Majority of surface area disturbed by agricultural activities)	X	GNR 327	

(ii) Description of the activities to be undertaken

In term of NEMA -- EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)(ii)

❖ **DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:**

PHASE 1:

Field Mapping - This method includes the identification of quartz veins, often bounding sinkholes, through aerial photo interpretation, satellite image interpretation, ground mapping of surface depressions and vegetation types as they are often indicative - 6 months for Phase 1.

PHASE3:

Geophysical survey (Magnetic Survey) - Magnetic geophysical surveys will be conducted over selected target areas on a 40m x 20m grid using a magnetometer. Ground magnetic measurements are usually made with portable instruments at regular intervals along more or less straight and parallel lines which cover the survey area. Often the interval between measurement locations (stations) along the lines is less than the spacing between lines. The magnetometer is a sensitive instrument that is used to map spatial variations in the earth's magnetic field. In the proton magnetometer, a magnetic field, which is not parallel to the earth's field, is applied to a fluid rich in protons causing them to partly align with this artificial field. When the controlled field is removed, the protons process toward realignment with the earth's field at a frequency which depends on the intensity of the earth's field. By measuring this precession frequency, the total intensity of the field can be determined. The physical basis for several other magnetometers, such as the cesium or rubidium-vapor magnetometers, is similarly founded in a fundamental physical constant. The optically pumped magnetometers have increased sensitivity and shorter cycle times (as small as 0.04 s) making them particularly useful in airborne applications - 6 months for Phase 3.

❖ **DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:**

PHASE 2:

Geochemical survey - Following the mapping various geochemical sampling programs such as whole rock, soil and or stream sediment sampling might be considered to outline potential mineralized areas. These samples are normally analyzed by doing 50g nominal weight (pulverized sample) fire assay for diamonds - 6 months for phase 2.

PHASE 4:

Areas where surveys showed potential small test pits of 2m x 2 m x 4 m deep will be taken to get samples of the kimberlite to be analyzed in the laboratory. These test pits will be taken with an excavator, and it is envisaged that 250 test pits will be taken on the area confirmed by the surveys. If these areas do show potential in kimberlite deeper drilling holes will be performed - 18 months for Phase 4.

PHASE 5:

Reverse Circulation Drilling Method - Using a variety of drilling rigs such as truck or trailer mounted, rods and hammers, the ore body can be evaluated by drilling intersecting holes at locations predetermined by the Geologist. Drilling is done in phases, over anomalous target areas, using reconnaissance lines or a grid of 250x250m depending on the level of confidence in the targets and the level of information required. The holes will be approximately 10 - 30m metres deep (average 20m) depending on local depth of the sand. It is envisaged that 20 boreholes will be drilled. Surface area disturbance by drill rig = **1,5 m x 1m. Thus 0,03 ha in total for 20 boreholes.**

The strata will be drilled using a RC drilling rig to recover drill chips or cuttings with various size hammers and rod strings, breaking the different formations. Compressed air is used to lift the broken material via an external cyclone and samples are collected at each 1.0m interval. These will be placed in marked plastic bags or plastic tubes, ready for geological logging and geochemical sampling to retrieve the necessary information.

The ore body model will be generated in either Surpac or MicroMine software - further prospecting requirements and sampling will be based on this model. 12 months for Phase 5 as a section 20 bulk sampling application might be also part of this phase depending on the outcome.

❖ **DESCRIPTION OF PRE-/FEASIBILITY STUDIES**

The geological surveys will be conducted by a professional surveyor and geologist. Geologists will be used for the geological and mapping work. Instruments will be used which will send magnetic impulses through the soil which will reflect the different layers of geology.

Ground gravity surveys are applied in order to outline sinkhole positions and size accurately. A ground gravity survey will be applied on the prospecting area to supplement existing airborne gravity data. Ground gravity surveys are carried out on a grid layout. The grid is placed in the field through the use of a total station or real time GPS system. Gravity readings and accurate elevations are recorded at each station of the grid. The grid that will be used is a 100m x 50m and if there are any anomalies in the data the grid is tightened to 50m x 25m. The smaller grid increases the resolution and smaller features then become visible. It is envisaged that at least 100 gravity points will be needed to delineate the sinkholes and other deep features. In order

e) Policy and Legislative Context

In terms of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(e)(f)

Table 3: Policy & Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) 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 has been triggered by applications in terms of the Minerals and Petroleum Resources Development Act, 2002 (As mentioned).	Activity 21, Listing 1, Activity 27, Listing 1.	Prospecting Right application submitted and EA application with DMR
National Environmental Management Act, 1998 (Act 107 of 1998); Environmental Impact Assessment Regulations, 2014 (G38282 – R982-985) EA Authorization and EIA/EMP. Submit documents that will describe the impacts and sustainable mitigation thereof.	Regulation 21 Section 23	Scoping Report in process following by EIA/EMP
Compliance to Act and Regulations during course of activities. Show impacts and mitigation thereof. National Water Act, 1998 (Act 36 of 1998) Application for Water abstraction for prospecting use	Section 21 (a)	Application for water use license with DWS, will follow.
South African National Heritage Resources Act (Act 25 of 1999) (SAHRA) Compliance to Act and Regulations during course of activities. Ensure that no graves or heritage site will be disturbed.	Section 38	SAHRA was notified process will be followed. Completion of HIA over the application area in order to identify possible archaeological and paleontological sites or occurrences.
Conservation of Agricultural Resources Act No 43 of 1983 (CARA) Compliance to Act and Regulations during course of activities. Stabilization of soil after rehab to be sustainable with no erosion. Eradication of declared weeds	Section 29	Regulation will be applicable during construction and operational phases of prospecting.
National Forest Act, Act No. 84 of 1998 (NFA) & GN 1935 in Government Gazette No. 46094 of 25 March 2022. Application of Right or License if protected species may be affected.	Section 15 (1)	No person may cut, disturb, damage or destroy any protected tree; or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, or any forest product derived from a protected tree, except under a licence granted by the Minister; or in terms of an exemption published by the Minister.
National Veldt and Forest Fire Act, Act 101 of 1998 (NVFFA)	Section 12	Duty on owners to prepare and maintain firebreaks as it may be required in consultation with adjoining owners and fire protection association.
Provincial Northern Cape Nature Conservation Act, Act 9 of 2009 (NCNCA) Application of Right or License if protected species may be affected.	Section 3	Restricted activities involving specially protected animals. No person may, without a right - hunt; import; export; transport; keep; possess; breed; or trade in, a specimen of a specially protected animal.
National Environmental Management Laws Amendment Act (Act 2 of 2022)	Section 49	Restricted activities involving specially protected plants: (1) No person may, without a right - pick; import; export; transport; possess; cultivate; or trade in, a specimen of a specially protected plant.

**NICOR BOERDERY (Pty) Ltd. -- VLIJEGEKRAAL 108 HP (Remaining Extent of Portion 3 (portion of portion 2) --
NW30/5/1/1/2/13695 PR**

NEMA Financial Provision Regulation		The purpose of GNR 1147 is to regulate the determination of financial provision as contemplated in NEMA for the specific costs related to undertaking the management, rehabilitation and remediation of environmental impacts. This is applicable from the commencement of exploration activities, through the lifespan of prospecting and prospecting operations.
National Environmental Management: Air Quality Act (Act 39 of 2004)		
National Dust Control Regulations (GN. 827 of 1 November 2013)		
National Environmental Management: Biodiversity Act (Act 10 of 2004): Threatened or Protected Species Regulations		

f) Motivation for the need and desirability of the proposed activities

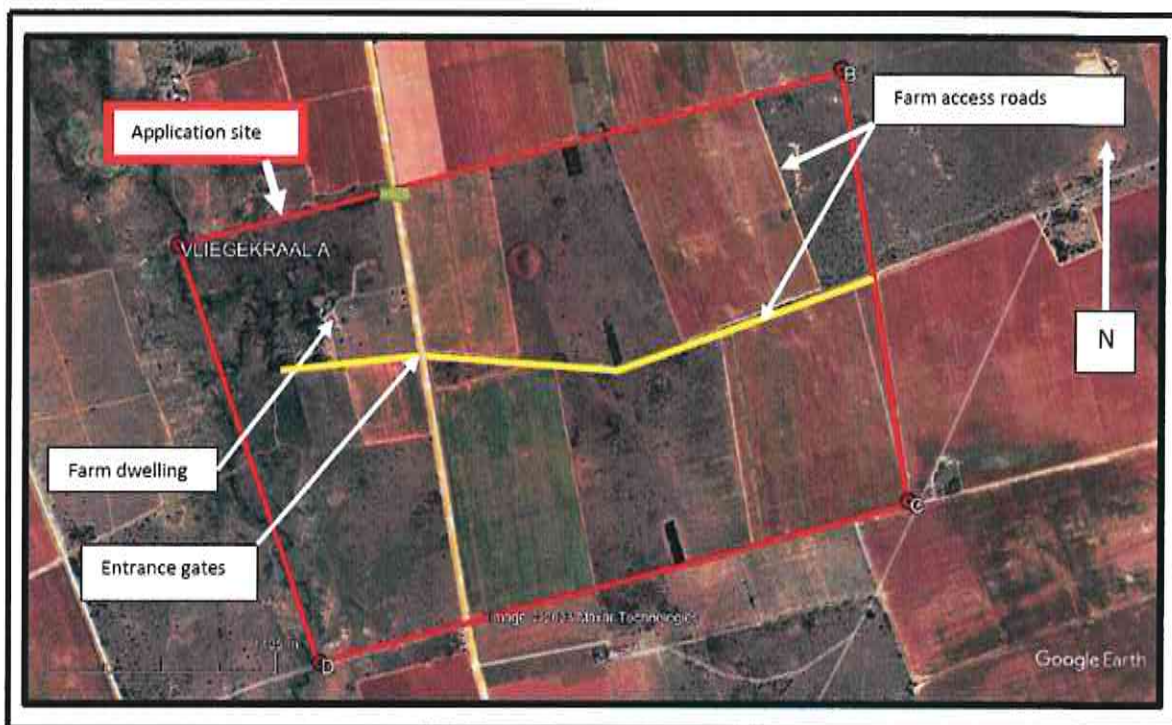
In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(f)

The farm portions over which the application was applied for is currently used as agriculture cultivation of maize crops and grazing for cattle. There are to be infrastructure on this 734.6903 ha application area, including farm roads, farm dwelling, workers houses, stores, boreholes with associated storage dams, utilized by the land owner. There are historically disturbance/prospecting areas on site and the surrounding area.

As mentioned, there are infrastructure on this application area. Access to the farm is gained by the R505 and existing farm roads. See **Figure 3** for extraction of Google Earth Images for more detail. It is envisaged that the only a small surface area in total (0,2 ha) will in time (4 years) be disturbed but as prospecting progress it will simultaneously be rehabilitated.

The area will be prospected and rehabilitated. The prospecting focus site (0,2 ha) will be clearly demarcated. The area applied for is over the demarcated portion only. After prospecting the land will be used for grazing for cattle (agricultural) again.

Figure 3: Google Earth Images



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

The applicant envisaged that Diamonds (Alluvial) & Diamonds (in Kimberlite) to be present on this property as the adjacent property was also mined successful, therefore the application for a prospecting right. The prospecting of gravel is very site specific and NICOR BOERDERY (PTY) Ltd. have years of experience in identifying the right gravel /kimberlite required.

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

(i) Details of the development footprint alternatives considered

In term of NEMA – EIA Regulations No. 328 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(i)

Alternative is not applicable. The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, **NICOR BOERDERY (PTY) Ltd.** is not interested in any other alternative land use over this land aside for the prospecting of diamond bearing gravel (Alluvial Diamonds & Diamonds in Kimberlite), or any other activity, or method use other than prospecting in the conventional way, which is the most cost effective.

(a) the property on which or location where it is proposed to undertake the activity

There is no alternative for the property as the application is for this 734.6903 hectare area only. The Prospecting Right application is for this specific area as indicated on the sketch plan (**Figure 1**) with no alternatives. And the whole of the application area will systematically be prospected. There are no alternative sites as the whole of the application area was identified as being favourable to bear Alluvial Diamonds & Diamonds in Kimberlite.

(b) the type of activity to be undertaken

The type of activity is for prospecting and processing of alluvial diamond bearing gravel is in line with the submitted Prospecting Works Programme. The type of activity does not have an alternative. Alluvial Diamonds & Diamonds in Kimberlite prospecting normally uses the test pit sampling and reverse core drilling prospecting method to access the mineral. There are no alternatives to the prospecting for the mineral as this is the conventional way it is done. No other technology exists for this diamond prospecting operation. As this is only prospecting test pitting operation it will be the basic testing method with associated machinery.

(c) the design or layout of the activity

The layout of the activity will and can only be on the application area as per sketch plan (**Figure 1**) as submitted with the application. And the whole of the application area (734.6903 ha) will systematically be prospected eventually. There are no preferred sites as the whole of the application area was identified as being favourable to be mined. This prospecting operation will also not be a static operation as the whole of the application area will be prospected to determine where the possible Alluvial Diamonds & Diamonds in Kimberlite occur. They will perhaps have a temporary office building, there will also be temporary chemical toilets on the site for ablution facilities. There will not be services to machinery done on site and in case of emergency it will be done over a PVC lining. This operation will be a basic small scale prospecting layout, with minimal temporary infrastructure and just the necessary equipment. Proposed equipment to be used includes:

- * 1 x Excavator,
 - * 1 x Drill rig,
 - * 1 x Geological equipment,
 - * 1 x Generator,
- Pipes and water pump.

(d) the technology to be used in the activity

The technology used in the activity will be as described in the Prospecting Works Programme and the best options will be determined by the applicant, which will be test pits and reverse core drilling. No processing will take place on site.

- (e) the operational aspects of the activity, and
The operational aspect is only the prospecting for *Alluvial Diamonds & Diamonds in Kimberlite* on this specific area, making use of test pits and reverse core drilling. Operations will be done through systematically test pits that will be made with a back-actor of the whole application area. Where test pits/boreholes were completed, the excavation will be backfilled (overburden material) before the next excavation will be opened and the topsoil will be removed and spread over the closed-up excavation, thus creating a rollover effect. The importance will be to prospect the whole of the area not leaving any patches, but rather mine the reserve systematically so that proper concurrent rehabilitation can take place.
- (f) the option of not implementing the activity
This option might only be possible if the applicant decides to abandon the project. If this application is not implemented the current landowners will just continue with existing agricultural activities which is probable cultivation of maize and grazing for cattle. Thus, not exploiting the mineral reserve and somebody else can apply.

(ii) Details of the Public Participation Process Followed

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(b)(ii)

The process as described by NEMA for Environmental Authorization was followed. See **Table 4 & 5** below for the identification of Interested and Affected Parties to be consulted with. The landowner (Nicor Boerdery (Pty) Ltd.) and the direct neighbours were consulted personally and through a letter that was given to them by hand. A site notice was placed at the entrance gate of the application area. With this site notice all passers-by are requested to submit any written comments to be forwarded to the consultant, still awaiting response. An advertisement was placed in the Stellalander Newspaper of 22nd March 2023. See proof of consultation under **Appendix 3**.

Appendix 3 – Proof of consultation.

Table 4: Description of process to be undertaken to consult interested and affected parties

IDENTIFICATION CRITERIA	Mark with an X where applicable		ACTIONS
	YES	NO	
Will the landowner be specifically consulted?	X		Yes, see consultation letter
Will the lawful occupier on the property other than the Landowner be consulted?	X		Same as above
Will a tribal authority or host community that may be affected be consulted?		X	N/A
Will recipients of land claims in respect of the area be consulted?	X		E-mail was sent to K. Mothupi, no reply was received.
Will the landowners or lawful occupiers of neighbouring properties been identified?	X		The landowner and neighbours were all consulted in person.
Will the local municipality be consulted?	X		Maquassi Hills Local Municipality was consulted in writing.
Will the Authority responsible for power lines within 100 meters of the area be consulted?		X	There are no power lines within 100m from application area.
Will the Authorities responsible for public roads or railway lines within 100 meters of the area applied for be consulted?		X	There are no public roads within 100 m that will be affected.
Will the Authorities responsible for any other infrastructure within 100 meters the area applied for be consulted? (Specify)		X	There is no surface infrastructure that will be affected; the application area is within a cultivated

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			maize crop land and grazing land for cattle.
Will the Provincial Department responsible for the environment be consulted?	X		Draft BAR was sent to DEDECT
Will all of the parties identified above be provided with a description of the proposed prospecting/prospecting operation as referred above?	X		All consultation letters included the full property description and summary of intended activities.
Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed prospecting project?	X		All consulted letter invited all I& AP's to send through any comment or objections.
Other, Specify			

Table 5: Furthermore, the details of the engagement process to be followed are as reflected below

Steps to be taken to notify interested and affected parties	PROVIDE DESCRIPTION HERE The <u>landowner</u> and the neighbours were informed personally consulted by the applicant and confirmed in the writing. A consultation letter was sent to Maquassi Hills Local Municipality. An advertisement was placed in the Stellalander Newspaper for comments.
Information to be provided to Interested and Affected Parties.	Compulsory The site plan. List of activities to be authorized Scale and extent of activities to be authorized Typical impacts of activities to be authorized (e.g. surface disturbance, dust, noise, drainage, fly rock etc.) The duration of the activity. 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) Other, specify: prospecting plan
Information to be required from Interested and Affected Parties.	Compulsory To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity To provide information on current land uses and their location within the area under consideration To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. requested to make written proposals To mitigate the potential impacts on their socio economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied). Other, Specify

(iii) Summary of issues raised by I&AP's

In term of MEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(iii)

See Appendix 3 for full detail on public participation.

Table 6: Summary of Identified I&AP's

Interested and Affected Parties	Date sent and/or Comments	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s	X		
Nicor Boerdery (Pty) Ltd Mr. J.C. Swart (director) P.O. Box 704, Wolmaransstad, 2630 Cell: 082 413 9316 E-mail: Miggie@jsnkaccountants.co.za	16 March 2023	No objection, the applicant is the landowner	
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent properties	X		
Mr. J.H. Jacobs P.O. Box 937, Wolmaransstad, 2630 Cell: 082 890 9496, E-mail: hjwboerdery@gmail.com	16 March 2023 3 April 2023	Consultation letter send No objection, see signed consultation letter attached.	
Mr. L.D. Jansen van Vuuren P.O. Box 57, Makwassie, 2650 Cell: 082 851 1480, E-mail: zeldavv81@gmail.com	16 March 2023 12 April 2023	Consultation letter send No objection, see signed consultation letter attached.	
Mr. H.J.H. Koegelenberg P.O. Box 59, Makwassie, 2650 Cell: 082 553 0218, E-mail: hermankoeq@vodamail.co.za	16 March 2023 6 April 2023	Consultation letter send No objection, see signed consultation letter attached.	
Municipal councillor	X		
Municipality	X		
Maquassi Hills Local Municipality LED officer: Peter Bolao Tel: 018 596 1555 Cell: 083 204 0322 E-mail: bolaoopeter@gmail.com	16 March 2023	Consultation letter sent via E-mail to Mr. Bolao	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, Eskom)			
Communities			


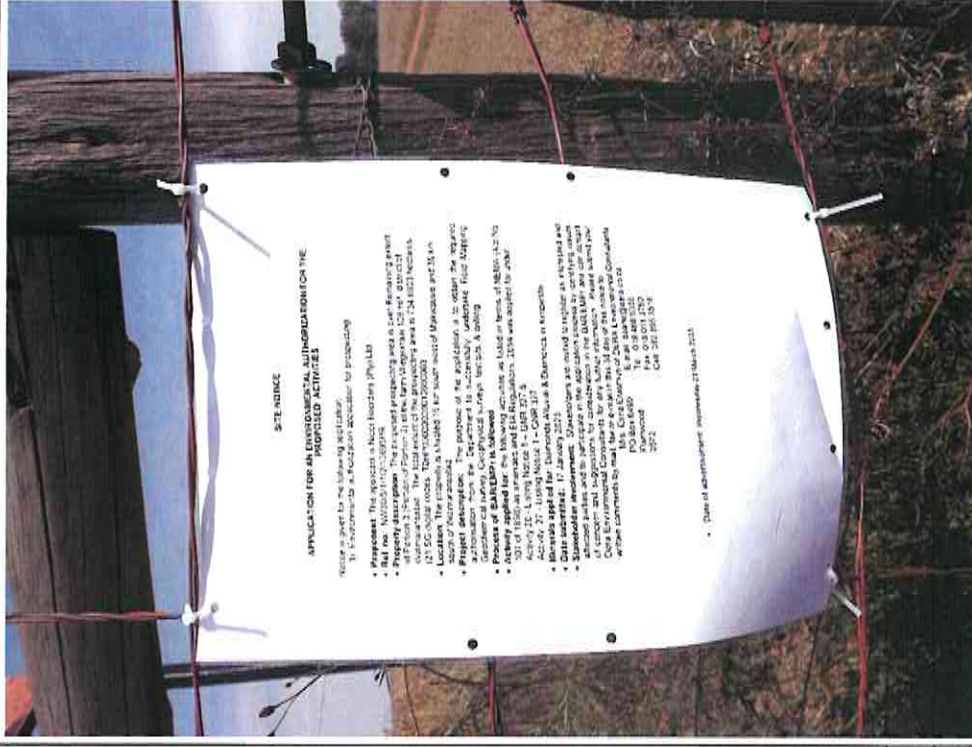
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Dept. Land Affairs KeatbesweMothupi, Office of the Regional Land Claims Commissioner, NW Province; Private Bag X08, Mmabatho, 2735; Fax: 018 389 9641 Tel: 018 388 7170, E-mail: keatbeswe.mothupi@drdlr.gov.za	X	16 March 2023 18 April 2023	E-mail sent for verification of land claims	Response letter received – no land claims
Traditional Leaders N/A				
Dept. Rural, Environment and Agricultural Development Ouma Skosana Agricentre Building, Cnr James Moroka & Stadium Road, Mmabatho, 2735 E-mail: oskosana@nwpg.gov.za	X	25 April 2023	EIA/EMPr sent with Fastway couriers for comments	
Dept. Water and Sanitation Dr. T. Ntuli 2nd Floor Bloem Plaza Building, Cnr. East Burger & Charlote Maxeke, Bloemfontein, 930027 Tel: 015 405 9000, E-mail: NtuliT@dws.gov.za	X	25 April 2023	EIA/EMPr sent with Fastway couriers for comments	
Dept. Agriculture, Forestry and Fisheries Maurice Vukeya Louis le Grange Building, Cnr Peter Mokaba & WolmaransStreet,3rd Floor, Office nr 318, Potchefstroom, 2520 Tel: 018 294 3343, E-mail: MauriceV@daf.gov.za	X	25 April 2023	EIA/EMPr was sent with Fastway couriers for comments.	
Other Competent Authorities South African Heritage Resources Agency (SAHRA) P.O. Box 4637, Cape Town, 8000 Tel: 021 462 4502, E-mail: info@sahra.org.za	X		Case ID:	
OTHER AFFECTED PARTIES				
INTERESTED PARTIES				

Notice published in the Stellalander Newspaper of 22nd March 2023.

NICOR BOERDERY (Pty) Ltd. – VLIEGEKRAAL 108 HP (Remaining Extent of Portion 3 (portion of portion 2) –
 NW30/5/1/1/2/13695 PR

PLACEMENT OF ADVERT AT GATE:

<p>Photo 1</p> 	<p>Photo 2</p> 
<p>Location: 27°28'38,98"S</p>	
<p>26°04'49,85"E</p>	

(iv)The Environmental attributes associated with the alternatives.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(iv)

BASELINE ENVIRONMENT:

- A. Introduction:** The purpose of this section is to provide information on the environment in which the proposed prospecting activities will take place, with a view to identify sensitive issues/areas, which need to be considered when conducting the impact assessment. The application is over: Vliegekraal 108 HP (Remaining extent of Portion 3 (Portion of portion 2). This area consists of natural vegetation (grazing for cattle), cultivation of crops like maize and rehabilitated mining areas (also used for grazing for cattle).
- B. Magisterial District:**
The area is situated within the district of Wolmaransstad is a maize-farming, cattle, peanuts, 36 km from town situated on the R505 from Wolmaransstad, in the North West Province of South Africa. The town lies in an important alluvial diamond-mining area and it is the main town of the Maquassi Hills Local Municipality which further falls under the Dr Ruth Segomotsi Mompati District Municipality. See **Appendix 2 – Map 1(a) - Locality Map** indication where the applied area is situated within the district of Wolmaransstad, North West Province.
- C. Direction from neighbouring town:**
The nearest town is Makwassie, which is situated 19 km north NW from the application area.
Longitude (approximate centre of prospecting site): 26°04'49.85"E
Latitude (approximate centre of prospecting site): 27°28'38.98"S
- D. Existing Surface Infrastructure:**
The application area is situated over a rural part of the Wolmaransstad district. The prospecting right application area is characterized by natural vegetation (grazing for cattle), cultivated crop areas and rehabilitated mining areas (also grazing for cattle). There is one farmstead /stores and worker houses, 2 entrances from the main road (R505).

All this infrastructure can be seen on the Infrastructure Plan - **Appendix 1 – Map 1 (b1)1 (b2)**. The surrounding farms are mostly utilized as cultivated field for cash crops and natural grazing for cattle and prospecting/mining can be seen. Access to the prospecting right application area will be from the R505 running between Wolmaransstad and Wesselsbron and a farm gravel road (Vliegekraal). Also see **Appendix 1 – Map 1(b1) & 1(b2)** for Infrastructure Plan and Google satellite image of the application area.
- E. Climate:**
Warm-temperate, summer-rainfall climate, with overall MAP of 530 mm. High summer temperatures. Severe frost (37 days per year on average) occurs in winter.

F. Geology & Soil:

Aeolian and colluvial sand overlying sandstone, mudstone and shale of the Karoo Supergroup (mostly the Ecca Group) as well as older Ventersdorp Supergroup andesite and basement gneiss in the north.

Description why the geological formation substantiates the minerals to be prospected for according to PWP

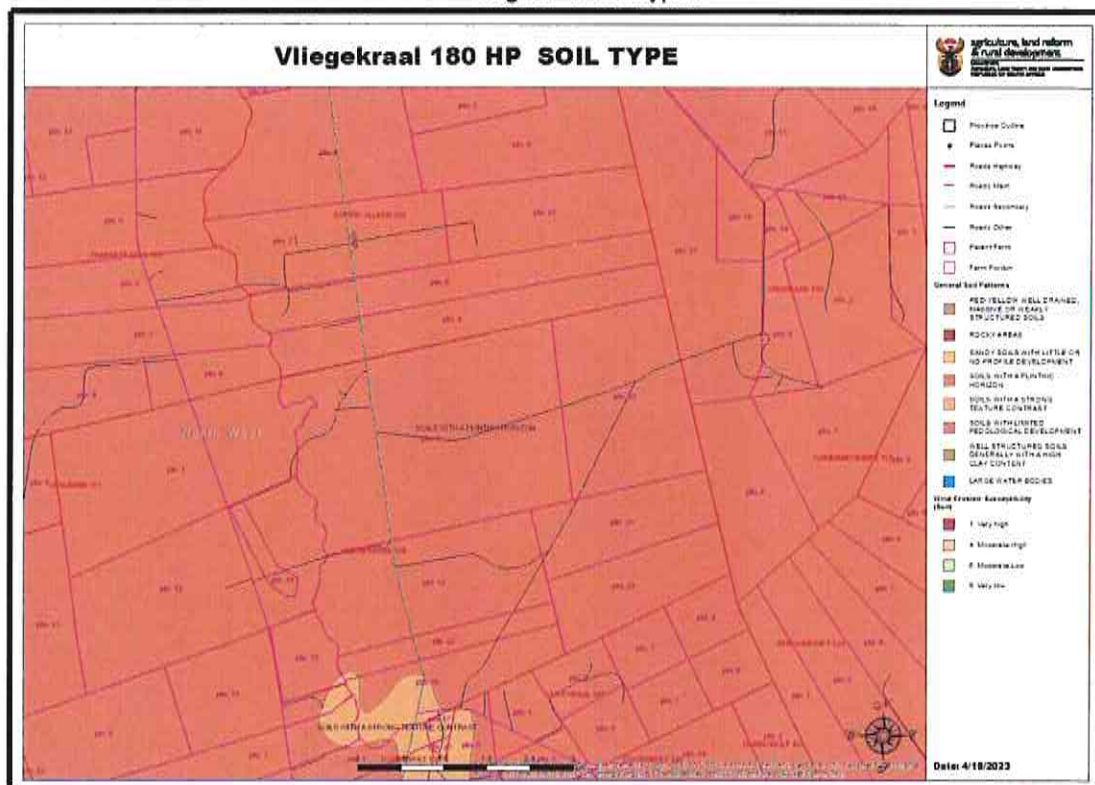
This application area forms part of the Ventersdorp Super Group transgresses from Vaalbrug till Wolmaransstad up to the Wes-Rand Group. Diamonds occur in Quantanery alluvial gravel next to the Makwassie Spruit and the Vaal River and old diamonds operation is note over this areas. The oldest gravels in this region called "Rooikoppie" gravel in banks of 1m thick unsorted gravels overlaid by topsoil of 0.5 – 1m. The Wolmaransstad region is well known for high quality diamonds found in the Rooikoppie gravels. Reference: Geology of the Kroonstad map 2726 by IC Schutte, Msc.

This type of geology in this area of the Wolmaransstad district normally substantiates alluvial diamond gravel. Alluvial prospecting historically and on adjacent farms in this area did show the potential of alluvial gravel. Aeolian Sand (Qs) occurs over most of the application area. Alluvium gravel occur as sandstone, siltstone, shale (Pv) along the banks and stream area of the Makwassie Spruit which form the western boundary of the application area. The Pv formation mainly belong to the Vryheid Formation of the Ecca Group, which further fall under the Karoo Supergroup. See geology map in **Appendix 4**.

Appendix 4: Geology map

Soil forms are mostly Avalon, Westleigh and Clovelly. Dominant land type Bd, closely followed by Bc, Ae and Ba.

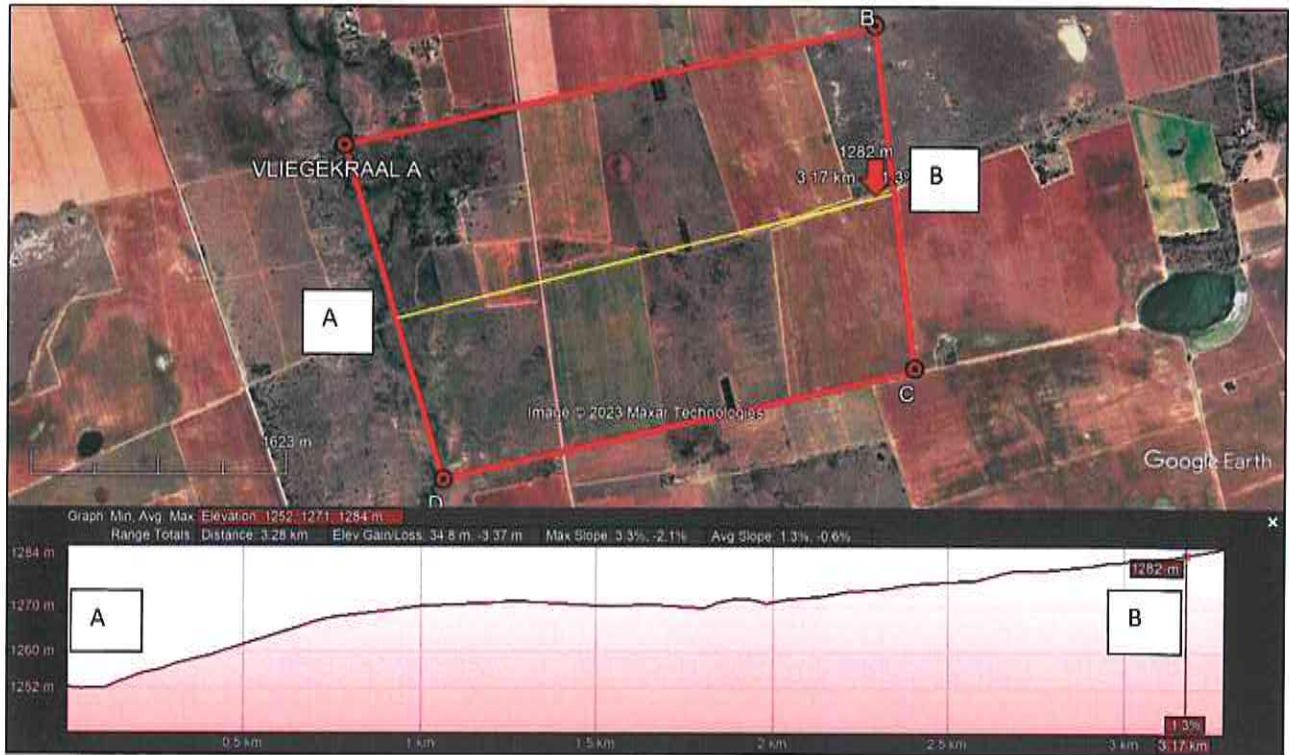
Figure 4: Soil types



G. Topography:

The site has one terrain type, which is characterized as "Plains with pans" (Terrain Morphological Map of S.A. 1983), covered with grassland and cultivated maize crops. The average slope is 0.6 % - 1,3 % that can be described as flat (see slope profile). The average elevation is between 1252-1284 masl (meters above sea level) over most of the prospecting right application area.

Figure 5: Topography profile



H. Vegetation [Flora] and Landscape Features:

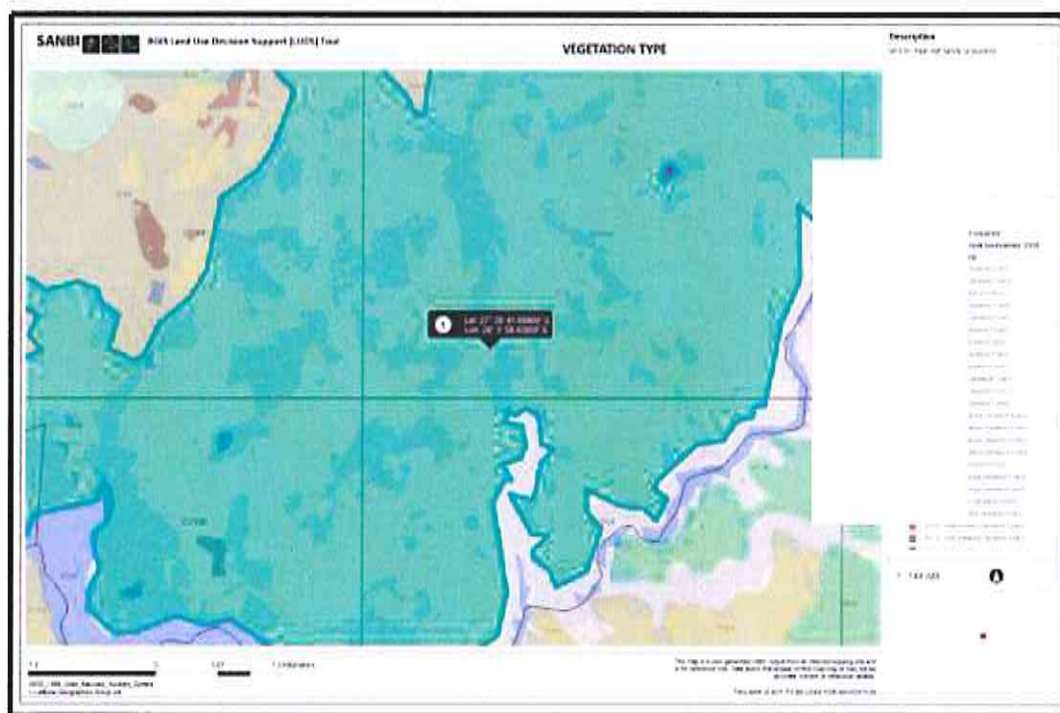
This application area falls over veld type: [Gh 10] Vaal-Vet Sandy Grassland (VT 50 Dry Cymbopogon–Themeda Veld (47%), VT 48 Cymbopogon–Themeda Veld (sandy) (24%) (Acocks 1953). LR 37 Dry Sandy Highveld Grassland (74%) (Low & Rebelo 1996).

Distribution: North-West and Free State Provinces: South of Lichtenburg and Ventersdorp, stretching southwards to Klerksdorp, Leeudoringstad, Bothaville and to the Brandfort area north of Bloemfontein. Altitude 1 220–1 560 m, generally 1 260–1 360 m.

Vegetation & Landscape Features: Plains-dominated landscape with some scattered, slightly irregular undulating plains and hills. Mainly low-tussock grasslands with an abundant karroid element. Dominance of Themeda triandra is an important feature of this vegetation unit. Locally low cover of T. triandra and the associated increase in Elionurus muticus, Cymbopogon pospischilii and Aristida congesta is attributed to heavy grazing and/or erratic rainfall.

VEGMAP (2006) further classify this area as part of the [Gh10] Vaal-Vet Grassland over most of the prospecting right application area of 734.6903 hectares. See **Figure 6** below. Below is a summary of the plant species that may occur over the surrounding undisturbed areas, which in turn can be a source for regrowth of natural species once prospecting, have totally ceased over this area.

Figure 6: VEGMAP classification: [Gh10] Vaal-Vet Grassland



Important Taxa: Graminoids: *Antheophora pubescens* (d), *Aristida congesta* (d), *Chloris virgata* (d), *Cymbopogon caesius* (d), *Cynodon dactylon* (d), *Digitaria argyrograpta* (d), *Elionurus muticus* (d), *Eragrostis chloromelas* (d), *E. lehmanniana* (d), *E. plana* (d), *E. trichophora* (d), *Heteropogon contortus* (d), *Panicum gilvum* (d), *Setaria sphacelata* (d), *Themeda triandra* (d), *Tragus berteronianus* (d), *Brachiaria serrata*, *Cymbopogon pospischilii*, *Digitaria eriantha*, *Eragrostis curvula*, *E. obtusa*, *E. superba*, *Panicum coloratum*, *Pogonarthria squarrosa*, *Trichoneura grandiglumis*, *Triraphis andropogonoides*. Herbs: *Stachys spathulata* (d), *Barleria macrostegia*, *Berkheya onopordifolia* var. *onopordifolia*, *Chamaesyce inaequilatera*, *Geigeria aspera* var. *aspera*, *Helichrysum caespitium*, *Hermannia depressa*, *Hibiscus pusillus*, *Monsonia burkeana*, *Rhynchosia adenodes*, *Selago densiflora*, *Vernonia oligocephala*. Geophytic Herbs: *Bulbine narcissifolia*,

Ledebouria marginata. Succulent Herb: *Tripteris aghillana* var. *integrifolia*. Low Shrubs: *Felicia muricata* (d), *Pentzia globosa* (d), *Anthospermum rigidum* subsp. *pumilum*, *Helichrysum dregeanum*, *H. paronychioides*, *Ziziphus zeyheriana*. Endemic Taxon: Herb: *Lessertia phillipsiana*. Conservation Endangered. Target 24%. Only 0.3% statutorily conserved in the Bloemhof Dam, Schoonspruit, Sandveld, Faan Meintjies, Wolwespruit and Soetdoring Nature Reserves. More than 63% transformed for cultivation (ploughed for commercial crops) and the rest under strong grazing pressure from cattle and sheep. Erosion very low (85.3%) and low (11%). References Louw (1951), Morris (1973, 1976), Bredenkamp & Bezuidenhout (1990), Kooij et al. (1990b, 1992), Bezuidenhout et al. (1994a).

No indication of the original vegetation type could be found on the 734.6903 ha. Though the years the site have been disturbed by agricultural activities (grazing for cattle and cultivation of crops like maize) and historic mining activities. This is a "brownfields site". See photo table **Appendix 5**.

Appendix 5: Photos of pre-prospecting environment

Screening of environmental sensitivity of the proposed site, Appendix 6

According to the DEDACT's (Department of Economic Development, Environment, Conservation and Tourism's) screening tool the footprint of this application area, although only small-scale prospecting (0.2 ha disturbed over 4 years out of 734.6903 ha), are classified (by background reference to the whole prospecting right application area as per summary **Table 7**.

Table 7: DEDACT - Screening Report

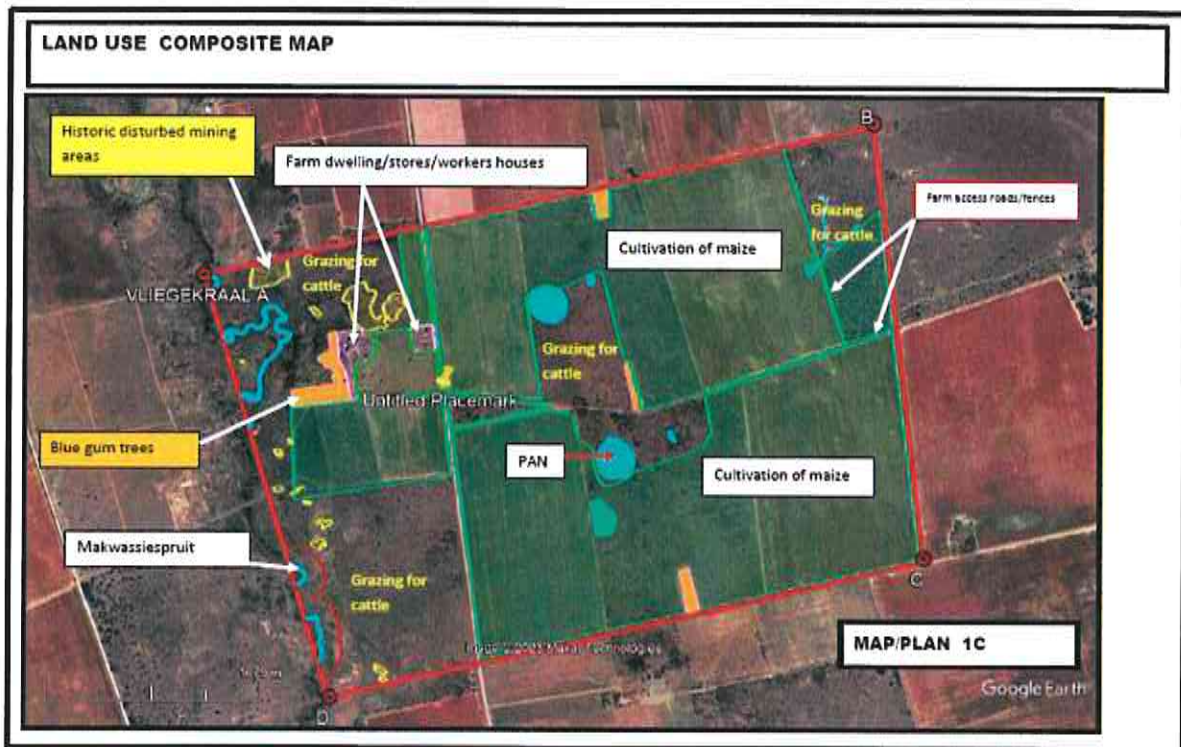
Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Defence Theme				X
Palaeontology Theme	X			
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

According to the screening of environmental sensitivity of the proposed prospecting area (734.6903 ha) it is indicated that **Terrestrial Biodiversity Theme** was classified as being HIGH. Also, the whole of the area is being regarded as to have a LOW environmental sensitivity regarding plant species. Most of the areas have been disturbed by agricultural activities and historic mining activities. The proposed prospecting site should be regarded as a "brownfields site" as the site has been disturbed by agriculture activities and historical mining activities. The **Animal Species Theme** is regarded as of MEDIUM sensitivity. The site has been disturbed by agricultural activities and mining activities in the past and currently and it is likely that animals would not stay in such a habitat but rather move to other undisturbed areas.

Palaeontology Theme was further classified as being HIGH sensitive. It is however not foreseen that there will be any such sites of the application area that the landowner (applicant) may not be aware of any findings, and they would have come across them if there were any. The prospecting activity will be only alluvial gravel and not hard rock formations. The prospecting project manager will have to keep a look out for possible sightings and report it as soon as possible.

According to the screening of environmental sensitivity of the proposed site it is indicated that **Agricultural Theme** was classified as being HIGH sensitivity. The prospecting sites will disturb only 0,2 ha in total over 4 years (within the 734.6903 ha prospecting right application area) and should be regarded as a "brownfields site" as the site has been disturbed by agriculture activities and historic mining activities. Cultivation of maize and grazing by cattle are taking place. Only grazing by cattle. Rehabilitation of the 0.2 ha sites will return the

Appendix 2: Plan 1 C - Combination of all information for areas disturbed (land uses)



According to the screening of environmental sensitivity of the proposed site it is indicated that **Plant species Theme** was classified as being LOW sensitivity. Giving the fact that the majority of the prospecting right application area is regarded as of LOW environmental sensitivity and the fact that the remaining area have been impacted by historical mining activities and agricultural activities the site is actually "Brownfields site".

i. Animal Life [Fauna]:

Not many species were directly observed but the presence of nesting sites in the area is an indication that this area is an acceptable habitat for shelter and food for avian species. The natural animal life occurring over the application area includes but is not restricted to, small animals common in this area. List of mammals which are likely to occur over the project area were derived based on distribution record from the Animal Demography Unit (ADU) web portal: <http://vmus.adu.org.za>. Animals that are likely to occur here are: *Cynictis penicillata* (Yellow Mongoose), *Sylvicapra grimmia* (Bush Duiker), *Hystrix africae australis* (Cape Porcupine), *Canis mesomelas* (Black-backed Jackal), *Herpestes sanguineus* (Slender Mongoose), *Raphicerus campestris* (Steenbok), *Otocyon megalotis* (Bat-eared Fox), *Phacochoerus africanus* (Common Warthog (Suidae)).

The study area is being known for the agriculture regarding the production of cattle and cultivation of cash crops. Most of the habitat for vegetation, animals have been disturbed by agricultural and mining activities.

J. Surface Water:

Makwassie Spruit: This application area fall within the water management area (WMA) of the Midde-l Vaal (9) and secondary catchment area C25 and tertiary drainage region C25D (Surface area 109 km²). It is not expected that 0.43 ha prospecting sites in total will have any effect on the surface run-off in the drainage catchment area (C25D). According to NEMA's Screening Tool the *Aquatic biodiversity sensitivity* was classified as being very high sensitive. All prospecting activities need to be kept 100 m horizontally way from any surface water bodies (streams, pans, Makwassie Spruit, etc.).

Figure 9: Location of pans and Makwassiespruit with 100m exclusion zone



K. Ground Water:

Since there will be no processing taking place and the only water will be for ablation purposes and for the drilling rig. They will only require a small amount of water. There are boreholes on the application area. The applicant intends to use water from these existing boreholes for prospecting use. The water uses will be 2000 liters a day for the prospecting operation.

L. Air Quality:

The impact on air quality will occur from test pits, drilling sites and movement on the roads. This impact will be low and will be monitored and mitigated through wetting of the roads. This area fall in a very rural area and the impact from windblown dust particles because of agricultural purposes, can have just as big an impact especially during August where the agricultural fields are prepared for the new planting season. Areas where testing is completed must be backfilled and re-vegetated so soon as possible to establish a vegetation layer to retain the loose soil fractions.

M. Noise:

The impact of noise will be generated by the prospecting equipment. This operation will only be in day time working hours and will have a low impact on current surroundings. And because of the extent of this application area 734.6903 ha, the sound will get lost and no residence on neighboring farms will be adversely affected. One farmstead is located within the application area (landowners house). The impact may be greater with regards to wild animals, but they tend to move away toward areas less influenced by noise disturbance.

N. Sites of Archaeological and Cultural Interest:

No graveyards on site identified as was confirmed by landowner.

O. Sensitive Landscapes:

Although severely disturbed by historical and previous prospecting/mining activities, there is a quality to these ecosystems in and around this Makwassie Spruit area that's different from the neighbouring natural grasslands. This area can be seen as a sensitive landscape as the vegetation and soil in and around these areas are normally very different from normal vegetation cover and much more vulnerable to disturbance. **All prospecting associated activities should be kept 100 meters horizontally away from any (surface water body stream, pan).** See Figure 9 above indicating the location 100m exclusion zone.

P. Visual Aspects:

These prospecting activities will be visible to the landowner and neighbours and people travelling on the gravel road and the R505. It will not be visible from any main tourist route.

Q. Social:

The proposed activity will employ **4 people (manager included)**. Various social amenities are available close to the operation. These include schools, hospitals, clinics, churches, recreation facilities as well as a Police Station at Makwassie, which is located ±19 km away from the proposed operation and Wolmaransstad.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(v)

The proposed project is anticipated to impact on a range of biophysical and socio-economic aspects of the environment. The main purpose of the BAR/EMPr report is to identify and evaluate the significance of these potential impacts and determine how they can be minimized or mitigated.

It should be noted that a comprehensive Environmental Management Program (EMPr) will be developed and implemented to regulate and minimize the direct, indirect and cumulative impacts during the construction and operational phases. The potential environmental impacts identified, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 9** on next page.

Table 9: Impact significance identification matrix for Vliegekraal 108 HP

PHASE	Components	A	B	C	D	ABIOTIC						BIOTIC				K	L	M	N					
						Geology	Topography	Soil	Land capability	Land use potential	Surface water	Ground water	Air quality	Noise	Vegetation					Wildlife	Sensitive landscapes	Visual impact	Archaeological & cultural sites	Socio-economic impacts
1	Activity, Product or Service																							
2	Demarcation of the license area. Establishment/soil preparation, vegetation clearance, riparian (removal and stock) or proper access roads (large scale only), tree & vegetation clearance, topsoil removal & stockpiling (not in final open-cast) within the riparian zone area.			L	M	L																		
3	Establishment of bunded sites and additional storage facilities, channel banks.		M		H																			
4	Provision of storage tanks (if possible for long-term) and process water (if not suppression)		H		H	H													M					
5	Provision of waste handling/disposal facilities (for rock & industrial waste)			L																				
6	Removal of soil re-transporting site in its required in terms of the MRESA. Erosion control (if any), etc.				M															H+				
7	Vegetation clearance, riparian removal & stockpiling (not in riparian zone) within the river focus area (R) (not of surface area disturbed at any given time)		M		H	M															H			
8	Revegetation, assessing vegetation with an excavator and stockpiling (not in riparian zone) - Riparian ground water remediation and discharge as set out in final open-cast.	H	M+		H	H															L+	M	H	
9	Final covering of all watercourses	H+	H+		H+	H+																L		H±
10	Removal and ground of riparian (river) over-digged strip				H+	H+																H+		H+
11	Establishment of vegetation cover				H+	H+																H+		H+
12	Removal of all temporary & demolition of all permanent structures (Setback as of the MRESA)				H+	H+																H+		H+
13	Rehabilitation of all access roads, compacted areas, etc.				H+	H+																H+		H+

(vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(vi)

Introduction:

This section below describes and evaluates the effects of the different prospecting projects and the associated activities on the natural and social environments. The different environmental components, on which the project (can/may) have an impact, are:

- | | |
|--------------------|---------------------------------------|
| 1. Geology | 9. Ground Water |
| 2. Topography | 10. Air Quality |
| 3. Soil | 11. Noise |
| 4. Land Capability | 12. Archaeological and Cultural sites |
| 5. Land Use | 13. Sensitive Landscapes |
| 6. Vegetation | 14. Visual Aspects |
| 7. Wildlife | 15. Socio-economic Structure |
| 8. Surface Water | 16. Interested and Affected Parties |

IMPACT ASSESSMENT

Before the impact assessment could be done the different project activities were identified:

ACTIVITIES:

- Access Roads (Existing farm roads to be upgraded)
- Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings (containers)
- Prospecting equipment (1 x Excavator, 1 x Drilling rig, Geological equipment, generator)
- Test pits and prospecting boreholes.

Environmental Impact Assessment Summary:

- Environment likely to be affected by the prospecting operation. (See Appendix 1(a) for location)**

Environmental aspect	Affected		Not affected
	Negligible	Substantial	
1. GEOLOGY		X	
2. TOPOGRAPHY	X		
3. SOIL		X	
4. LAND CAPABILITY		X	
5. LAND USE	X		
6. VEGETATION		X	
7. WILDLIFE	X		
8. SURFACE WATER			X
9. GROUND WATER	X		
10. AIR QUALITY	X		
11. NOISE	X		
12. SENSITIVE LANDSCAPES			X
13. VISUAL ASPECTS	X		
14. SOCIO ECONOMICS	X		
15. INTERESTED & AFFECTED PARTIES	X		
16. ARCHAEOLOGICAL			X

- Environment likely to be affected by the alternative land use**

Prospecting is not a new land use over this area in general. **The site that is earmarked for prospecting represents 0.2 ha of the total farm area of 734.6903ha.** And it is further not foreseen that prospecting activities would disturb an area of more than 0.2 ha at any given time. The rest of the terrain would continue to be used for agriculture purposes (grazing by cattle and cultivation of maize) by the landowner (also the applicant).

• **Assessment of the impacts created by the prospecting activity**

Before any assessment can be made the following evaluation criteria need to be described:

*Explanation of **probability** of impact occurrence*

Probability of impact occurrence	Explanation of probability
Very low	<20% sure of particular fact or likelihood of impact occurring.
Low	20 to 39% sure of particular fact or likelihood of impact occurring.
Moderate	40 to 59% sure of particular fact or likelihood of impact occurring.
High	60 to 79% sure of particular fact or likelihood of impact occurring.
Very high	80 to 99% sure of particular fact or likelihood of impact occurring.
Definite	100% sure of particular fact or likelihood of impact occurring.

*Explanation of **extent** of impact*

Extend of impact	Explanation of extend
Site specific	Direct and indirect impacts limited to site of impact only.
Local	Direct and indirect impacts affecting environmental elements within the Wolmaransstad area.
Regional	Direct and indirect impacts affecting environmental elements within North West Province.
National	Direct and indirect impacts affecting environmental elements on a national level.
Global	Direct and indirect impacts affecting environmental elements on a global level.

*Explanation of **duration** of impact*

Duration of impact	Explanation of duration
Very short	Less than 1 year
Short	1 to 5 years
Medium	6 to 12 years
Long	13 to 50 years
Very long	Longer than 50 years
Permanent	Permanent

*Explanation of **impact significance***

Impact significance	Explanation of significance
No impact	There would be no impact at all - not even a very low impact on the system or any of its parts.
Very low	Impact would be negligible. In the case of negative impacts, almost no mitigation and/or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely to be better, in one or a number of ways, than this means of achieving the benefit.
Low	Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and/or remedial activity would be either easily achieved or little would be required, or both. In case of positive impacts, alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.
Moderate significance	Impact would be real but not substantial within the bounds of those which could occur. In the case of negative impacts, mitigation and/or remedial activity would be both feasible and fairly easily possible. In the case of positive impacts, other means of achieving these benefits would be about equal in time, cost and effort.
High significance	Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.
Very high significance	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

(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.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(vii)

In terms of the EIA regulations, consideration must be given to alternatives. Alternatives are different approaches and ways of meeting the need, purpose and objectives of a proposed activity. Alternatives may include a location site alternative, activity alternatives, processes or technology alternatives, temporal alternatives etc. the no-go alternative or option is also considered, as it provides the baseline against which the impacts or other alternatives may be compared.

However, for this specific project, no alternatives have been investigated, with the exception of the no-go alternative. The reason for this being that the prospecting right is being applied for the sole purpose of prospecting of diamond bearing gravel. The no-go option entails the continuation of the current land use (Agriculture = cultivation of maize) on the study site. The project will contribute towards providing continued jobs for current staff. Should the proposed project therefore not be authorized to proceed, it is anticipated that current employment opportunities will be terminated once the mineral reserves have been depleted.

The no-go option is therefore not a feasible option in this case, as it suggests that the mineral reserves should not be exploited, and current employment opportunities should not materialize or be prolonged.

The site layout will be only the excavation and the plant and office container. The stockpiles of the topsoil will be placed next to the side walls of the excavation on the outside. This will have the advantage to be nearby available to be used for rehabilitation. The stockpiles for the gravel (product) and the screening/crushing plant will be placed just outside the excavation within the Prospecting area which will have the advantage that the loading of trucks can proceed without hampering the prospecting process and will be a safer prospecting environment.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(viii)

Refer to the results of consultation contained in **Table 10** for the issues that were raised by I&AP's and stakeholders during the review period of the Consultation phase of the BAR/EMPr report, as well as the response to those issues made by the Environmental Assessment Practitioner.

The farm road will be maintained by NICOR BOERDERY (PTY) Ltd. (applicant) for the period of prospecting and all measures for safety of the other road users will be in place and properly managed. The mitigation measures and technical management action plans which address potential impacts are discussed below. Please see section below for more detail.

Table 10: Assessment of the nature, extent, duration, probability and significance of the potential environmental, social and cultural impacts of the proposed prospecting operation, including the cumulative environmental impacts.

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
1. GEOLOGY										
Nature of the impact	The geology will be destroyed during the prospecting operation (250 test pits and 20 prospecting boreholes). During operation which will be for the next 4 years, the mineral resource (<i>Alluvial Diamonds, Diamonds in Kimberlite</i>) will be extracted. Waste rock material/overburden material is disposed off/backfilled in existing excavations as part of the prospecting process.									
Extent	Site	Activity causing the impact								
Duration	Permanent	An opencast prospecting method will be used to extract bulk samples. Therefore, the original geology will be totally destroyed.								
Probability	Definite									
Significance	High									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X		
Phase 1	Phase 2	Phase 3	Closure							
X	X	X								

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
2. TOPOGRAPHY										
Nature of the impact	<p>* Change in landform: * The prospecting site is situated over <u>level plains with some relief.</u></p> <p>* Disturbance of the surface drainage: The prospecting of the (<i>Alluvial Diamonds & Diamonds in Kimberlite</i>) deposits will result in the creation of 250 test pits (2m x 2m x ± 4m deep) during Phase 2, and 20 boreholes (30m depth) during Phase 5, that act as depressions in the environment that captures run-off. Prospecting activities will be concentrated as indicated on Figure 1 on the application area (approximately 3 m depth). Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site.</p> <p>All prospecting activities will be kept 100 m horizontally from any surface water feature (pans, streams, Makwassie Spruit).</p>									
Extent	Site	Activity causing the impact								
Duration	Short	Bulk sampling trough trenches, etc.								
Probability	Definite									
Significance	High									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
X	X	X	X							

3.1 SOIL	IMPACTS	CUMULATIVE IMPACTS								
Nature of the impact	The surface area is characterized by various soil depths. Any construction of infrastructure should be preceded by the removal of all available topsoil.									
Extent	Site	Activity causing the impact								
Duration	Long	In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.								
Probability	High									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X		
Phase 1	Phase 2	Phase 3	Closure							
X	X	X								

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3.2 SOIL	IMPACTS	CUMULATIVE IMPACTS								
Nature of the impact	The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the access roads, stockpiles /tailings dumps, cause compaction of soil. Some areas already disturbed thus no topsoil. All prospecting activities will be concentrated on the identified prospecting focus area where (<i>Alluvial Diamonds, Diamonds in Kimberlite</i>) deposits could be found. At the same time a certain surface area is therefore alienated. The active prospecting surface area (alienated) would be restricted within the 0.2 ha (in relation to area of application of the prospecting right of 734.6903 hectares) for the next 4 years.									
Extent	Site	Activity causing the impact								
Duration	Short	Site preparation for additional prospecting sites and the construction, operation of listed infrastructure.								
Probability	High									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
X	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3.3 SOIL										
Nature of the impact	Soil erosion: Due to the fact that certain surface areas would become compacted, and this would lead to lesser infiltration of rainwater and more run-off that could cause erosion on bare disturbed surfaces. Erosion would always be possible until such time a vegetation cover is provided during rehabilitation phase.									
Extent	Site	Activity causing the impact								
Duration	Very short	When removing topsoil during site preparation, little storm water control structures are in place. If a severe storm hits the area, it may lead to erosion on site. Topsoil stockpiles may be prone to erosion								
Probability	Very low									
Significance	Low									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
X	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3.4 SOIL										
Nature of the impact	Potential of soil contamination.	None.								
Extent	Site	Activity causing the impact								
Duration	Long	Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.								
Probability	Moderate									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
X	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3.5 SOIL										
Nature of the impact	Loss of soil structure	None								
Extent	Site	Activity causing the impact								
Duration	Long	In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.								
Probability	High									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	X	X	X		
Phase 1	Phase 2	Phase 3	Closure							
X	X	X								

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ASPECT	IMPACTS				CUMULATIVE IMPACTS
3.6 SOIL					
Nature of the impact	Loss of soil fertility				None
Extent	Site				Activity causing the impact
Duration	Short				The mixing of soil during site preparation, compaction, and potential pollution (spillages form oil etc.) all may cause this situation.
Probability	Definite				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X			

ASPECT	IMPACTS				CUMULATIVE IMPACTS
4. LAND CAPABILITY					
Nature of the impact	<p>Temporary loss of land capability to support grazing or cultivation of crops. The small area (0.2 ha) where the active prospecting activities occur (test pits, prospecting boreholes prospecting equipment) etc. will thus be temporary alienated, until the area is rehabilitated.</p> <p>All test pits/ prospecting boreholes would be rehabilitated as part of the prospecting process during which all are backfilled.</p> <p>The rest of the application area will still be used by the landowner as agricultural land.</p>				
Extent	Site				Activity causing the impact
Duration	Long				Site preparation for additional prospecting sites and the construction, operation of listed infrastructure, the land capability of the active prospecting area will be destroyed.
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
5. LAND USE					
Nature of the impact	<p>This is a new prospecting operation and therefore the land use to support grazing on a certain portion of the 734.6903 hectares during the next 4 years will be lost. Only a small portion of land (0.2 ha) would be affected by the prospecting operation relation to the total prospecting right application area of 734.6903 hectares.</p> <p>All trenches would be rehabilitated as part of the prospecting process during which excavations are back-filled.</p>				
Extent	Site				Activity causing the impact
Duration	Short				Site preparation for prospecting and the construction, operation of listed infrastructure.
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
6.1 VEGETATION					
Nature of the impact	Vegetation clearance, disturbance, and trampling. Destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and spreading of exotics can follow.				
Extent	Site				Activity causing the impact
Duration	Short				The site preparation for new sites, construction of listed infrastructure will cause destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and invasion of exotics could further spread.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

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ASPECT	IMPACTS				CUMULATIVE IMPACTS
6.2 VEGETATION					
Nature of the impact	Habitat change, loss of species, spread of alien and invasive species.				
Extent	Site				Activity causing the impact
Duration	Permanent				The change in the current habitat will be mitigated during final rehabilitation.
Probability	High				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
6.3 VEGETATION					
Nature of the impact	Dust coverage of plants.				None
Extent	Site				Activity causing the impact
Duration	Short				Heavy trucks and other vehicles on dirt roads, stockpiling, dumping of tailings are mainly responsible for this impact.
Probability	High				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
7.1 WILDLIFE					
Nature of the impact	Wildlife or wildlife habitat destruction /change / disturbance.				None
Extent	Site				Activity causing the impact
Duration	Permanent				The flora which normally serves as habitat for animals would be destroyed during site preparation. The increase in activity will temporarily scare other animals. The area will serve as a new habitat after rehabilitation.
Probability	Very High				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
7.2 WILDLIFE					
Nature of the impact	Injury and death to wildlife.				None
Extent	Site				Activity causing the impact
Duration	Short				The movement of vehicles may kill certain insects, rodents and possible birds. Most of the remaining animal life will however move away due to noise.
Probability	Very low				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
7.3 WILDLIFE					
Nature of the impact	Restoration of habitat.				None
Extent	Site				Activity causing the impact
Duration	Short				As rehabilitation progresses the habitat of certain species will be restored/created (Closure objective) Animals will probably only move back when human movement is limited.
Probability	Low				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

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ASPECT	IMPACTS				CUMULATIVE IMPACTS
8.1 SURFACE WATER					
Nature of the impact	Increased silt load Clearing topsoil for footprint areas can increase infiltration rates of water to the groundwater system and decrease buffering capacity of soils to absorb contaminants from spills on surface. This can increase the risk of contamination of the groundwater system (increases aquifer vulnerability).				
Extent	Local				Activity causing the impact
Duration	Short				The clearance of vegetation and the traffic on access roads will all contribute to an increase in the silt load on the prospecting area.
Probability	Moderate				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
8.2 SURFACE WATER					
Nature of the impact	Change in surface water quality Spillages from vehicles and surface water run-off that is not adequately diverted away from the active prospecting pits could end-up in the pits creating problems regarding water quality and hindering the evaluation and backfilling thereof.				
Extent	Local				Activity causing the impact
Duration	Short				"Dirty / Clean" water systems at facilities like the roads, etc. may impact on the quality of the surface water. The water should be contained in the surface runoff control measures provided, therefore.
Probability	Moderate				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
8.3 SURFACE WATER					
Nature of the impact	Change in surface water quantity Makwassiespruit: Water management area (9) Middle Vaal This application area falls within the water management area of the Middle Vaal (9) and secondary catchment area C25 and tertiary drainage region C25D (Surface area 109 km ²). stream the farms butt which only seem to carry standing water during heavy rainfall events. It is not expected that 0,2 ha prospecting sites in total will have any effect on the surface run-off in the drainage catchment area (C91A). Standing water in test pits could as the result of rain/ surface run-off ending up in these shallow depressions. All pits should be backfilled directly after the necessary samples have been taken. All prospecting activities should be kept 100 meters horizontally away from this surface water body (pans, streams Makwassie Spruit).				
Extent	Site				Activity causing the impact
Duration	Short				It is an operational objective to contain or divert all surface run-offs from the active prospecting trenches area mainly due to pollution (sediment) potential. This will reduce the run-off quantity, although small in comparison with the drainage area in total.
Probability	High				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

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ASPECT	IMPACTS	CUMULATIVE IMPACTS							
8.4. SURFACE WATER									
Nature of the impact	<u>Surface Water Quantity Use</u> No surface water abstraction will take place.								
Extent	Site	Activity causing the impact							
Duration	Short	Opencast prospecting operation.							
Probability	Low								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
9.1 GROUND WATER									
Nature of the impact	<u>Reduction of groundwater quality</u> Prospecting activities are not likely to impact on local ground-water quality. No chemicals are used during the prospecting process. Handling of waste and transport of building material can cause various types of spills (domestic waste, pit latrines, hydrocarbons) which can infiltrate and contaminate of the groundwater system.								
Extent	Site	Activity causing the impact							
Duration	Long								
Probability	Definite								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
9.2 GROUND WATER									
Nature of the impact	Water supply will be from existing boreholes into water tankers as only a small amount will be required for the drilling rig and domestic use. The water uses will be 2000L a day for the prospecting operation.								
Extent	Site	Activity causing the impact							
Duration	Short	Opencast prospecting operation.							
Probability	Low								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
10. AIR QUALITY									
Nature of the impact	Dust will be generated during the prospecting operation (loading with an excavator on to a dump truck) and transportation to the plant (conveyor, drum screen & washing pans) and on gravel/dirt/farm roads. The processing of the gravel is a wet process and therefore minimum dust is generated.								
Extent	Site	Activity causing the impact							
Duration	Short	Initial construction work regarding infrastructure (roads) that involves earth moving equipment. During the phase 4 & 5, dust could be generated as indicated during prospecting.							
Probability	Moderate								
Significance	Moderate								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

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ASPECT	IMPACTS				CUMULATIVE IMPACTS
11. NOISE					
Nature of the impact	Noise will be generated during the prospecting operation (loading with an excavator on to a dump truck) and transportation to the plant (conveyor, drum screen & washing pans). The application area itself is in rural landscape. The impact would be of more importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act.				
Extent	Local				Activity causing the impact
Duration	Short				Earth moving equipment and vehicles (trucks).
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
12. ARCHAEOLOGICAL AND CULTURAL SITES					
Nature of the impact	The terrain is not archaeologically vulnerable. It is unlikely that the proposed development will result in any significant archaeological impact at the site. No graves were identified on site.				
Extent	Site				Activity causing the impact
Duration	Short				
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X			

ASPECT	IMPACTS				CUMULATIVE IMPACTS
13. SENSITIVE LANDSCAPE					
Nature of the impact	All prospecting activities must be kept 100 m horizontally away from this any surface water dobodyby as indicated.				
Extent	Site				Activity causing the impact
Duration	Short				No activities will take within 100 m of the pan.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
14. VISUAL ASPECTS					
Nature of the impact	Prospecting will only be visible to landowners, neighbours and people traveling on the local gravel roads.				
Extent	Site				Activity causing the impact
Duration	Short				Diamond prospecting operation.
Probability	Definite				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X		X	

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ASPECT	IMPACTS	CUMULATIVE IMPACTS							
15. SOCIO ECONOMICS									
Nature of the impact	Increase in Socio – economic activity at local level. The project would ensure that approximately 4 workers (including manager) would be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependants in the Wolmaransstad district. Once all prospecting operations have ceased it would have a negative impact.	The increase in socio-economic activity will add to the current growth and development in Wolmaransstad already created by industry and prospecting.							
Extent	Local	Activity causing the impact							
Duration	Long	Additional employment opportunities created.							
Probability	Definite								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
15. SOCIO ECONOMICS									
Nature of the impact	The main impact on the landowners is visual impact and the small area of 0.2 ha that will not be available for agricultural activities over a period of 4 years.	The economic benefits in terms of investment and the delivery of services in the North West province will get an additional benefit from the project.							
Extent	Regional	Activity causing the impact							
Duration	Very Long								
Probability	High								
Significance	Moderate								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	
Phase 1	Phase 2	Phase 3	Closure						
X	X		X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
16. INTERESTED & AFFECTED									
Nature of the impact	Impact of activities on I&AP's Temporary loss of utilization of the prospecting focus areas for agricultural purposes. The long-term benefits far out-weight the current benefits from the current use. No negative impact is expected that could be appropriately mitigated, such as the eventual rehabilitation of the excavations.								
Extent	Local	Activity causing the impact							
Duration	Short								
Probability	High								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

(ix) Outcome of site section matrix

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(ix)

Motivation where no alternative sites were considered

Alternative is not applicable. The current land use is agricultural and is being utilized as grazing for cattle and cultivation of maize crops by the land owner (also the applicant NICOR BOERDERY (PTY) Ltd.). The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, NICOR BOERDERY (PTY) Ltd, is not interested in any other alternative land use over this land aside of prospecting alluvial gravel / diamonds in kimberlite or any other activity on the designate 0,2 ha, or method use other than prospecting for the aforementioned minerals in the conversional way, which is the most cost effective. Please note that no additional infrastructure will be established, and therefore no alternatives for the location of infrastructure were identified.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(x)

The application area applied for is only 734.6903 hectares thus the development location is limited to this area and the area where the mineral deposits occur.

(xi) Concluding statement indicating the preferred alternatives

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(xi)

As mentioned previously as this is a prospecting right application the whole of the application area will be investigated and tested on a grid basis in order to assess the location of potential gravel bearing gravel over the application area and this can only be accomplished if the whole of the area is surveyed.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(xi)

See Table 11 below:

Table 11: Technical & Management Action Plans

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> No mitigation exists except to backfill the pits and boreholes with the rock waste material and fine drilling tailings. As prospecting progressed and the test pits/ prospecting boreholes (revers drilling rig) have been back-filled, a certain amount of overburden material and topsoil would be placed on these areas. This will not restore the geology but will mitigate the impact. Planned, systematic and thorough prospecting of the mineral resource (<i>Alluvial Diamonds & Diamonds in Kimberlite</i>) should take place. Optimal utilization of the mineral resource should take place within the boundaries of the prospecting terrain. Strip, remove and store soil and overburden as far as practical in an orderly fashion and replace as far as possible on back-filled areas, in the reverse order once decision have been taken that no further prospecting would take place in a particular section or which might still be traversed by vehicles and disturbed in the process. Care must be taken that the removal of (<i>Alluvial Diamonds & Diamonds in Kimberlite</i>) deposits by means of earthmoving equipment is restricted to what is necessary to achieve the objective. 	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Optimal exploration of the mineral resource in order to ensure to facilitate better rehabilitation planning. The overburden and topsoil (where available) must be replaced in a responsible and planned manner in order to achieve some conformity with the surrounding undisturbed area.	

Environmental Component	Topography
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> All pits/prospecting boreholes should be back-filled with overburden material, covered with a shallow layer of topsoil (if available). Surface run-off control should be put in place at active trenches (preventing water from entering) and rehabilitated tailings dumps and overburden dumps to prevent the loss of growth medium on top of the dumps. <p>Prospecting would be done according to a definite PWP (only disturbing an area that is necessary). As part of the PWP the handling of overburden material, back-filling of test pits should also form part of it.</p> <p>Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. As soon as a section of the prospecting site would not be explored anymore it should be rehabilitated (planned and phased manner).</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Rehabilitation of the new and old disturbances topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. Rehabilitation in such a way that the new landscape features would be stable and would not pose any safety hazard to human and animal anymore.	

Environmental Component	Soil (topsoil & access roads)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Handling of topsoil as a natural resource: Any future expansion of the test pits or construction of infrastructure should be preceded by the removal of <u>all available topsoil</u>. The surface of any new areas to be disturbed must be kept to a minimum. <u>All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.</u></p> <p>Access roads, etc.: The clearing of soil surface areas would be restricted to what is necessary for the construction of infrastructure. Wherever possible all topsoil should be removed and stockpiled for rehabilitation purposes. Overburden material should also be stockpiled separately if practically possible. Topsoil and overburden material should be transported to an area earmarked for rehabilitation.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The topsoil removed in the site preparation process should be replaced during the rehabilitation exercise.	

Environmental Component	Soil (soil compaction)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil compaction: The prospecting operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (existing farm roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily. Prospecting & rehabilitation should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required. Compaction of soil surface areas would be alleviated once rehabilitation of certain area starts. Certain roads would probably remain for access (in consultation with the surface owner). Those that would not be required would be ripped and rehabilitated.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Alleviation of compaction of soils would be done during rehabilitation of the prospecting terrain, including roads.	

Environmental Component	Soil (Soil erosion)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil Erosion: To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.</p> <p>Re-vegetation of exposed soil surfaces roads and backfilled pits should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No soil erosion must be visible and no potential for soil erosion must be present at closure.	

Environmental Component	Soil (Soil contamination)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Potential for soil contamination: Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time to enhance the natural occurring soil microbial activity). No servicing of vehicles must occur except on a concrete floor or over PVC lined area in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. An incidence register for this purpose must be kept. Drip trays must be available and used where emergency repairs is done.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No soil contamination must be visible or known before closure can be given.	

Environmental Component	Soil (Soil structure)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Change in Soil structure: Ensure that all available (if any) topsoil is carefully removed in different areas. The soil must also be compacted as backfilling is done. No unnecessary driving outside the active prospecting area is allowed due to soil compaction that may occur. Use organic material e.g. manure to restore the soil structure during rehabilitation. Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No compaction of any roads or any other area must be present during closure. If the soil structure is disturbed mitigation measures e.g. the use of organic material, lime and fertilizers must be implemented to restore the soil structure.	

Environmental Component	Soil (Soil fertility)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil fertility: Little can be done to preserve the moisture status of the soil once it is exposed. The soil must be used for rehabilitation as quickly as possible. Do not use topsoil to construct roads. Ensure the rehabilitation plan makes provision for fertiliser if natural revegetation does not occur.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The soil must be fertile enough to sustain vegetation.	

Environmental Component	Land Capability
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active prospecting site only. Remove topsoil where it is available. Take care that roads needed are restricted to one entry to the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner. All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Rehabilitated to the state that it is suitable for the predetermined and agreed land capability.	

Environmental Component	Land Use
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>The disturbance of land must be restricted (kept to a minimum) to the planned active, fenced-off prospecting site only. Remove topsoil where it is available. Take care that roads are the only areas used to enter the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with surface owner. All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The opencast section requires the land to be totally disturbed. The replacement of tailings material, overburden and topsoil would ensure that the land is able to support some grazing.	

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>No mitigation exists except to replace the vegetation by reseeding of grasses and natural growth. Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
During rehabilitation indigenous vegetation cover comprising of local plant species should be established in order to ensure a well-adapted sustainable plant cover that would be able to prevent erosion of the replaced topsoil on the disturbed prospecting site surfaces.	

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Habitat change, loss of species, spread of alien and invasive species: No mitigation exists except to replace the vegetation by reseeded of grasses. Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required. Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants. An invasive and alien control programme must be implemented by the mine.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No invasive and alien species must be present after closure. A post-closure control program must also be implemented.	

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Ensure that all roads on the prospecting site (utilized by prospecting vehicles) are daily sprayed with water to control dust. Site inspections to ensure the spraying are done.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No excessive dust must be present during the normal growth season after closure.	

Environmental Component	Wildlife (habitat)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Wildlife or wildlife habitat destruction /change / disturbance: To take care that no new or unnecessary destruction of habitats, other than the demarcated prospecting site should take place. Restoration of habitat: Ensure the rehabilitation plan is implemented.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.	

Environmental Component	Wildlife (injury and death)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Injury and death to wildlife: Re-establish trees and grass cover as soon as possible during and after prospecting. Fence area off to ensure that no person can enter without permission. Ensure that the rehabilitation plan is compiled and executed. Keep incidence register on killings and disturbances.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.	

Environmental Component	Wildlife
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Make game catching, traps, snares, poaching and any other unnecessary disturbance of animals a disciplinary offence. All staff must undergo basic environmental awareness lecture during induction training. Machine operators and drivers to undergo appropriate level of environmental impact training to ensure they understand their impact on the environment. Ensure all staff working on the opencast section undergo basic lecture during induction phase. Introduce the actions as listed above into disciplinary code as offence.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The post-closure phase must be suitable for further restoration of the newly man-made animal habitat. The area must be stable and acceptable for the return of animal- and plant life.	

Environmental Component	Surface Water (quality)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Change in surface water quality: Storm water control measures must be implemented to divert clean water away from the active prospecting site. Vegetation disturbance must be as little as possible. The PWP must be strictly adhered to. Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan. All prospecting activities must be kept 100 meters horizontally away from any surface water body (pans & Makwassie Spruit).</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The post closure water run-off may in no circumstance impact negatively on the water quality.	

Environmental Component	Surface Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Change in surface water quantity: Once the area is rehabilitated the surface run-off will be restored and normal clean water run-off will end-up in the drainage system. Once the area is rehabilitated the normal surface run-off drainage will be restored according to rehabilitation plan. The disturbed surface area must be rehabilitated to ensure some normal drainage. Minimal run-off should end-up in trenches. Final rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Ultimately rehabilitation of the disturbed prospecting site and the construction of run-off control structures in a planned and phased manner would ensure normal drainage and stability of rehabilitated site.	

Environmental Component	Ground Water (quality)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Reduction of groundwater quality: Storm water control measures must be implemented to divert clean water away. Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. No servicing of vehicles must occur except at the workshops. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.</p> <p>Storage of fuel and oil should be done according to best practices, within a bunded area and in containers of which the integrity is sound.</p> <p>The prospecting processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area. The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel storage and the workshop area).</p> <p>An incidence register for this purpose must be kept.</p> <p>Drip trays must be available and used where emergency repairs is done.</p> <p>All waste must be stored according to best practices and disposed at an authorized waste disposal facility.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Water will be supplied via tanker from a borehole.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Air Quality
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Dust: The prospecting method will serve as mitigation measure because prospecting will limit dust to the active prospecting area (area where the excavator is operating).</p> <p>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
To ensure that all area were backfilled, and revegetation occurred.	

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Environmental Component	Noise
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Ensure the required silencers are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards. Inspection of vehicles and machinery to ensure silencers are fitted. Ensure that a complaints register is created, managed, and maintained. Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No noise attributed to prospecting will be generated from the site after closure anymore. During decommissioning and closure phase some earth moving equipment would be utilized for rehabilitation.	

Environmental Component	Archaeological and Cultural Sites
Environmental Management/Mitigation Measures/Action Plans/Commitments	
No graves on site. However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered. All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No site of archaeological importance should be disturbed or damaged until the necessary right from SAHRA has been issued.	

Environmental Component	Sensitive Landscapes
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Pans & streams (Makwassie Spruit): All prospecting activities must be kept 100 meters horizontally away from it.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

Environmental Component	Visual Aspects
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Visual impact would be addressed by means of; * re-vegetation of disturbed areas with grasses; * removal of any domestic waste, etc. that would otherwise contribute to a negative visual impact. Concurrent rehabilitation should be done simultaneously as prospecting activities progress.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No residual visual impacts will remain after closure. The terrain should blend in with the surrounding landscape.	

Environmental Component	Socio-Economics
Environmental Management/Mitigation Measures/Action Plans/Commitments	
There will be a very small increase in Socio – economic activity at local level, because of the size of this prospecting activity.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The economic development must deliver a multiplier effect that will contribute to the local economy long after closure.	

Environmental Component	Interested and Affected Parties
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Access control should always be a priority. If any problem should arise, meetings will be held with the landowners and affected parties to consult them on certain matters like permission to prospect and pollution. No prospecting should be conducted under or near Eskom power line (10 m distance should be kept) (<i>Permission of Inspector of Mines should be obtained.</i>)</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Not to be an economic, social or environmental liability to the local community or the state now or in the future. The company will ensure that the interest of all interested and affected parties will be considered.	

j) Assessment of each identified potentially significant impact and risk

In terms of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (f)(i)(ii)(iii)(iv)(v)(vi)(vii)

Table 12: Identified Potentially Significant Impacts & Risks

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated	
Excavations (test pits) for alluvial gravel and Reverse Circulation Drilling	1.1.1 Test pits: Removal of the alluvial gravel up to 4 m depth (2m x 2m surface area per test pit).	Geology & soil	Operational	High -	All pits/ prospecting boreholes will be backfilled immediately after samples/cores have been taken.	Low +	
	1.1.2 Reverse Circulation Drilling: The holes will be approximately 10 - 30m metres deep (average 20m) depending on local depth of the sand. It is envisaged that 20 boreholes will be drilled. Total surface disturbance of 0.2 hectares over a period of 4 years at any given time.						
	1.2 Change in landform. Temporary lowering of test pit site surface area by 4 m and normal surface drainage will be disturbed at this specific point (small depressions form).	Topography	Operational and closure	Moderate -	All pits will be backfilled. Overburden /Topsoil will be replaced, and sites (0.2 ha) allowed to become naturally revegetated. Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape.	Moderate +	
	1.3 Stripping of all available topsoil and stockpiled.	Soil	Construction and Operational	Low -	Any area on the prospecting area where disturbance will take place the top soil must be removed and stockpiled for rehabilitation purposes in a demarcated area (surrounding the test pit site to act as a surface run-off control measure and safety berm.)	Low +	
1.4 Soil erosion: Because certain surface areas would become devoid of any vegetation cover and compacted this would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes	Soil	Construction	Low-	To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the prospecting sites to prevent water entering that can cause erosion. Concurrent rehabilitation and re-vegetation of prospecting sites must happen as soon as the particular area is completed. Rehabilitated areas must be inspected and managed in such a way that any signs of erosion can be mitigated immediately.	Low +		

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1.5. Land capability and land use. Loss of land to support cultivation, grazing.	Land capability & Land use	Operational and closure	Low-	As this is only a very small area of 0.2 hectares, the impact is not so big. As the test pits and prospecting boreholes will be backfilled and allowed to naturally become revegetated and the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declares weeds.
1.6 Generation of dust by excavating/drilling and vehicle movement	Air quality	Operational	Low-	The prospecting method (small test pits) (wet drilling method) will serve as mitigation measure because it will limit dust to the active prospecting area, where the excavator/ mobile drill and trucks operating.

k) Summary of specialist reports.

[in term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (f)(M)]

Table 13: Specialist Reports

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
None required.			

I) Environmental impact statement

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(l)

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

The **small-scale alluvial gravel prospecting operation** is going to have an impact on the environment. The main impact relates to topography, geology, soil, vegetation, and land use and land capability. The gravel resource will be mined over a period of 4 years or possible more. The existing land-use is agriculture (cultivation of maize crops(dry-land) and grazing for cattle) on site. This is a small operation (0.2 ha) and for the next 4 years only a small portion of the farm will be temporarily alienated.

The conservation of topsoil is of utmost importance and therefore in order to ensure a sustainable land use again on the 0.2 ha, all the topsoil need to be removed prior to prospecting of the underlying gravel (up to 4 m depth). This will be used again as growth medium during the rehabilitation phase of the excavations. Topsoil will be stored in berm walls on the border of the excavations to divert any surface run-off during a rainfall event. Other environmental impacts relates to the day to day operation that could easily be managed, such as dust and noise.

(ii) Final Site Map

Attach as **Appendix 2 - Map 1 (b)**.

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

The site is selected in such a way that farming (grazing by cattle) and cultivation of crops (maize) will still be possible on the rest of the farm. The loss of land use and land capability will be temporary as the site will be rehabilitated to still be continued to be used for agriculture.

Although this is a small alluvial diamond prospecting operation it would also add to the increased economic activity within the farming and exiting prospecting community around Wolmaransstad. Jobs for 4 permanent (including manager) labour will be created. Negative impacts on the area are expected to be temporary and can be mitigated to a large extent if the recommendations of the EMP are adhered to e.g. rehabilitation.

No concerns have been raised yet by any I & AP.

The specific occurrence of the alluvial gravel (DA) deposit dictates the selection of the specific prospecting site.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(m)

The main closure objective of NICOR BOERDERY (PTY) Ltd. is to rehabilitate the entire prospecting site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. The applicant will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use;
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

n) Aspects for Inclusion as Conditions of Authorisation.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(n)

None

o) Description of Any Assumptions, Uncertainties and Gaps in Knowledge.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(o)

None

p) Reasoned Opinion as To Whether the Proposed Activity Should Or Should Not Be Authorised

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(p)

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

This activity will have only low and very low impacts and no significant impacts were identified. No concerns were raised by the interested parties. These prospecting activities will have no significant impacts on them or their surrounding environment.

(ii) Conditions that must be included in the authorisation

None

q) Period for which the environmental authorisation is required.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(q)

4 Years.

r) Undertaking

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(r)

UNDERTAKING

I, HM Erasmus, the undersigned and duly authorised thereto by DERA Omgewingskonsultante (PTY) Ltd hereby confirm:

- ✓ the correctness of the information provided in this report;
- ✓ the inclusion of comments and inputs from stakeholders and I&AP's;
- ✓ the inclusion of inputs and recommendations from the specialist reports where relevant and where applicable and;
- ✓ all information provided to the interested and affected parties a true reflection of this document.

Signed at Klerksdorp on this day 25th day of April 2023.



Signature of EAP

s) Financial Provision

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(s)

The total application area is 734.3695 hectares but only 0.2 hectares will be disturbed by prospecting operation (test pits and reverse drilling boreholes). These figures were used for the calculation of the quantum, thus a total of R 114'997.00 needed for the rehabilitation guarantees. R 114'997.00 will be sufficient for rehabilitation. See quantum attached as **Appendix 4**.

(i) Explain how the aforesaid amount was derived.

This will be a small operation where only 0.2 hectares will be disturbed at any stage by prospecting operation and including at after care and maintenance. The amount was determined through the quantum tables provided by DMR and based on the size of the disturbance which are foreseen.

Phase 1 & 3 no surface disturbance.

Phase 2 small 50 g samples (will not be noticeable) or have quantifiable surface impact.

Phase 4 test pits - 250 test pits of 2m x 2 m = 4m² x 250 = 1'000m² = 0.1 ha

Phase 5 20 boreholes will be drilled, surface area disturbed by drill rig = 1,5 m x 1m = 1.5m² x 20 = 30m² = 0.03 ha in total for 20 boreholes.

Thus, total surface disturbance as a result of prospecting activities = 0.13 (0.2 ha)

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

Yes, it is hereby confirmed that the amount will be provided from operating expenditure.

t) Specific Information required by the competent Authority

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(t)

- (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.**

The whole farm is owned by the Mr. J. Swart (Nicor Boerdery (Pty) Ltd.) which is the landowner. No other person will be directly affected by this activity.

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

This activity will have no impact on archaeological structures.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(u)

NONE

APPENDIX 4: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

PART B

1. ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

a) DETAILS OF-

(i) Details of the EAP

Name of the Practitioner: DERA Environmental Consultants (Pty) Ltd.

Ms. Esna Erasmus

Tel No.: 018-468 5355

Fax No.: 018 011 3760

E-mail address: dera.office@dera.co.za. The EAP Ms. Esna Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management and completed three years subjects in Masters of Environmental Sciences in Environmental Sciences and Management.

Appendix 1 – CV & Qualifications of EAP

(ii) Expertise of the EAP

The EAP, Ms HM (Esna) Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management. She also completed the subjects for her Master Degree in Environmental Analysis & Management at NWU. See **Appendix 1** for copies of his qualifications and CV. She is further registered at the International Association for Impact Assessment South Africa (*IAIASa*), **membership No: 6502** and is registered at Environmental Assessment Practitioners Association of South Africa (*EAPASA*), **registration No: 2020/2909**.

b) Description of the Aspects of the Activity

(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

PHASE 1: Field Mapping - This method includes the identification of quartz veins, often bounding sinkholes, through aerial photo interpretation, satellite image interpretation, ground mapping of surface depressions and vegetation types as they are often indicative.

PHASE 3: Geophysical survey (Magnetic Survey) - Magnetic geophysical surveys will be conducted over selected target areas on a 40m x 20m grid using a magnetometer. Ground magnetic measurements are usually made with portable instruments at regular intervals along more or less straight and parallel lines which cover the survey area. Often the interval between measurement locations (stations) along the lines is less than the spacing between lines. The magnetometer is a sensitive instrument that is used to map spatial variations in the earth's magnetic field. In the proton magnetometer, a magnetic field, which is not parallel to the earth's field, is applied to a fluid rich in protons causing them to partly align with this artificial field. When the controlled field is removed, the protons process toward realignment with the earth's field at a frequency which depends on the intensity of the earth's field. By measuring this precession frequency, the total intensity of the field can be determined. The physical basis for several other magnetometers, such as the cesium or rubidium-vapor magnetometers, is similarly founded in a fundamental physical constant. The optically pumped magnetometers have increased sensitivity and shorter cycle times (as small as 0.04 s) making them particularly useful in airborne applications.

(ii) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

PHASE 2: Geochemical survey - Following the mapping various geochemical sampling programs such as whole rock, soil and or stream sediment sampling might be considered to outline potential mineralized areas. These samples are normally analyzed by doing 50g nominal weight (pulverized sample) fire assay for diamonds.

PHASE 4: Areas where surveys showed potential small Test pits of 2m x 2 m x 4 m deep will be taken to get samples of the kimberlite to be analyzed in the laboratory. These test pits will be taken with an excavator, and it is envisaged that 250 test pits will be taken on the area confirmed by the surveys. If these areas do show potential in kimberlite deeper drilling holes will be performed.

PHASE 5: Reverse Circulation Drilling Method - Using a variety of drilling rigs such as truck or trailer mounted, rods and hammers, the ore body can be evaluated by drilling intersecting holes at locations predetermined by the Geologist. Drilling is done in phases, over anomalous target areas, using reconnaissance lines or a grid of 250x250m depending on the level of confidence in the targets and the level of information required. The holes will be approximately 10 - 30m metres deep (average 20m) depending on local depth of the sand. It is envisaged that 20 boreholes will be drilled.

The strata will be drilled using a RC drilling rig to recover drill chips or cuttings with various size hammers and rod strings, breaking the different formations. Compressed air is used to lift the broken material via an external cyclone and samples are collected at each 1.0m interval. These will be placed in marked plastic bags or plastic tubes, ready for geological logging and geochemical sampling to retrieve the necessary information. The ore body model will be generated in either Surpac or MicroMine software - further prospecting requirements and sampling will be based on this model.

(iii) DESCRIPTION OF PRE-/FEASIBILITY STUDIES

The geological surveys will be conducted by a professional surveyor and geologist. Geologists will be used for the geological and mapping work. Instruments will be used which will send magnetic impulses through the soil which will reflect the different layers of geology.

Ground gravity surveys are applied to outline sinkhole positions and size accurately. A ground gravity survey will be applied on the prospecting area to supplement existing airborne gravity data. Ground gravity surveys are carried out on a grid layout. The grid is placed in the field by a total station or real time GPS system. Gravity readings and accurate elevations are recorded at each station of the grid. The grid that will be used is a 100m x 50m and if there are any anomalies in the data the grid is tightened to 50m x 25m. The smaller grid increases the resolution and smaller features then become visible. It is envisaged that at least 100 gravity points will be needed to delineate the sinkholes and other deep features. In order

c) Composite Map

See Appendix 2 - Map 1 (C).

d) Description of Impact management objectives including management statements

(i) Determination of closure objectives

The main closure objective of the applicant is to rehabilitate the entire prospecting site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued. As this area was disturbed before there is not top soil available on all the areas but on the non-disturbed area all available top soil will be stripped and stockpiled.

NICOR BOERDERY (PTY) Ltd. will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use;
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

NICOR BOERDERY (PTY) Ltd. will furthermore:

- ensure that the physical and chemical stability of the rehabilitated site will be such that risk to the environment is not increased by naturally occurring forces to the extent that such increased risk cannot be contended with by the installed measures;
- subscribe to the optimal exploitation and utilization of South Africa's mineral resources (Alluvial Diamonds and Diamonds in Kimberlite);
- ensure that the prospecting site is closed efficiently and cost effectively.
- ensure that the operation is not abandoned but closed in accordance with the relevant requirements;
- ensure that the interest of all interested and affected parties will be considered;
- ensure that the all-relevant legislation regarding mine closure will be adhered to, and all relevant application procedures followed.

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

Only a very small amount of water will be required and will be in a water tanker for domestic use and required by the drilling rig. No water is required during the excavation of test pits and no processing will be done under this application. 2000 litres a day will be used for prospecting operation.

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

Water will be obtained from an existing borehole by the applicant. Not yet, applicant will apply when the right is successfully issued.

(iv) Impacts to be mitigated in their respective phases

Table 14: Measures to rehabilitate the environment affected by the undertaking of any listed activity

ACTIVITIES	PHASE	SIZE AND SCALE of disturbance (volumes, tonnages and hectares or m ²)	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
1. Excavations (test pits)	Operational	0.1 hectares at any stage	Concurrent rehabilitation. The test pit excavations to be stable/sustainable and covered with overburden and topsoil and allowed to be become naturally revegetated. Keep this area as small as possible within the demarcated area. Prevent spillages of fuels by machines	The pit will be backfilled with overburden for stability and providing a base for the replacement of topsoil.	As part of concurrent rehabilitation.
				Immediate cleaning of spillages	Concurrent with prospecting
2. Prospecting reverse drilling boreholes	Operational	20 holes at 30 m depth.	Concurrent rehabilitation. The prospecting boreholes to be backfilled with overburden and topsoil and allowed to be become naturally revegetated. Keep this area as small as possible within the demarcated area. Prevent spillages of fuels by machines	The prospecting borehole will be backfilled with overburden for stability and providing a base for the replacement of topsoil.	As part of concurrent rehabilitation.
				Immediate cleaning of spillages	Concurrent with prospecting
Total disturbed surface area:		0.2 ha surface area			

e) Impact Management Outcomes

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
Excavations (test pits) for alluvial gravel and Reverse Circulation Drilling	1.1.1 Test pits: Removal of the alluvial gravel up to 4m depth (2m x 2m surface area per test pit). 1.1.2 Reverse Circulation Drilling: The holes will be approximately 10 - 30m metres deep (average 20m) depending on local depth of the sand. It is envisaged that 20 boreholes will be drilled. Total surface disturbance of 0,2 hectares over a period of 4 years at any given time.	Geology & soil	Operational	All pits/ prospecting boreholes/ trenches will be backfilled immediately after samples/cores have been taken.	Stable slopes that can sustain erosion without excessive erosion.
	1.2 Change in landform. Temporary lowering of test pit site surface area by 4 m and normal surface drainage will be disturbed at this specific point (small depressions form).	Topography	Operational and closure	All pits will be backfilled. Overburden /Topsoil will be replaced, and sites (0.2 ha) allowed to become naturally revegetated. Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape.	Gentle stable slopes.
	1.3 Stripping of all available topsoil and stockpiled.	Soil	Construction and operational	Any area on the prospecting area where disturbance will take place the topsoil must be removed and stockpiled for rehabilitation purposes in a demarcated area (surrounding the test pit site to act as a surface run-off control measure and safety berm.) To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the prospecting sites to prevent water entering that can cause erosion. Concurrent rehabilitation and re-vegetation of prospecting sites must happen as soon as the site is completed. Rehabilitated areas must be inspected and managed in such a way that any signs of erosion can be mitigated immediately.	Enough topsoil for rehabilitation to ensure sustainable vegetation.
	1.4 Soil erosion: Because certain surface areas would become devoid of any vegetation cover and compacted this would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes	Soil	Construction and operational	To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the prospecting sites to prevent water entering that can cause erosion. Concurrent rehabilitation and re-vegetation of prospecting sites must happen as soon as the site is completed. Rehabilitated areas must be inspected and managed in such a way that any signs of erosion can be mitigated immediately.	No excessive erosion that cannot be stabilized.
	Land capability and land use. Loss of land to support cultivation/ grazing.	Land capability & land use	Operational and closure	As this is only a very small area of 0,2 hectares, the impact is not so big. As the test pits and prospecting boreholes will be backfilled and allowed to naturally become revegetated and the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declares weeds.	Sustainable rehabilitated area.
	1.6 Generation of dust by excavating/drilling and vehicle movement	Air quality	Operational	The prospecting method (small test pits) (wet drilling method) will serve as mitigation measure because it will limit dust to the active prospecting area, where the excavator/mobile drill and trucks operating. Daily spraying of the roads with water when required.	No excessive dust that can be harmful to the environment and humans.

f) Impact Management Actions

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
<p>Excavations (test pits) for alluvial gravel and Reverse Circulation Drilling</p>	<p>1.1.1 Test pits: Removal of the alluvial gravel up to 4m depth (2m x 2m surface area per test pit). 1.1.2 Reverse Circulation Drilling: The holes will be approximately 10 - 30m metres deep (average 20m) depending on local depth of the sand. It is envisaged that 20 boreholes will be drilled. Total surface disturbance of 0.2 hectares over a period of 4 years at any given time. 1.2 Change in landform. Temporary lowering of test pit site surface area by 4 m and normal surface drainage will be disturbed at this specific point (small depressions form). 1.3 Stripping of all available topsoil and stockpiled. 1.4 Soil erosion: Because certain surface areas would become devoid of any vegetation cover and compacted this would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes 1.5 Land capability and land use. Loss of land to support cultivation/ grazing. 1.6 Generation of dust by excavating/drilling and vehicle movement</p>	<p>All pits/ prospecting boreholes trenches will be backfilled immediately after samples/cores have been taken. All pits will be backfilled. Overburden (Topsoil will be replaced, and sites (0,2 ha) allowed to become naturally revegetated. Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape. Any area on the prospecting area where disturbance will take place the topsoil must be removed and stockpiled for rehabilitation purposes in a demarcated area (surrounding the test pit site to act as a surface run-off control measure and safety berm.) To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the prospecting sites to prevent water entering that can cause erosion. Concurrent rehabilitation and re-vegetation of prospecting sites must happen as soon as the particular site is completed. Rehabilitated areas must be inspected and managed in such a way that any signs of erosion can be mitigated immediately. As this is only a very small area of 0.2 hectares, the impact is not so big. As the test pits and prospecting boreholes will be backfilled and allowed to naturally become revegetated and the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declares weeds. The prospecting method (small test pits) (wet drilling method) will serve as mitigation measure because it will limit dust to the active prospecting area, where the excavator/mobile drill and trucks operating. Daily spraying of the roads with water when required.</p>		

g) Method of monitoring the implementation of impact management actions

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (1)(g)

Monitoring by daily checks by manager.

h) Frequency of monitoring the implementation of impact management actions

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (1)(h)

Report Monitoring will be done continuously, and annual Audit must be submitted to DMRE.

i) Indication of person responsible for implementation of the impact management actions

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (1)(i)

The applicant

j) Time periods within which actions must be implemented

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (1)(j)

The rehabilitation liability will be reviewed annually, and a Performance Assessment report will be submitted annually.

k) Mechanisms for monitoring compliance with the impact management actions

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (1)(k)

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Prospecting site/Soil	Possible spillages of petrochemicals. Stripping of topsoil	Checking for spillages on daily basis. Checking correct stripping and stockpiling of topsoil	Manager and Applicant	Daily checking and reporting with Performance Assessment
Prospecting site/Topography	Concurrent backfilling of excavations.	Checking stability of slope and erosion preventive measures	Manager and applicant	Quarterly
Prospecting site/Air quality	Dust pollution from prospecting activities.	Regular wetting of roads and stockpile area where loading take place.	Manager and applicant	Daily
Prospecting site	Chemical toilet	Make sure that it is used and hygienic.	Manager and Applicant	Weekly.

l) Program for reporting on compliance

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (l)

An EMP Performance Assessment will be submitted to the Management and the DMR on an annual basis.

m) Environmental Awareness Plan

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (m)

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

NICOR BOERDERY (PTY) Ltd. will contract DERA Environmental Consultants to inform the employees after the EMP was approved. The following guidelines will be used:

- Communication
- Urge
- Leadership
- Teamwork
- Understanding
- Recognition
- Empowerment (CULTURE).

(ii) Way risks will be dealt with to avoid pollution or the degradation of the environment.

The biggest risks will be the degradation of soil/ land capability if the top soil is not handled correctly. The risks of soil pollution by spillages of fuel and oil will be managed daily checking for leaks on equipment and proper storage of oil and fuel. Concurrent proper rehabilitation of the pits will ensure that pre-prospecting land capability can be restored.

The main closure objective of Nicor Boerdery (Pty) Ltd. is to rehabilitate the entire prospecting site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued. As this area was disturbed before there is not top soil available on all the areas but on the non-disturbed area all available top soil will be stripped and stockpiled.

n) Specific information required by the Competent Authority

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 4 – 1. (m)

An annual Audit and Performance Assessment Report need to be compiles to proof compliance to applicable legislation and commitments made in this EMP and to be submitted to DMRE for review.

APPENDIX 5: CLOSURE PLAN

PART C

1. CLOSURE PLAN

a) Details of-

(i) Details of the EAP

Name of the Practitioner: DERA Environmental Consultants (Pty) Ltd.

Ms. Esna Erasmus

Tel No.: 018-468 5355

Fax No. : 018 011 3760

E-mail address: dera.office@dera.co.za. The EAP Ms. Esna Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management and completed three years subjects in Masters of Environmental Sciences in Environmental Sciences and Management.

Appendix 1 – CV & Qualifications of EAP

(ii) Expertise of the EAP

The EAP, Ms HM (Esna) Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management. She also completed the subjects for her Master Degree in Environmental Analysis & Management at NWU. See **Appendix 1** for copies of his qualifications and CV. She is further registered at the International Association for Impact Assessment South Africa (*IAIASa*), **membership No: 6502** and is registered at Environmental Assessment Practitioners Association of South Africa (**EAPASA**), **registration No: 2020/2909**.

b) Describe the closure objectives

The main closure objective of the applicant is to rehabilitate the entire prospecting site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued.

NICOR BOERDERY (PTY) Ltd. will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use ;
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

NICOR BOERDERY (PTY) Ltd. will furthermore:

- ensure that the physical and chemical stability of the rehabilitated site will be such that risk to the environment is not increased by naturally occurring forces to the extent that such increased risk cannot be contended with by the installed measures;
- subscribe to the optimal exploitation and utilization of South Africa's mineral resources (ALLUVIAL DIAMONDS & DIAMONDS IN KIMBERLITE);
- ensure that the prospecting site is closed efficiently and cost effectively.
- ensure that the operation is not abandoned but closed in accordance with the relevant requirements;
- ensure that the interest of all interested and affected parties will be considered;
- ensure that the all-relevant legislation regarding mine closure will be adhered to, and all relevant application procedures followed.

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

Yes, the disturbance that will take place and the rehabilitation thereof were discussed on the site visit with the landowner.

d) Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main prospecting activities, including the anticipated prospecting area at the time of closures.

a. Rehabilitation:

The clearing of soil surface areas would be restricted to what is necessary for the construction of infrastructure/crushing plant. During rehabilitation of these sites, or where vegetation is lacking or compacted, the areas would be ripped or ploughed and levelled in order to re-establish a growth medium and if necessary, appropriately fertilised to ensure the regrowth of vegetation and the soil ameliorated based on a fertilizer recommendation (soil sample analysed).

Rehabilitation of access roads

- Whenever a prospecting right is suspended, cancelled, or abandoned or if it lapses and the holder does not wish to renew the right or right, any access road or portions thereof, constructed by the holder and which will no Shorter be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner/tenant, shall be removed and the situation restored to the pre-prospecting situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

Rehabilitation of the surface prospecting site (test pits and drilling sites)

On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:

- (1) *When a prospecting right, prospecting right, retention right or prospecting right lapses, is cancelled or is abandoned or when any prospecting or prospecting operation comes to an end, the holder of any such right or right may not demolish or remove any building, structure, object -*
- (A & B) which may not be demolished in terms of any other law;*
- (C) which has been identified in writing by the Minister for purposes of this section; or*
- (c) which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.*
- (2) *The provision of subsection (1) does not apply to bona fide prospecting equipment which may be removed*

The test pit/ drilling surface area: Overburden material will be backfilled and topsoil previously stored adjacent the site, shall be replaced to its original depth over the whole site. After all the foreign matter has been removed from the prospecting sites.

The area shall then be fertilised if necessary (based on a soil analysis). The site shall be seeded with a vegetation seed mix (section C) adapted to reflect the local indigenous flora. Where the site has been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.

Photographs of the site, before and during the prospecting operation and after rehabilitation, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal (controlled) surface drainage to continue.

Implement water control systems to prevent erosion. Seed the area (see C. (below) for recommended seed mixture). Visual impact would be addressed by means of;

- revegetation (grasses);
- removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

Fertilising of Areas to be Rehabilitated

If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.

Seeding of Grass Seed Mixture and planting of Woody Species

The eventual seed mixture takes into account the availability of seed, different soil situations and the prevailing climatic conditions of the area. The following mixture will be applicable to the borehole prospecting site:

- *Cenchrus ciliaris*
- *Cynodon dactylon*
- *Digitaria eriantha*
- *Heteropogon contortus*
- *Panicum maximum*

b. Demolition of infrastructure/buildings

On completion of operations, all buildings, structures or other on the prospecting terrain shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). There will be no permanent buildings.

c. Invasive and alien control programme

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.

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

The test pit excavations and prospecting boreholes will be backfilled with overburden material and top soil will be placed back. This site can be rehabilitated.

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

The total application area is 734.3695 hectares but only 0.2 hectares will be disturbed by prospecting operation (test pits and reverse drilling boreholes). These figures were used for the calculation of the quantum, thus a total of R 114'997.00 needed for the rehabilitation guarantees. R 114'997.00 will be sufficient for rehabilitation. See quantum attached as **Appendix 7**.

This will be a small operation where only 0.2 hectares will be disturbed at any stage by prospecting operation and including at after care and maintenance. The amount was determined through the quantum tables provided by DMR and based on the size of the disturbance which are foreseen.

Phase 1 & 3 no surface disturbance.

Phase 2 small 50 g samples (will not be noticeable) or have quantifiable surface impact.

Phase 4 test pits - 250 test pits of 2m x 2 m = 4m² x 250 = 1'000m² = 0.1 ha

Phase 5 20 boreholes will be drilled, surface area disturbed by drill rig = 1,5 m x 1m = 1.5m² x 20 = 30m² = 0.03 ha in total for 20 boreholes.

Thus, total surface disturbance because of prospecting activities = 0.13 (0.2 ha)

g) Confirm that the financial provision will be provided as determined

The financing for this project will be done from the account of NICOR BOERDERY (PTY) Ltd., the applicant himself out of own funds. The guarantee will be provided in the form of **Bank Guarantee** after confirmation of the amount.

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

- vii. Monitoring of Impact Management Actions
- viii. Monitoring and reporting frequency
- ix. Responsible persons
- x. Time period for implementing impact management actions
- xi. Mechanism for monitoring compliance

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Prospecting site/Soil	Possible spillages of petrochemicals. Stripping of topsoil	Checking for spillages on daily basis. Checking correct stripping and stockpiling of topsoil	Manager and Applicant	Daily checking and reporting with Performance Assessment
Prospecting site/Topography	Concurrent backfilling of excavations.	Checking stability of slope and erosion preventive measures	Manager and applicant	Quarterly
Prospecting site/Air quality	Dust pollution from prospecting activities.	Regular wetting of roads and stockpile area where loading take place.	Manager and applicant	Daily
Prospecting site	Chemical toilet	Make sure that it is used and hygienic.	Manager and Applicant	Weekly.

UNDERTAKING

The EAP herewith confirms:

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



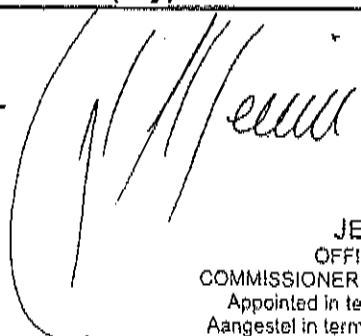
Signature of the environmental assessment practitioner:

DERA Environmental Consultants (Pty) Ltd

Name of company:

25 April 2023

Date:



JERRY DEAN MENIN
OFFICE MANAGER / AUDITOR
COMMISSIONER OF OATHS / KOMMISSARIS VAN EDE
Appointed in terms of Section 5(1) of Act 16 of 1963
Aangestel in terme van Artikel 5(1) van Wet 16 van 1963
Centrallaan 32 Central Avenue, Flamwood, Klerksdorp
Appointed/Aangestel: 23 Oktober 2012

TECHNIKON PRETORIA



BACCALAUREUS TECHNOLOGIAE

LANDBOUBESTUUR

AGRICULTURAL MANAGEMENT

Toegeken aan

Awarded to

HESTER MAGDALENA CLAASE

95057691

1975-04-03

met ingang van

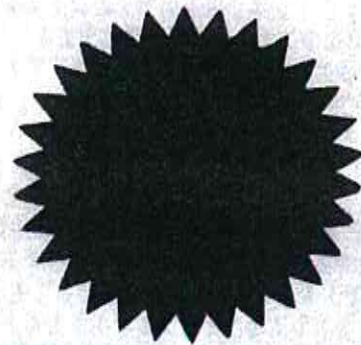
with effect from

2000-12-15

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector

E 6280



TECHNIKON PRETORIA



NASIONALE NATIONAL DIPLOMA

LANDBOU: HULPBRONBENUTTING

AGRICULTURE: RESOURCE UTILISATION

Toegeken aan

Awarded to

HESTER MAGDALENA CLAUSE

95057691

1975-04-03

met ingang van

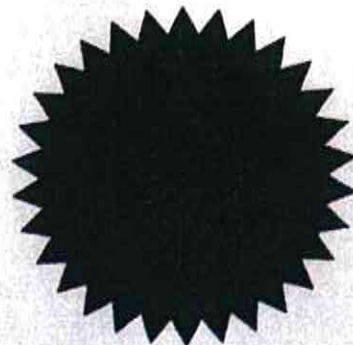
with effect from

1998-01-01

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector

No.
N^o 30054



HM (Esna) ERASMUS

ENVIRONMENTAL PRACTITIONER



CONTACTS



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aba5/](http://za.linkedin.com/in/esna-erasmus-1881aba5/)



Klerksdorp, North-west
Province, South Africa

SKILLS



Report writing
Conduct auditing
Bilingual (English/Afrikaans)
Computer Proficient
Report generation and analysis
Verbal and written communication
Computer Literate
Project Management
Results-orientated
Conduct risk assessments

ABOUT ME



Environmental practitioner with 24 years' experience in Agricultural and Mining Management and Science.

Experience in the field of inspection and evaluation of Environmental Impact Assessment in North West.

Since 1998 involvement in mining activities with Department of Minerals and Energy in the North West Province as representative for National Department of Agriculture Dir. LRM in the following:

Evaluation of Environmental Management Reports

Inspection and evaluation of all different mining entities in North West Province.

A member of the Slimes Dam Core Committee of North West Province.

Involved in the compiling of a strategy for rehabilitation of Gold slime Dams in NW.

Give inputs and comments on the revision of EMPR for small scale diamond mining.

Involve in setting a strategy to encounter the impact of small scale mining on the environment in North West.

WORK EXPERIENCE



JAN 1998

SENIOR RESOURCE CONSERVATION INSPECTOR

JUN 2002

National Department of Agriculture – Potchefstroom, SA

Manage Administration of Act 43 of 1983, Agricultural Resource Conservation act in North West Province.

Management of personnel and personnel related matters.

Management of budget for Potchefstroom office of Directorate Land Resource Management.

JUL 2002

SENIOR ENVIRONMENTAL OFFICER

FEB 2004

Department of Minerals and Energy – Klerksdorp, SA

Administration of Act 50 of 1991, the Minerals Act in the North West province.

Evaluation of EMPR's and EIA's.

Audit and compliance inspections of mining operations.

MAR 2004

ENVIRONMENTAL PRACTITIONER

PRESENT

DERA Environmental Consultants – Klerksdorp, SA

Compiling and submission of mining related applications; manage and compile legal environmental documents.

Monitoring work to evaluated compliance to environmental legislation; evaluating outstanding rehabilitation liabilities for mining companies.

Risk assessment and applications for closure certificates.

Compile EMPR/EIA for Mining Rights and compilation of EMPlan's for Prospecting and Mining Right applications.

Compile BAR & EMPR's in support of applications for listed activities under NEMA such as Chicken Broilers, Feed lots, Fuel Storage, ect.

Manages consultation between Departments and applicants.

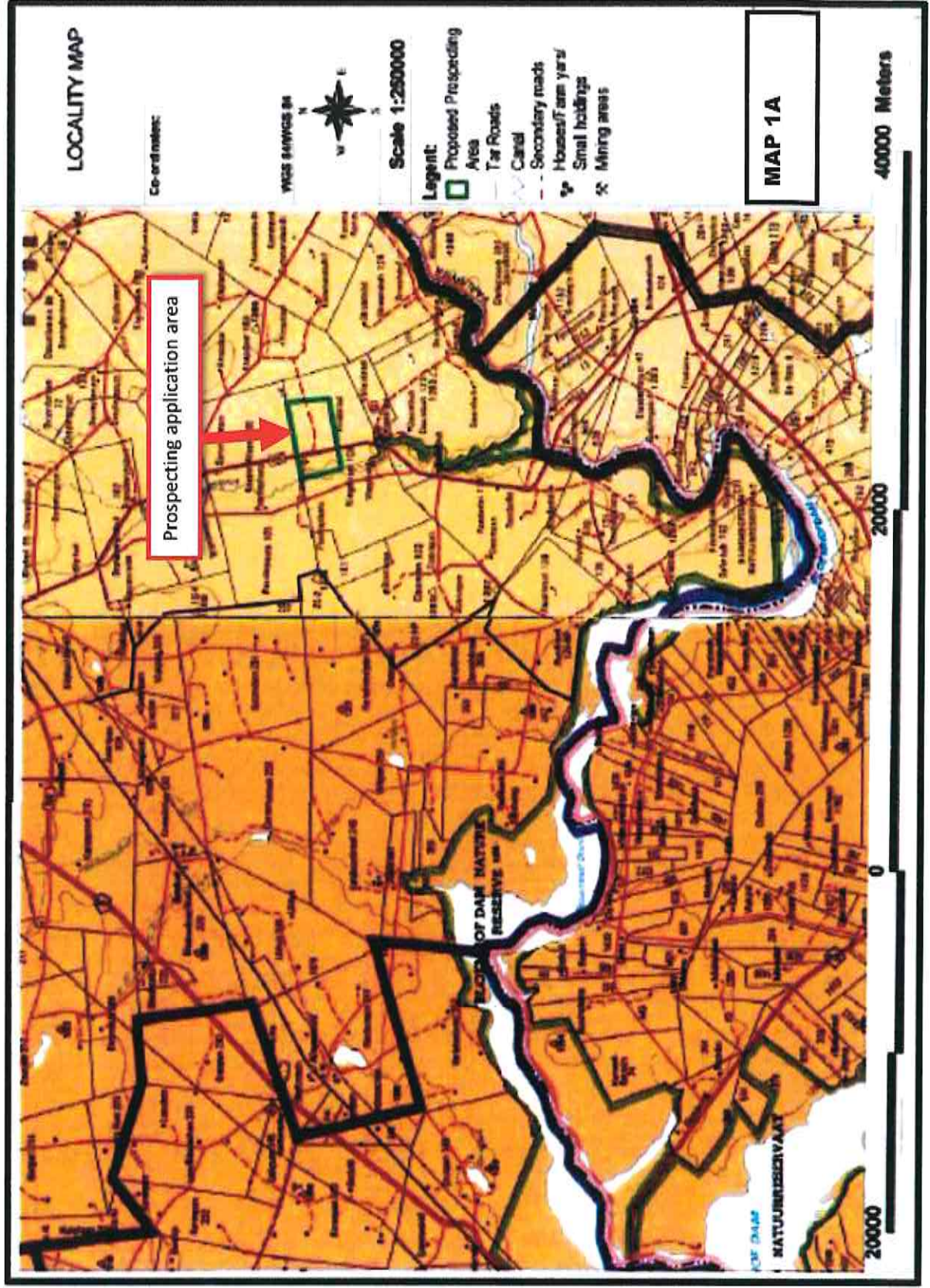
EIA- EXPERIENCE



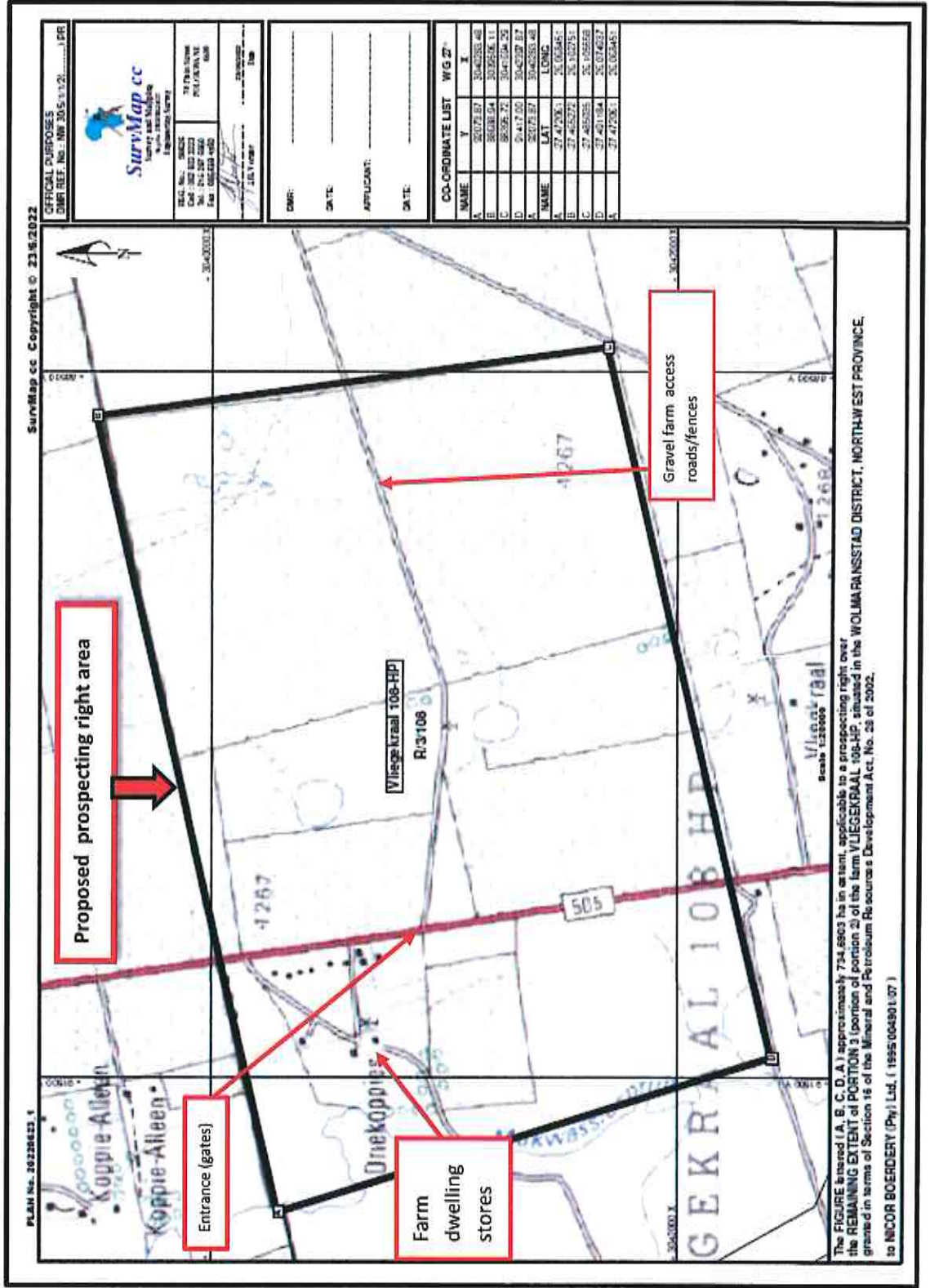
The following list of EIA's was just some that was done by me:

- FJ de Beer [Doornfontein] – was done as part of a Prospecting Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Hartzler & Steyn Beleggers [Zwartplaat] - was done as part of Mining Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Bethlehem Sand en Klip CC [Killarney] - was done as part of Mining Right Application, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- KMF Agro Processing (Pty) Ltd [Rietfontein] - was done as part of an Environmental Authorization for a listed activity, for the construction of Chicken slaughter facility, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Summit Ridge [Graslaagte] - was done as part of an Environmental Authorization for a listed activity for feed mill for chicken feed, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.

General location of Prospecting right application area (734,6903 ha)



SURFACE INFRASTRUCTURE MAP/PLAN



PLM No. 202206225, 1
 SurvMap cc Copyright © 23/6/2022
 OFFICIAL PURPOSES
 DMR REF. No.: NW 2051132
 IPR

SurvMap cc
 Survey and Mapping
 Engineering Services

11794, Rame
 2017, BATHURST
 2017, BATHURST
 2017, BATHURST

REG. No.: 202206225
 No.: 202206225
 No.: 202206225

DATE: _____
 DATE: _____
 APPLICANT: _____
 DATE: _____

CC-COORDINATE LIST 'WG 2'

NAME	Y	X
A	20078.87	3040250.48
B	38038.04	3039256.11
C	89206.72	3041204.25
D	94417.00	3040250.48
A	20078.87	3040250.48
NAME	LAT	LONG
A	27.417061	25.002642
B	27.452222	25.102751
C	27.485204	25.145523
D	27.491184	25.074252
A	27.472581	25.002642

The FIGURE is issued (A, B, C, D, A) approximately 734,6903 ha in extent, applicable to a prospecting right over the REMAINING EXTENT of PORTION 3 (portion of portion 2) of the farm VUEGEGKRAAL 108-HP, situated in the WOLMARANSTAD DISTRICT, NORTH-WEST PROVINCE, granted in terms of Section 16 of the Mineral and Petroleum Resources Development Act, No. 28 of 2002, to NICOR BOERDERY (Pty) Ltd. (1995/004801/07)

SURFACE INFRASTRUCTURE PLAN (Google satellite image)



CO-ORDINATE LIST		WG 27°	
NAME	Y	X	
A	92073.87	3040263.48	
B	88686.94	3039506.11	
C	88395.72	3041694.29	
D	91417.00	3042337.87	
NAME	LAT	LONG	
A	-27.472061	26.068451	
B	-27.465272	26.102751	
C	-27.465035	26.105558	
D	-27.491184	26.074937	
A	-27.472061	26.068451	

MAP/PLAN 1b (2)

LAND USE COMPOSITE MAP

