



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH PROSPECTING RIGHT AND/OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND PROSPECTING.

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: **PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd.**

TEL NO: **053 963 1418**

FAX NO: -

POSTAL ADDRESS: **P O Box 396, Schweizer-Reneke, 2780**

PHYSICAL ADDRESS:-

FILE REFERENCE NUMBER SAMRAD: **NW 30/5/1/1/2/ 13643 PR**

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

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

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

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings 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.

OBJECTIVE OF THE SCOPING PROCESS

1. The objective of the scoping process is to, through a consultative process—
 - a. identify the relevant policies and legislation relevant to the activity;
 - b. motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
 - c. identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
 - d. identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
 - e. identify the key issues to be addressed in the assessment phase;
 - f. agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
 - g. Identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

CONTENT OF THE SCOPING REPORT

2. Contact Person and correspondence address

a) Details of:

i) The EAP who prepared the report

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

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

(1) The qualifications of the EAP

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (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 **Figure 1 & 2** 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**.



Figure 1: Copy of Qualification

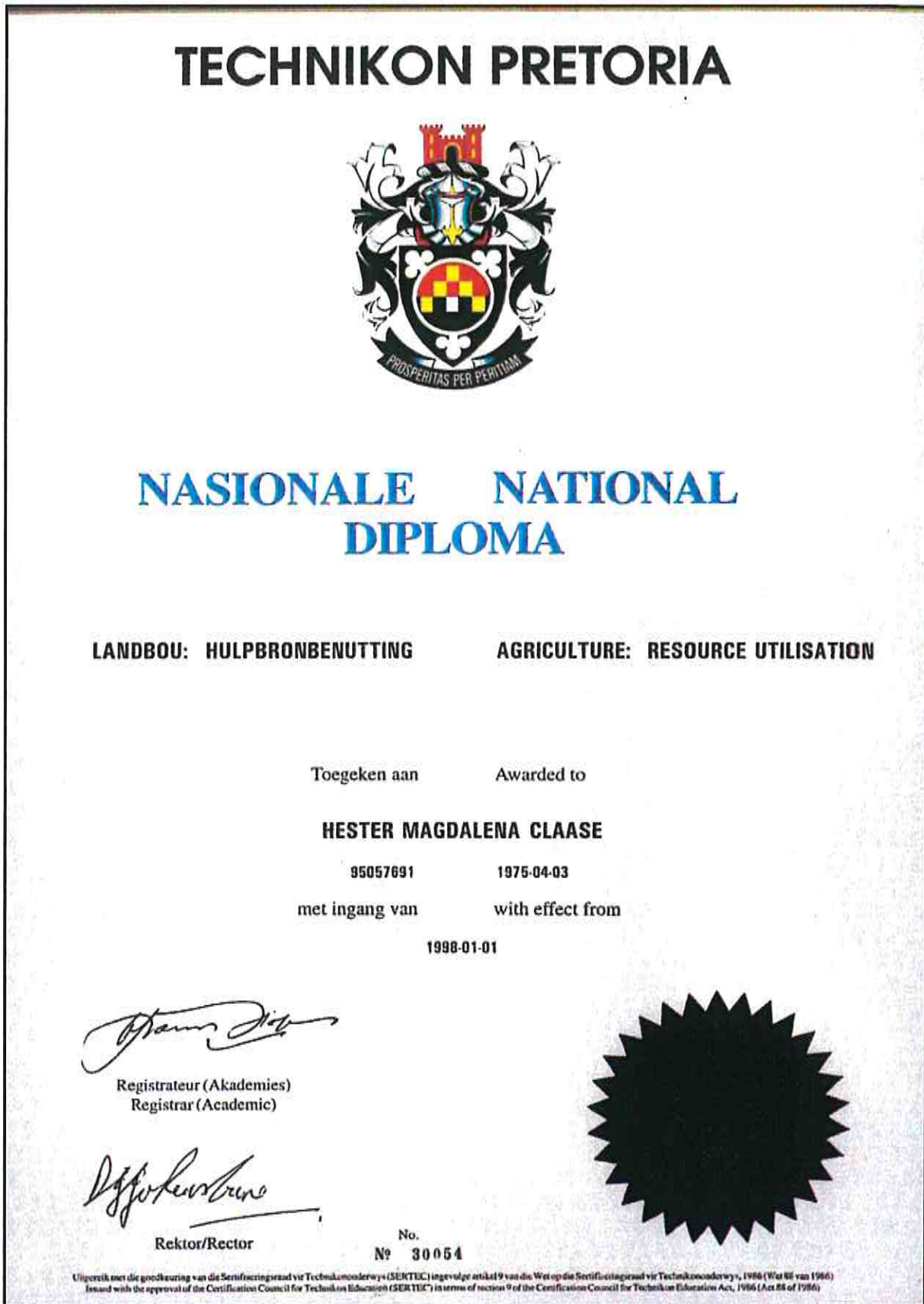
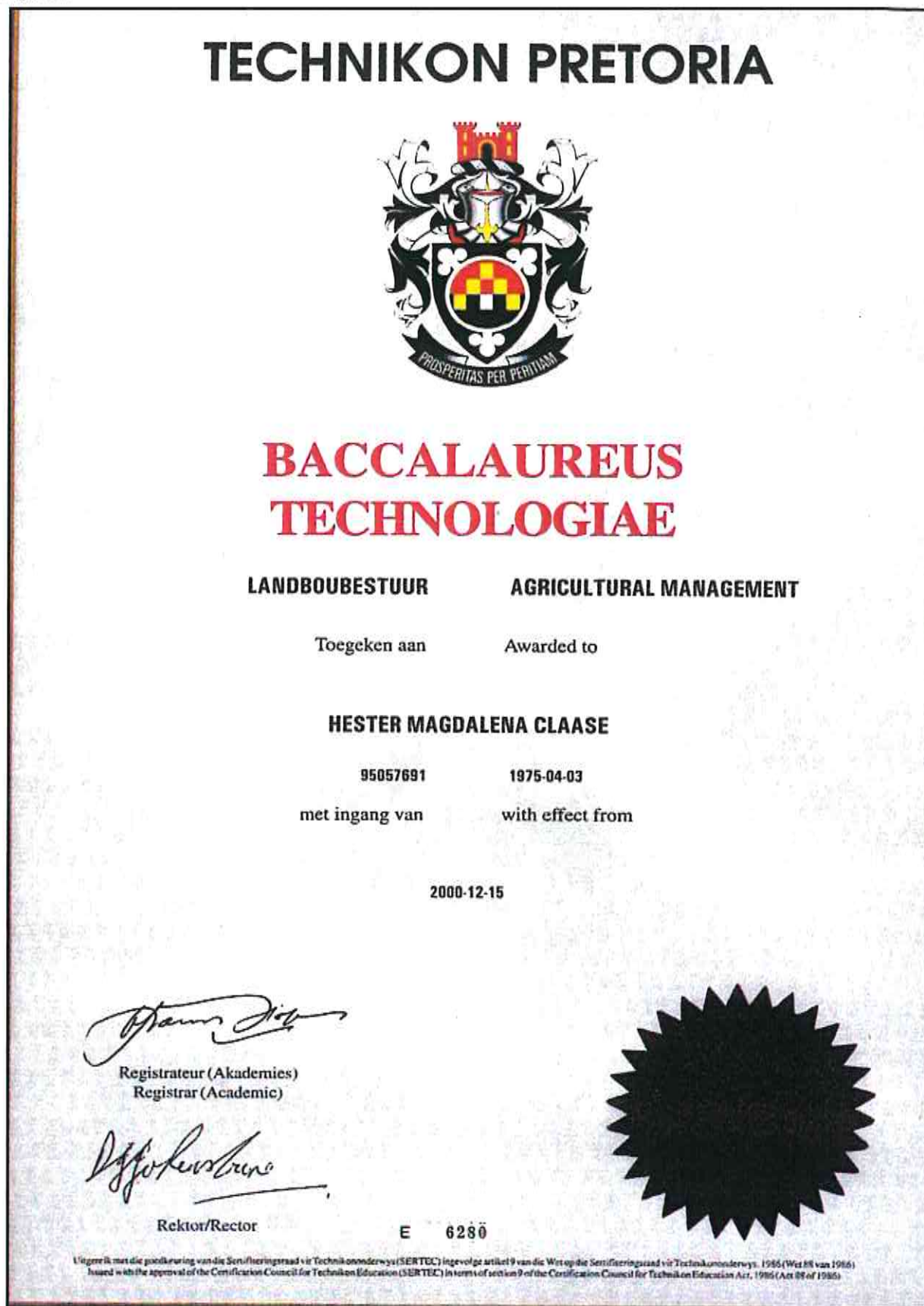


Figure 2



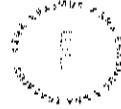
(2) Summary of the EAP's past experience

HM (Esna) Erasmus is an environmental practitioner with 24 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 **Figure 3** below Curriculum Vitae of H.M. Erasmus.


Figure 3


ESNA ERASMUS


ENVIRONMENTAL PRACTITIONER




CONTACTS

 esnae@dera.co.za

 +27 83 4525917

 <http://za.linkedin.com/in/esna-erasmus-1881aba5/>

 Klerksdorp, North-west Province, South Africa

ABOUT ME

Environmental practitioner with 22 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.

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

WORK EXPERIENCE

<p><u>JAN 1998</u></p> <p><u>JUN 2002</u></p>	<p>SENIOR RESOURCE CONSERVATION INSPECTOR <i>National Department of Agriculture – Potchefstroom, SA</i></p> <p>Manage Administration of Act 43 of 1983, Agricultural Resource Conservation act in North West Province.</p> <p>Management of personnel and personnel related matters.</p> <p>Management of budget for Potchefstroom office of Directorate Land Resource Management.</p>
<p><u>JUL 2002</u></p> <p><u>FEB 2004</u></p>	<p>SENIOR ENVIRONMENTAL OFFICER <i>Department of Minerals and Energy – Klerksdorp, SA</i></p> <p>Administration of Act 50 of 1991, the Minerals Act in the North West province.</p> <p>Evaluation of EMPR's and EIA's.</p> <p>Audit and compliance inspections of mining operations.</p>
<p><u>MAR 2004</u></p> <p><u>PRESENT</u></p>	<p>ENVIRONMENTAL PRACTITIONER <i>DERA Environmental Consultants – Klerksdorp, SA</i></p> <p>Compiling and submission of mining related applications; manage and compile legal environmental documents.</p> <p>Monitoring work to evaluated compliance to environmental legislation; evaluating outstanding rehabilitation liabilities for mining companies.</p> <p>Risk assessment and applications for closure certificates.</p> <p>Compile EMPR/EIA for Mining Rights and compilation of EMPlan's for Prospecting and Mining Right applications.</p> <p>Compile BAR & EMPR's in support of applications for listed activities under NEMA such as Chicken Broilers, Feed lots, Fuel Storage, ect.</p> <p>Manages consultation between Departments and applicants.</p>

EIA- EXPERIENCE

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

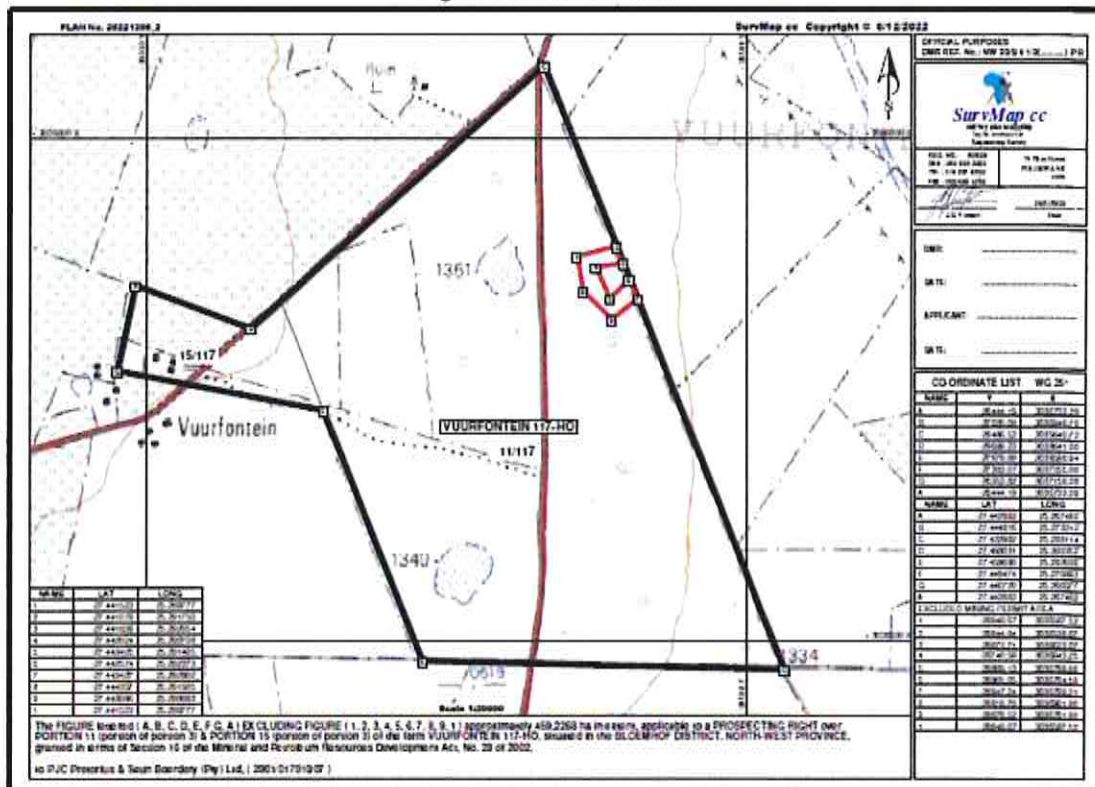
- FJ de Beer {Doornfontein} - was done as part of a Prospecting Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Hartzer & Steyn Beleggers {Zwartplaat} - was done as part of Mining Right 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.

b) LOCATION OF THE ACTIVITY

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

(i) 21 digit Surveyor General Code for each farm portion	T0HO000000000117000011 T0HO000000000117000015																											
(ii) Farm Name:	VUURFONTEIN 117 HO <ul style="list-style-type: none"> ➤ Portion 11 (Portion of portion 3) & ➤ Portion 15 (Portion of Portion 3) 																											
(iii) Coordinates - Co-ordinates List WG 27°	<table border="1"> <thead> <tr> <th>NAME</th> <th>LAT</th> <th>LONG</th> </tr> </thead> <tbody> <tr><td>A</td><td>-27.442883</td><td>25.267482</td></tr> <tr><td>B</td><td>-27.444816</td><td>25.273312</td></tr> <tr><td>C</td><td>-27.432982</td><td>25.288114</td></tr> <tr><td>D</td><td>-27.460031</td><td>25.300352</td></tr> <tr><td>E</td><td>-27.459690</td><td>25.282036</td></tr> <tr><td>F</td><td>-27.448474</td><td>25.276993</td></tr> <tr><td>G</td><td>-27.446720</td><td>25.266577</td></tr> <tr><td>A</td><td>-27.442883</td><td>25.267482</td></tr> </tbody> </table>	NAME	LAT	LONG	A	-27.442883	25.267482	B	-27.444816	25.273312	C	-27.432982	25.288114	D	-27.460031	25.300352	E	-27.459690	25.282036	F	-27.448474	25.276993	G	-27.446720	25.266577	A	-27.442883	25.267482
NAME	LAT	LONG																										
A	-27.442883	25.267482																										
B	-27.444816	25.273312																										
C	-27.432982	25.288114																										
D	-27.460031	25.300352																										
E	-27.459690	25.282036																										
F	-27.448474	25.276993																										
G	-27.446720	25.266577																										
A	-27.442883	25.267482																										
Application area (Ha)	459.2268 ha																											
Magisterial district:	The area is situated ±29,6km south-south-east of Wolmaransstad and ±45,6 km north-east of Bloemhof within the district of Bloemhof which is a maize, peanut, cattle farming town situated on the N12 towards Bloemhof in the North West Province of South Africa. The town lies in an important alluvial diamond-prospecting area and it is the main town of the Lekwa-Teemane Local Municipality, which further falls under the Dr Ruth Segomotsi Mompoti District Municipality.																											
Distance and direction from nearest town	± 45.6 km west of Bloemhof.																											
Minerals applied for	Diamonds Alluvial (DA)																											

Figure 4 – Sketch Plan



c) LOCALITY MAP

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

(i) & (ii) The area is situated within the district of Bloemhof, which is a maize-farming, cattle and peanuts growing area. The town of Bloemhof is situated along the N12 in the North West Province of South Africa. The town lies in an important alluvial diamond-prospecting area and it is the main town of the Lekwa Teemane Local Municipality which further falls under the Dr Ruth Segomotsi Mompati District Municipality (Course: https://en.wikipedia.org/wiki/Lekwa_Teemane). See **Figure 5**, as well as **Appendix 1: Map 1A - Locality Map**, indication where the applied area is situated within the district of Bloemhof, North West Province.

Appendix 1 – Locality Map

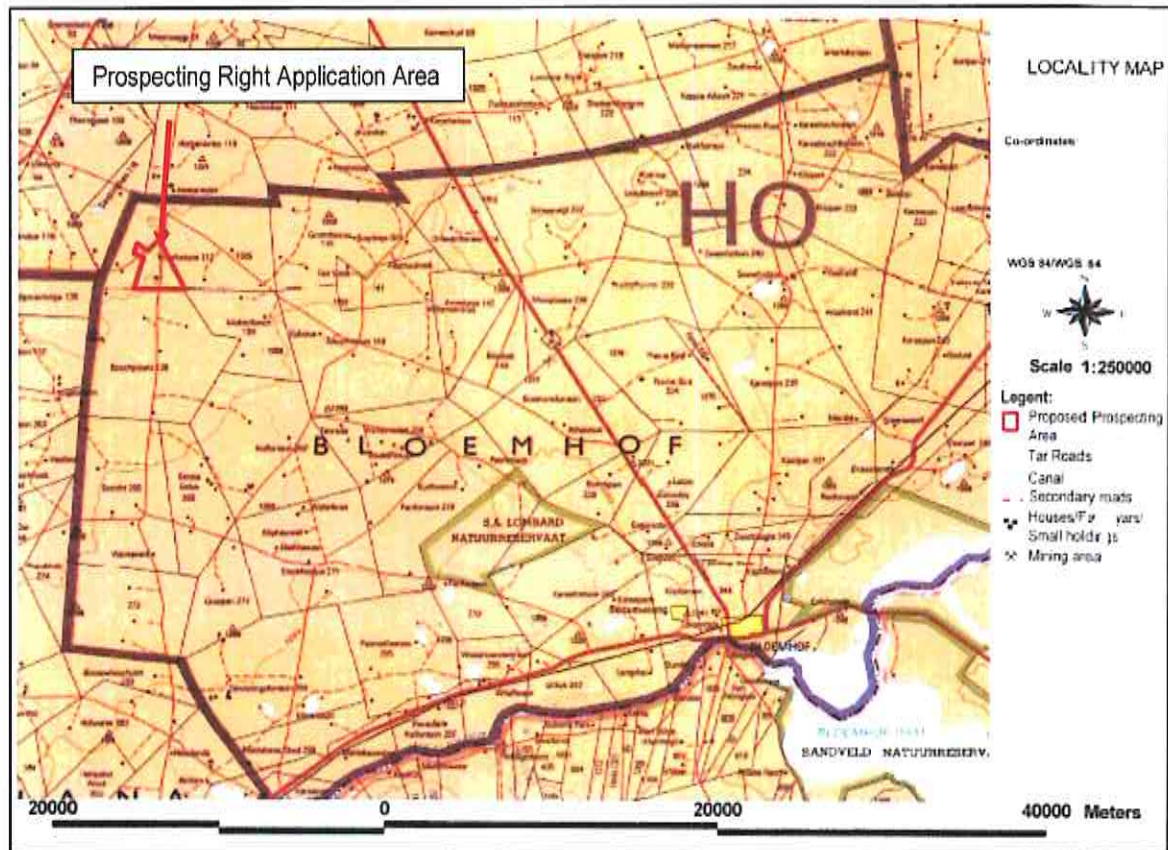
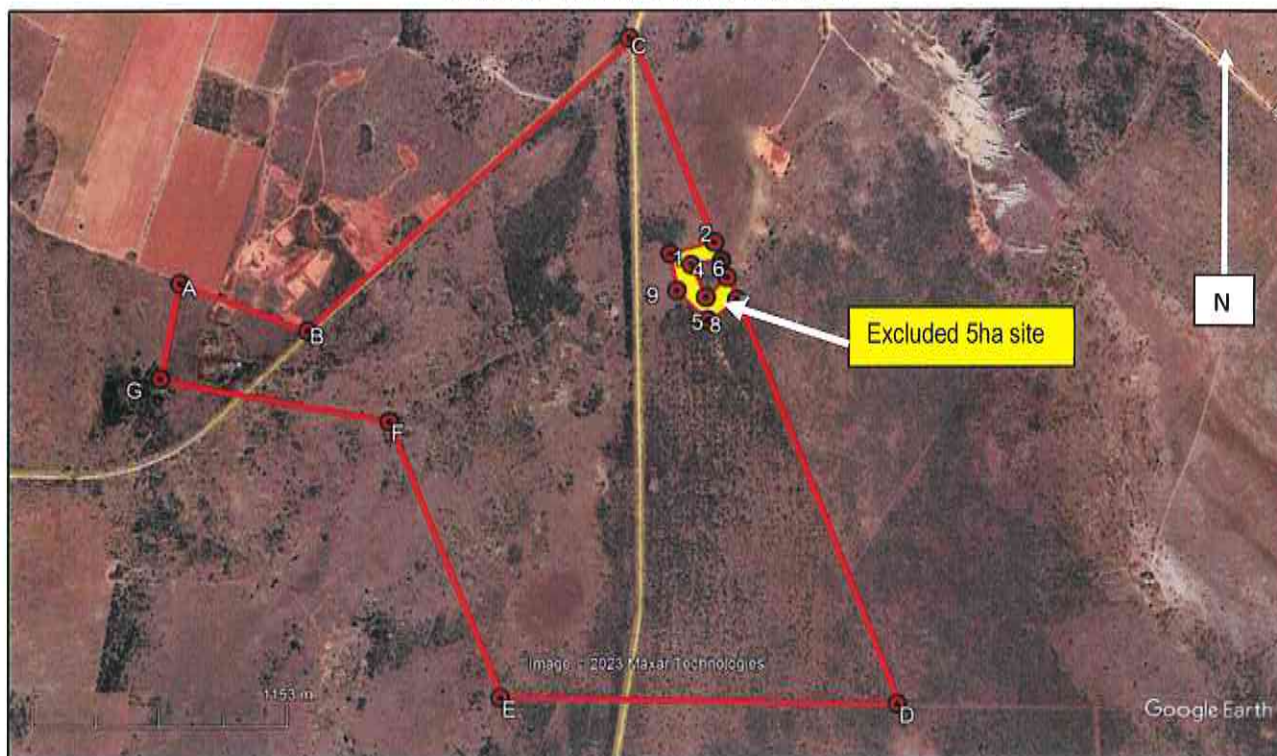


Figure 5: Locality of application area



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 2 – 2. (1)(d)(i)(ii)

The applicant applied for a Prospecting Right over: Vuurfontein 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3)).

The application area is situated over a rural part of the Bloemhof district. The prospecting right application area is characterized by natural vegetation (grazing for cattle). There is a farmstead on the application area and entrances from a farm gravel road.

All of the above 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 (maize) and natural grazing and prospecting activities.** Access to the prospecting right application area will be from the R42 running between Bloemhof and Schweizer-Reneke and P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road). Also see **Appendix 1: 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 **459.2268 hectares**.

Geological surveys will be done by a geologist and is non-invasive activity during Phase 1. After which the total area of interest is reduced to concentrate during Phase 2 on Test pits which will be made on a grid of 100 x 100 meters. It is envisaged that 100 test pits will be excavated. After Phase 2 is completed the geologist will assess the samples taken and will the proposed positions for Trenching be made during Phase 3 in order to determine the grade of the Alluvial Diamonds that was found and if it is economical viable. In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. The washing pans will be situated next to the excavations, whereby the wet puddle from the pans can be washed directly back into the open excavations. **There will be no slimes dams constructed**, there will only be topsoil and overburden dumps that will be returned to the excavations once mining were completed. No waste disposal site will be constructed of necessary.

See **Appendix 1: Map 1(b)** – Infrastructure Map for detail of what the site looks like pre-prospecting. Only a small portion of the land will be impacted upon at any given time and land use on the rest of the area can proceed normally. The prospecting focus area will be clearly demarcated after Phase 1 is completed, but will probably be over the whole of the application area. It is foreseen that the main prospecting area will most probably be over the already disturbed areas as indicated below in **Figure 5**. The area applied for is over the prospecting right application area of the entire **459.2268 hectares**. It is envisaged that all impacts on the environment can be properly managed and mitigated and no high negative long-term impacts will take place.

i) Listed and specified activities

The extent of the prospecting area is 459.2268 hectares. Geological surveys will be done by a geologist and is non-invasive activity during Phase 1. After which the total area of interest is reduced to concentrate during Phase 2 on Test pits which will be made on a grid of 100 x 100 meters. It is envisaged that 100 test pits will be excavated. Area disturbed will be: 3m x 2m x ±2.5m (deep) = 6m² x 100 (test pits) 600m² = 0.06 ha disturbance in total over 6 months. After Phase 2 is completed the geologist will assess the samples taken and will the proposed positions for Trenching be made during Phase 3 in order to determine the grade of the Alluvial Diamonds that was found and if it is economical viable. In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. Area disturbed will be: 10m x 30m x ±2.5m (deep) = 300m² x 10 (trenches) 3000m² = 0.3 ha disturbance in total over 24 months. The washing pans will be situated next to the excavations, whereby the wet puddle from the pans can be washed directly back into the open excavations. **There will be no slimes dams constructed**, there will only be topsoil and overburden dumps that will be returned to the excavations once mining were completed. Total disturbance over the life of the prospecting right (36 months) will be **0.06 ha (test pits) + 0.3 ha (trenches) = 0.36 ha. (±0.4 ha at any given time)** No waste disposal site will be constructed.

Only a small portion of the land will be impacted upon at any given time (0.36 ha) and land use on the rest of the area can proceed normally. The prospecting focus area will be clearly demarcated after Phase 1 is completed. The area applied for is over the entire portions but the main prospecting focus area will be on the grazing land area. See **Table 1** below as submitted as part of the prospecting works program indicating what the main listed prospecting activities will be. Also see **Table 2** below for NEMA Listed Activities as applied for in the Environmental Authorization which form part of the application.

Table 1: Main listed prospecting activities

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
1.	Geological surveys	Geologist	1 - 6	Mapping	6 Months	Geologist
2.	Test pits	Excavator operator & Manager(applicant)	7 - 12	Areas where alluvial diamond gravel is found will be identified	6 Months	Experienced applicant
3.	Bulk Sampling	Excavator operator; Frond end loader operator; Washing pan operators & manager	13 - 36	Diamonds found from bulk sample will be evaluated in terms of carats/100ton and value in \$/carat	24 Months	Experienced manager and applicant.

Table 2: Listed Activities

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

NAME OF ACTIVITY	Aerial extent of the Activity	LISTED ACTIVITY	APPLICABLE LISTING
<p>Listing 1 – Activity 20: Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2004, required to exercise the prospecting right —</p> <p>(a) associated infrastructure, structures and earthworks, directly related to prospecting 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>	459.2268 ha	X	327
<p>Listing 1 – Activity 27: The clearance of an area of 1 hectares 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</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	Total = 0,36 ha	X	327
<p>Listing 2 – Activity 19: The removal and disposal of minerals, which requires a permission in terms of section 20 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2004 or Listing Notice 3 of 2004, required to exercise the permission, including—</p> <p>(a) associated infrastructure, structures and earthworks, directly related to prospecting 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 this Notice applies.</p>	Total = 0,36 ha	X	325

ii) Description of the activities to be undertaken

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

The prospecting area was identified through aerial photographs. **The extent of the prospecting area will be 459.2268 hectares.** Information from Geological surveys will be used in order to determine where the test pits will take place. This will in turn help to determine the boundaries of the proposed prospecting area for more detailed surveying.

PHASE 1

Geological desktop studies and surveys in order to try and identify the gravel run. Various geological maps and instruments will be used to identify if alluvial gravel deposits might be present on the application area. **6 Months are needed for Phase 1**

PHASE 2

In Phase 2 test pits will be made (3m x 2 m x ± 2.5m deep), on a grid of 100 x 100meters and where necessary on a 50 x 50 meters grid where the gravel outcrops. These test pits are made with a 30 ton excavator, to determine if any diamond bearing gravel does occur. These test pits will be closed up immediately before the excavator move on to the next one. It is envisaged that **100 test pits** will be made over the application area. **6 Months are needed for Phase 2.**

Expected disturbance: 3m x 2m = 6m² x 100 = 600m² (0.06 ha).

PHASE 3

A bulk sample to a total of 23'040m³ gravel will be taken, consisting of trenches 10 x 30 x ± 2.5m (deep). With the average gravel depth of ±2.5m, (1.5m thickness) **10 trenches will be needed** to get to 23'040m³. These trenches will be ±100 m apart from each other; the envisaged positions of the trenches will be indicated on a map at the end of Phase 2. The topsoil will be removed with an excavator and stored on a separate stockpile for rehabilitation purposes. The overburden will then be stripped and placed on the side of the excavation. The gravel is then removed with an excavator and transported with a front-end loader to the washing plant consisting of a 14 feet pan. The puddle is washed directly back into the excavation. The rough out of the pan will also be put directly back into the open excavations. The concentrate out of the pan will be sorted by hand where the diamonds will be recovered and the grade of the prospecting area determined. **24 Months are needed for Phase 3.**

Expected disturbance: 10m x 30m = 300m² x 10 = 3'000m² (0.3 ha). Thus total disturbance over the life of the prospecting right (3 years) are: 0.06 ha + 0.3 ha = 0.36 ha

A. DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

Table 3: Description of Activities to be followed, non-invasive

Activities	Description of phases	Associated structures and infrastructures
Phase 1	Geological desktop studies and surveys in order to try and identify the gravel run. Various geological maps and instruments will be used to identify if alluvial gravel deposits might be present on the application area.	None

B. DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

TECHNICAL DETAIL REGARDING THE PROSPECTING METHODS

Table 4: Description of Activities to be followed, invasive

Activities	Description of phases	Associated structures and infrastructures
Phase 2	<p>The testing pits will concentrate on the areas where the outcrops anticipated gravel potential. A 30 ton excavator will be used to make test pits on a grid of 100 x 100m and where necessary 50 x 50m grid. The pits will be (3m x 2m x ± 2.5 deep) in order to determine the depth and boundaries of the gravel. These boundaries will be surveyed and mapped in order to determine where the bulk samples will be taken. Each test pit will be examined and closed immediately before moving to the next one. It is envisaged that 300 test pits will be done. 6 Months are needed for phase 1.</p> <p>(Phase 1 (100 test pits (surface area: 3m x 2m = 4m² x 100 pits= total of 600m² or 0.06 ha) will be done over a period of 6 Months)</p>	<p>The topsoil and grass will be cleaned on the small area of 2m x 2m where the test pits will be excavated. After evaluation of the gravel the test pit will be closed. Rehabilitation of the test pits back to original land capability/use with topsoil and proper leveling.</p>
Phase 3	<p>In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. Trenching will be used to open the gravel in order to get a representative sample for testing. The trenches will be 10 x 30 x ± 2.5 m (deep). In one trench ± 750m³ (± 8450 ton) gravel will be exposed and tested with a 14 feet washing pan at a rate of 6m³ (10 ton) a hour. The total prospecting area is 464.2268 hectares, thus it is anticipated that a total of ±23'040 m³ (±26'104 ton) can be tested by making trenches on different locations over the whole prospecting area, where the possibility of diamond bearing gravel were identified with the test pits. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 4'800m³ a month, depending on variables such as breakages and weather conditions. The processing of 23'040m³ will take about 24 months for Phase 3.</p> <p>(Phase 3: 10 Trenches (surface area will be 10m x 30m x 10 trenches = 0.3 ha total) will be done over 24 months.</p>	<p>After evaluation of the gravel the test pit will be closed. Rehabilitation of the test pits back to original land capability/use with topsoil and proper leveling.</p> <p>Envisages equipment required:</p> <ul style="list-style-type: none"> 2 x excavator 2 x front-end loader 2 x 14 feet pan 1x Power plant Pipes and water pumps

e) POLICY AND LEGISLATIVE CONTEXT

In terms of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. 1(f)(e)

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 20, Listing 1. Activity 27, Listing 1, Activity 19, Listing 2.	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/EIMP. Submit documents that will describe the impacts and sustainable mitigation thereof.	Regulation 21 Section 23	Scoping Report in process following by EIA/EIMP
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. Compilation 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 Permit 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 Veld 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 Permit or License if protected species may be affected.	Section 3 Section 49	Restricted activities involving specially protected animals. No person may, without a permit - hunt; import; export; transport; keep; possess; breed; or trade in, a specimen of a specially protected animal. Restricted activities involving specially protected plants: (1) No person may, without a permit - pick; import; export; transport; possess; cultivate; or trade in, a specimen of a specially protected plant.
National Environmental Management Laws Amendment Act (Act 2 of 2022) 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.

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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) NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

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

The applicant believes that the applied area has prospects for: Alluvial Diamonds (DA) as applied for. The possible employee positions that could emerge could also be a great opportunity for revenue generation in this rural area. The desirability of this project can be motivated as the application area is amongst other prospecting and prospecting activities, indicating the potential for alluvial diamonds being also present and the fact that there have been previously worked over the application area (mining permit area on the north-eastern side of the application area). It is however anticipated that the impacts that will be caused by the activities can be mitigated and rehabilitated. The specific activities as listed will be on this **459.2268 hectares application area** specific according to the sketch plan. The duration of the activities will be **36 months**.

g) DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE

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

The prospecting area was identified through aerial photographs. **The extent of the prospecting area will be 459.2268 hectares.** Information from available Geological information will be used in order to determine where the test pits will take place. This will in turn help to determine the boundaries of the proposed prospecting area for more detailed surveying.

PHASE 1:

Geological desktop studies and surveys in order to try and identify the gravel run. Various geological maps and instruments will be used to identify if alluvial gravel deposits might be present on the application area. **6 months needed for phase 1.**

PHASE 2:

The testing pits will concentrate on the areas where the outcrops anticipated gravel potential. A 30 ton excavator will be used to make test pits on a grid of 100 x 100m and where necessary 50 x 50m grid. The pits will be **(3m x 2m x ± 2,5 m deep)** in order to determine the depth and boundaries of the gravel. These boundaries will be surveyed and mapped in order to determine where the bulk samples will be taken. Each test pit will be examined and closed immediately before moving to the next one. **It is envisage that 100 test pits will be done. 6 Months are needed for Phase 2.**

PHASE 3:

In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. Trenching will be used to open the gravel in order to get a representative sample for testing. **The 10 trenches will be 10 x 30 x ± 2,5m (deep).** In one trench ± 750m³ (8450 ton) gravel will be exposed and tested with 14 feet washing pan at a rate of 6m³(10 tons) a hour. **The total prospecting area is 459,2268 hectares**, thus it is anticipated that a total of 23040 m³ (±26104 tons)(bulk sample in total) will be tested by making trenches on different locations over the whole prospecting area, where the possibility of diamond bearing gravel were identified with the test pits. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 4800m³ a month. **The processing of 23'040m³ will take about 24 months for Phase 3.**

i) DETAILS OF ALL ALTERNATIVES CONSIDERED

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(h) (g)(i)

Alternative is not applicable. The current land use is agriculture with grazing for cattle (natural vegetation) and rehabilitated prospecting areas (grazing for cattle) on the prospecting right application area. Thus the option to prospect the area will be an alternative land use over some of the areas. The applicant, **PJC PRETORIUS & SEUN BOERDERY (PTY) LTD**, is not interested in any other alternative land use over this land aside for the prospecting for Alluvial Diamonds (DA), or continuing with the agricultural activities as is, 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 are no alternative for the property as the application is for this area only. The prospecting focus area will only be determined after Phase 1 & 2 is completed. And the whole of the application area will systematically be prospected eventually. There are no alternative sites as the whole of the application area was identified as being favourable to bear Alluvial Diamonds (DA).

(b) the type of activity to be undertaken

The type of activity is in line with the submitted Prospecting Work Programme (PWP). Alluvial Diamonds (DA) prospecting normally uses the opencast prospecting method in order to access the mineral where after it is tested. Testing will be done on site by use of washing pans. There are no alternatives to the testing of the mineral as this is the conventional manner in which it is done. Better technology requires bigger volumes to be processed and this will not be possible under a prospecting right. As this is only prospecting operation it will be the basic opencast 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 as submitted with the application. And the whole of the application area will systematically be prospected eventually. There are no preferred sites as the whole of the application area was identified as being favourable to be tested. This prospecting operation will also not be a static operations as the whole of the application area will be tested via test pits on a grid basis in order to determine where the possible Alluvial Diamonds (DA) run. They will perhaps have a temporary office building and but the gravel to be tested will be done next to the open excavations. 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.

(d) the technology to be used in the activity

The technology used in the activity will be as described in the PWP and the best options will be determined by the applicant, which will be test pits and bulk sampling through trenching. The technology used with regards to the testing of the Alluvial Diamonds (DA) is putting it through a washing plant. The washing plant will be set up next to the current open excavation and will only be moved once the excavation is closed up. Phase 2 will be test pits and this will use an excavator to open pits which will only be visually inspected by the applicant, there are not much alternatives for this activity, Phase 3 will be excavation of a representative bulk sample and this will be done by conventional opencast excavations. The technology used in the activity will as described in the Prospecting Programme and the best options will be determined by the applicant. They will basically be using excavators to open the test pits and take out bulk samplings, as well as a front-end loader to move the material to be tested to the washing pan.

(e) the operational aspects of the activity, and

The operational aspect is only the prospecting for *Alluvial Diamonds (DA)* on this specific area, making use of a test pits and bulk sampling through trenching. Operations will be done through systematically test pits that will be made with a back-actor of the whole application area. Doing concurrent rehabilitation, meaning that as soon as the gravel in a test pit is inspected it will be placed back and the pit will be closed up and topsoil will be replaced. Where trenches were made and tested was completed the excavation will be backfilling 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 test 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 decide to abandon the project. If this application is not implemented the current landowners will just continue with existing agricultural activities which is grazing and cultivation. 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 2 – 2. (1)(h) (g)(ii)

The process as described by NEMA for Environmental Authorization was followed. See **Table 5** below for the identification of Interested and Affected Parties to be consulted with. The **landowner** (currently still Mrs. M. Bornman – but she sold the land to Me PJC Pretorius en Seuns BDY (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 farm Vuurfontein. 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 February 2023 to notify the general public about the application and scoping process that is under way and to give chance for comments or objections. See proof of consultation under **Appendix 2**. A site meeting had been held on the 28th of February 2023. A copy of the Scoping Report was sent to all the State Departments. The Public Participation process is still on-going and the documents will be updated as more feedback is received back. See proof of consultation under **Appendix 2**.

Appendix 2 – Proof of consultation

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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

In terms of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. f)(i)(h) (g)(iii)

Table 5: Interested and affected Party Consultation


Interested and Affected Parties	Date sent and/or Comments	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s	X		
PJC Pretorius & Seun Boerdery (New landowner) Paul Pretorius P.O. Box 396, Schweizer-Reneke, 2780 Cell: 083 285 2459, E-mail: paul@pretoriuspc.co.za	17 Feb 2023 20 Feb 2023	See purchase agreement See signet consultation letter	
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent	X		
Paul Coetzer Pretorius Trust PC Pretorius (Neighbour) P.O. Box 396, Schweizer-Reneke, 2780 Cell: 083 285 2459, E-mail: paul@pretoriuspc.co.za	17 Feb 2023 5 March 2023	Consultation letter No objection, see signed consultation letter	
Mrs. L. Buscop (Neighbour) 21 Transvaal Street, Lichtenburg, 2740 Cell: 071 876 2844 E-mail: likapretorius51@gmail.com	17 Feb 2023 15 March 2023	Consultation letter send No objection, see signed consultation letter	
Municipal councillor	X		
Municipality	X		
Lekwa-Teemane Local Municipality Municipal Manager – Mr. T. Mbonani Tel: 053 441 2206, E-mail: contact@lekwa-teemane.co.za	20 Feb 2023	Consultation letter send to Mr. T. Mbonani	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA			
Eskom			
Communities			
Dept. Land Affairs	X		

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/11/2/ 13643 PR]

KeabesweMothupi, Office of the Regional Land Claims Commissioner, N W Province; Private Bag X08, Mmabatho, 2735; Fax: 018 389 9641 Tel: 018 388 7170, E-mail: keabeswe.mothupi@ordlr.gov.za	20 Feb 2023	Request for verification of land claims send to Ms. Mothupi
Traditional Leaders		
N/A		
Dept. Economic Development, Environment, Conservation & Tourism	X	
Ouma Skosana Agricentre Building, Cnr James Moroka & Stadium Road, Mmabatho, 2735 Tel: 018 299 6710, E-mail: oskosana@nwpg.gov.za	22 Feb 2023	Scoping Report sent with Fastway couriers for comments
Dept. Water and Sanitation	X	
Lerato Mhoanile 28 Central Road, Beaconsfield, Kimberley, 8301 Cell: 083 655 8312, E-mail: MokhoantleL@dws.gov.za	22 Feb 2023	Scoping Report sent with Courier Guy couriers for comments
Dept. Agriculture, Forestry and Fisheries	X	
Maurice Vukeya Louis le Grange Building, Cnr Peter Mokaba & Wolmarans street, 3 rd Floor, Office nr 318, Potchefstroom, 2520 Tel: 018 294 3343; E-mail: MauriceV@daff.gov.za	22 Feb 2023	Scoping Report was sent with Fastway couriers for comments.
Other Competent Authorities	X	
South African Heritage Resources Agency (SAHRA) P.O. Box 4637, Cape Town, 8000 Tel: 021 462 4502, E-mail: info@sahra.org.za		Case ID:
OTHER AFFECTED PARTIES		
INTERESTED PARTIES		

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

PLACEMENT OF ADVERT AT GATE:

	<p>Photo 1</p> 	<p>Photo 2</p> 
	<p>GPS Location: 27°26' 48,22 " S 25°16' 15,17" E</p>	

iv) The Environmental attributes associated with the sites

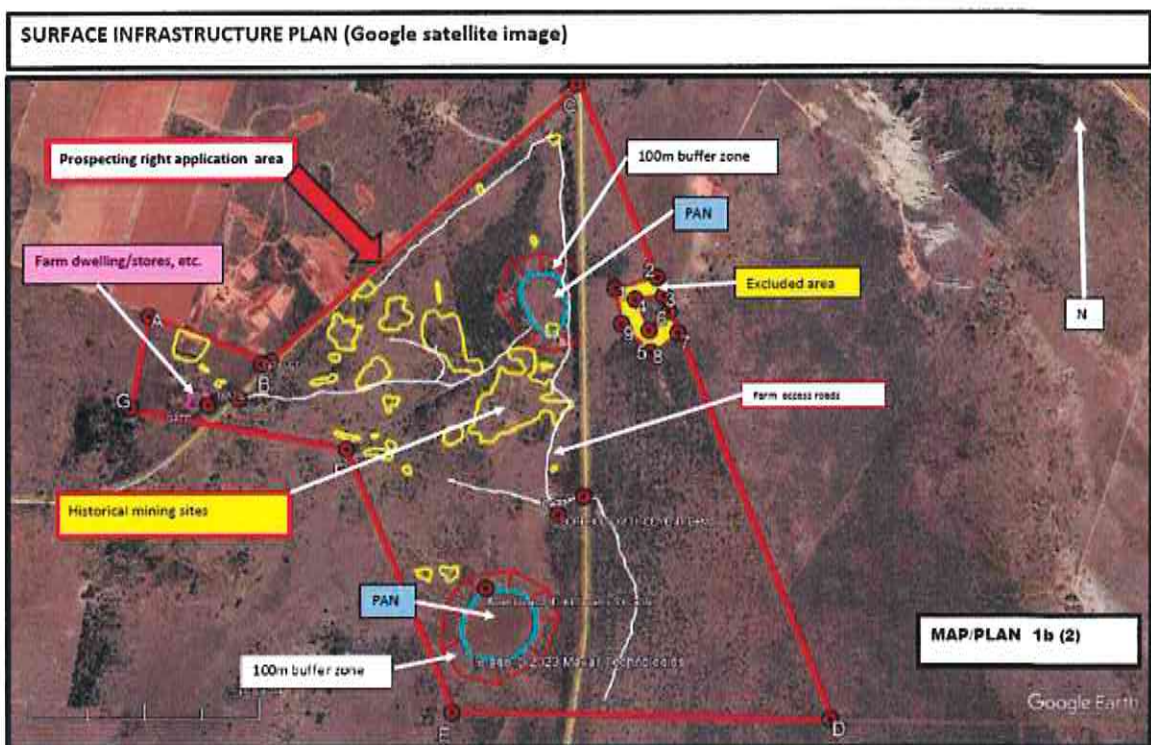
(1) Baseline Environment

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(h) (g)(lv)

1) 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 identifying sensitive issues/areas, which need to be considered when conducting the impact assessment. The application is over: VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3). This area consists of natural vegetation (grazing for cattle) and historical disturbed prospecting areas (rehabilitated and disturbed). **The focus area of prospecting activities will be mainly on the grazing areas for cattle. Natural Pans (surface drainage landscape features (2)) will not be available for prospecting, see Map.**

Appendix 1: Map 1(b) 2 –Surface infrastructure plan



2) Magisterial District:

The area is situated 45,6 km north-east of Bloemhof within the district of Bloemhof which is a maize, peanut, cattle farming town situated on the R34 between Bloemhof and Schweizer-Reneke. Access to the prospecting right application area will be from the R42 running between Bloemhof and Schweizer-Reneke and P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road) in the North West Province of South Africa. The town lies in an important alluvial diamond-prospecting area and it is the main town of the Lekwa Teemane Local Municipality, which further falls under the Dr Ruth Segomotsi Mompati District Municipality. See **Figure 5**, as well as **Appendix 1: Map 1(a) - Locality Map** indication where the applied area is situated within the district of Bloemhof, North West Province.



3) **Direction from neighbouring town:**

The nearest town is Bloemhof, which is situated 45.6 km north-east of the application area.

4) **GPS- co-ordinates:**

Longitude (approximate centre of prospecting site): 25°17'12.91"E

Latitude (approximate centre of prospecting site): 27°26'56.61"S

5) **Existing Surface Infrastructure:**

The application area is situated over a rural part of the Bloemhof district. The prospecting right application area is characterized by natural vegetation (grazing for cattle).

The infrastructure over the farm VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) is: there is 4 entrance gates, farm access roads, farm dwelling and stores, Escom power line (farm supply).



All of the above 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 can be seen.

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

6) **Climate:**

Climate Summer and autumn rainfall and very dry winters. MAP from about 300 mm in the southwest to about 500 mm in the northeast. Frost frequent in winter. Mean monthly maximum and minimum temperatures for Kimberley 37.5°C and –4.1°C for January and July, respectively. Corresponding values for Vaalharts-Agr 37.4°C and –3.9°C, respectively. **References** Bezuidenhout (1994, 1995), Smit (2000).

7) **Geology:**

Andesitic lavas of the Allanridge Formation in the north and west and fine-grained sediments of the Karoo Supergroup in the south and east. **Deep (0.6–1.2 m) sandy to loamy soils of the Hutton soil form** (Ae and Ah land types) on slightly undulating sandy plains. **References** Bezuidenhout (1994, 1995), Smit (2000).

This type of geology in the Bloemhof district normally has good prospects for alluvial diamond bearing gravel. The geology of the region is made up of andesitic lavas and tuffs dating to the Allanridge Formation of the Ventersdorp Supergroup. All the different fluvial terrace deposits are covered by Rooikoppie gravels, which represent mobile, multi-cycle deflation and gravitational deposits and/or elevated (inverted) fluvial deposits and preserved and recycled repeatedly from one successive land surface to the next. This type of geology in the Bloemhof district normally substantiates alluvial diamond gravel. Alluvial prospecting historically and on adjacent farms in this area did show the potential of alluvial gravel.

River terrace gravel (**Qa**) occurs along the Vaal River at Christiana, along the tributaries of the Vaal River north and north-east of Bloemhof and south of Vryburg (Harmse 1963, Butzer 1971, Butzer et al. 1973). The oldest gravels occur higher above and farthest from the Vaal River or before, and formed when the Vaal River shifted south east wards during the Lower Pleistocene (Harmse 1963). Over the south-eastern corner the geology is mainly (**Ra**) tholeiitic and calc-alkaline basalt and andesite; tuff and pyroclastic breccia. (**Rb**) mainly occur over the central and north-western side of the application area being quartzite, grit, conglomerate, pyroclastic breccia, fuffaceous sediments, cherty or calcareous in places. **See Annexure 3** for extractions of the geological map showing the location of the prospecting right application site.

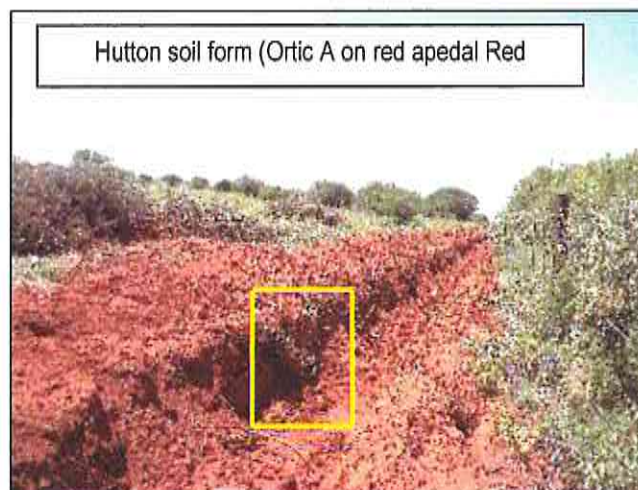
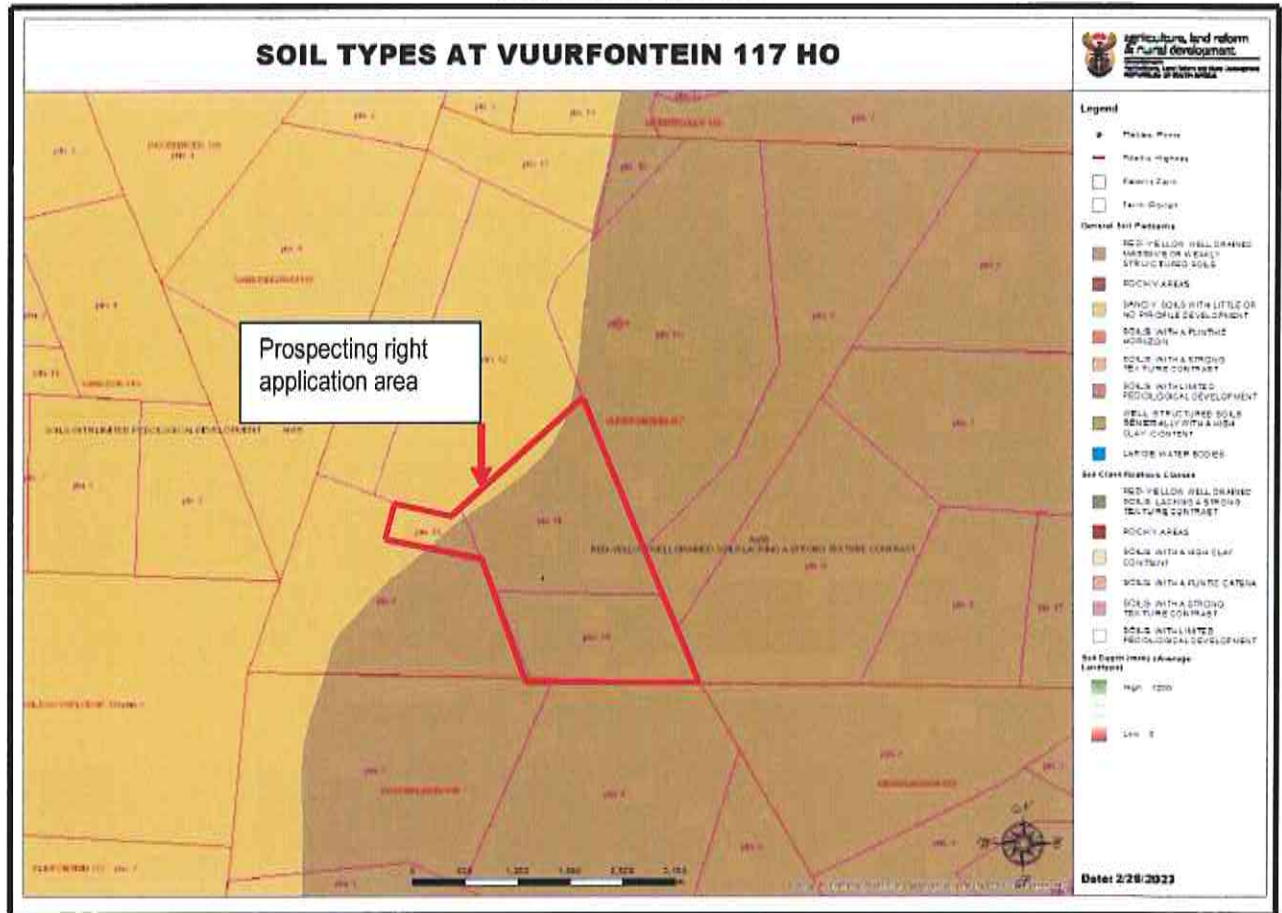
Appendix 3 – Extractions of the geological map

8) **Soil:**

National soils - general soil descriptions, according to the National Agricultural Resources Atlas for South Africa.

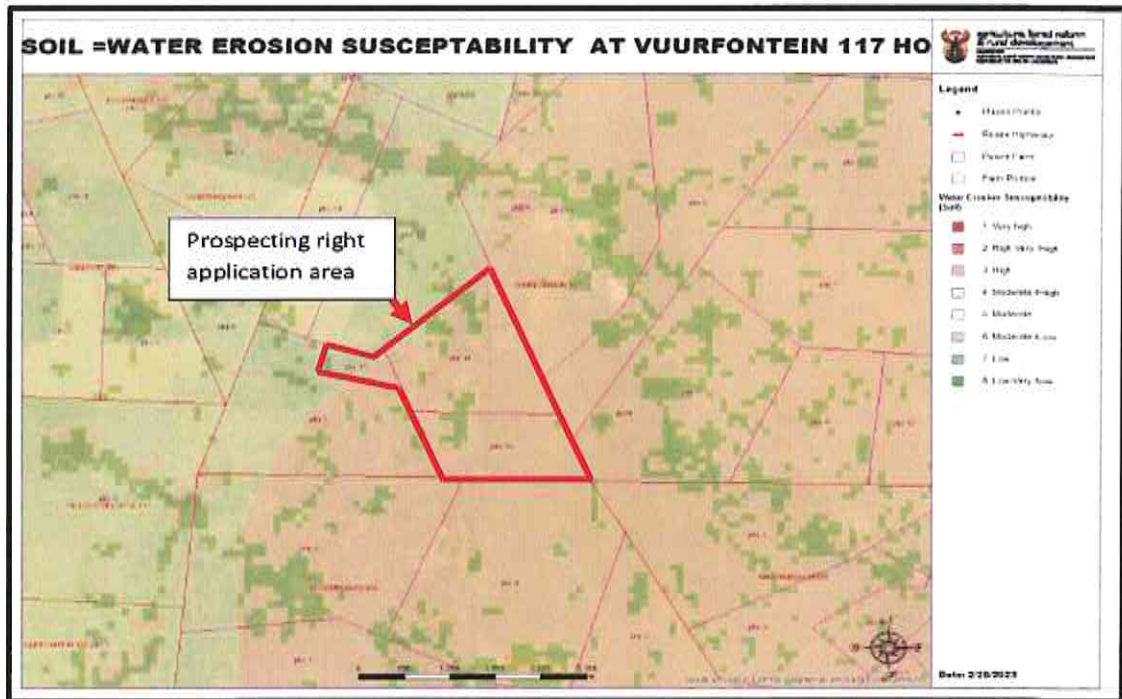
- See **Soil types map – Figure 6 for Vuurfontein** below on next page.
- Description: Red soils with high base status.
- **Land capability** for this area is low to moderate for agriculture.
- The farm is mainly utilized for grazing purposes.
- See yellow delineated areas where historically mining activities had taken place and have been rehabilitated. Soil surface have been impacted but is still being used for grazing purposes.

Figure 6: Soil types map



- **Soil erosion:** Water erosion susceptibility could describe as for the majority of the surface area as high.

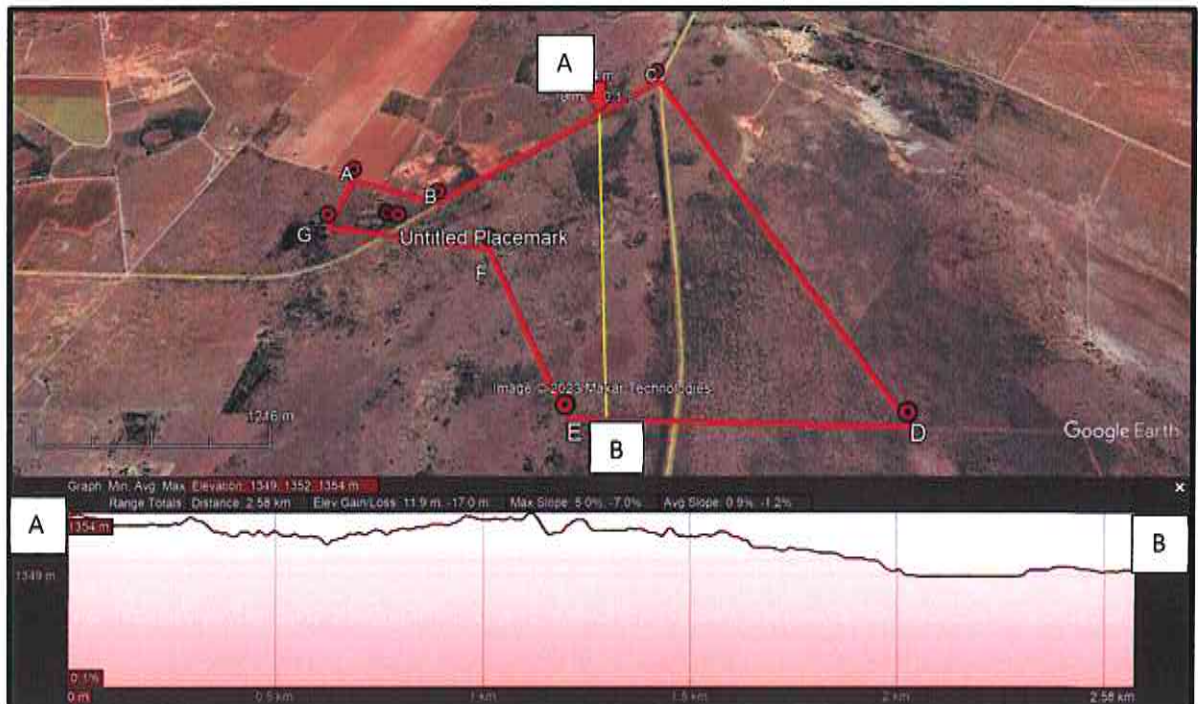
Figure 7: Erosion Susceptibility



9) **Topography:**

The site has one **terrain type**, which is characterized as “Plains with pans” (Terrain Morphological Map of S.A. 1983), covered with grassland. **The average slope is 0.9 % that can be described as flat (see slope profile).** The **average elevation is between 1349-1354 m meters above sea level (masl) over most of the prospecting right permit application area (See Figure 8 below).**

Figure 8: Erosion Susceptibility



Screening of environmental sensitivity of the proposed site (See Appendix 4 for full report): 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 (0.36 ha disturbed over 36 months)**, are classified (by background reference to the whole **prospecting right application area (459.2268 ha)** as per summary table below.

According to **the screening of environmental sensitivity** of the proposed prospecting right application area (459.2268 ha) has been classified as listed in **Table 6** and it was indicated that **Terrestrial Biodiversity Theme** was classified as being VERY HIGH. Also the whole of the area is being regarded as to have a MEDIUM environmental sensitivity with regard to plant species and MEDIUM with regard to animals. The majority of the areas have been disturbed by agricultural activities and certain parts by historic mining activities. **Some trees, shrubs have been removed on the site is being utilized as grazing for cattle (agricultural use). The prospecting right site has been disturbed by agriculture and historic prospecting activities (See Appendix 1: Map 1(b) 2).** During the site investigation Cattle were found on site. The **Animal Species Theme** is regarded as of MEDIUM sensitivity. The **site has been disturbed by agricultural 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.

According to the screening of environmental sensitivity of the proposed site it is indicated that **Plant species Theme** was classified as being MEDIUM sensitivity. **Giving the fact that the majority of the prospecting right application area is regarded as of MEDIUM environmental sensitivity and the fact that the remaining area has been impacted by agricultural activities the site is can actually not be seen as pristine anymore.**

Table 6: 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			

10) Vegetation [Flora] and Landscape Features:

The majority of the application area falls over veld type: [SVk 4] Kimberley Thornveld. VT 16 Kalahari Thornveld and Shrub Bushveld (50%) (Acocks 1953). LR 32 Kimberley Thorn Bushveld (74%) (Low & Rebelo 1996).

Distribution: North-West, Free State and Northern Cape Provinces: Most of the Kimberley, Hartswater, Bloemhof and Hoopstad Districts as well as substantial parts of the Warrenton, Christiana, Taung, Boshof and to some extent the Barkly West Districts. Also includes pediment areas in the Herbert and Jacobsdal Districts. Altitude 1 050–1 400 m.

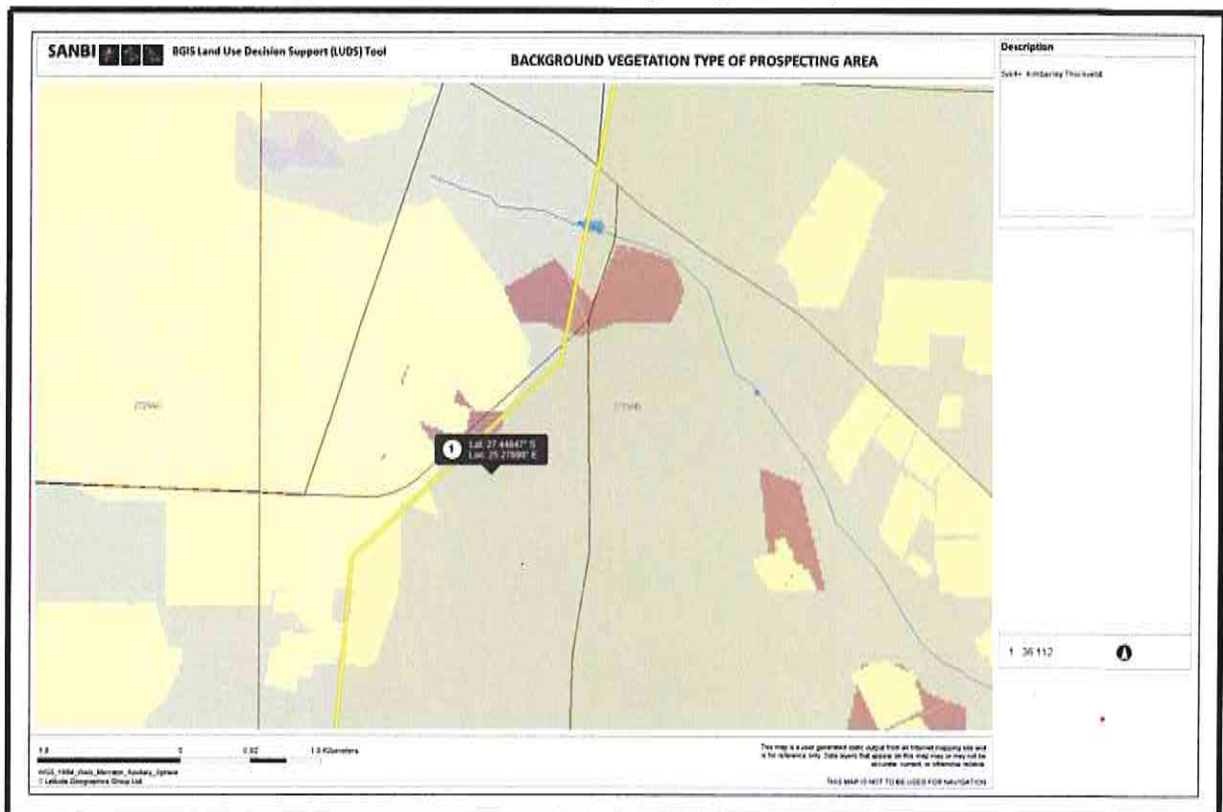
Plains often slightly irregular with well-developed tree layer with **Acacia erioloba, A. tortilis, A. karroo and Boscia albitrunca** and well-developed shrub layer with occasional

dense stands of *Tarchonanthus camphoratus* and *A. mellifera*. Grass layer open with much uncovered soil.

VEGMAP (2006) further classify this area as part of the [SVk 4] Kimberley Thornveld over most of the prospecting right application area of 459.2268 hectares. See Figure 9 below. An surface delineated in yellow borders indicate surface areas already disturbed by historic mining activities but rehabilitated and definitely being changed by mining activities. See Appendix 1: Map 1 (b) 2) indicating the areas which are being referred to.

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 9: VEGMAP classification: [SVk 4] Kimberley Thornveld



Important Taxa: Tall Tree: *Acacia erioloba* (d). Small Trees: *Acacia karroo* (d), *A. mellifera* subsp. *detinens* (d), *A. tortilis* subsp. *heteracantha* (d), *Rhus lancea*. Tall Shrubs: *Tarchonanthus camphoratus* (d), *Diospyros pallens*, *Ehretia rigida* subsp. *rigida*, *Euclea crispa* subsp. *ovata*, *Grewia flava*, *Lycium arenicola*, *L. hirsutum*, *Rhus tridactyla*. Low Shrubs: *Acacia hebeclada* subsp. *hebeclada* (d), *Anthospermum rigidum* subsp. *pumilum*, *Helichrysum zeyheri*, *Hermannia comosa*, *Lycium pilifolium*, *Melolobium microphyllum*, *Pavonia burchellii*, *Pellostomum leucorrhizum*, *Plinthus sericeus*, *Wahlenbergia nodosa*. Succulent Shrubs: *Aloe hereroensis* var. *hereroensis*, *Lycium cinereum*. Graminoids: *Eragrostis lehmanniana* (d), *Aristida canescens*, *A. congesta*, *A. mollissima* subsp. *argentea*, *Cymbopogon pospischillii*, *Digitaria argyrograpta*, *D. eriantha* subsp. *eriantha*, *Enneapogon cenchroides*, *E. scoparius*, *Eragrostis rigidior*, *Heteropogon contortus*, *Themeda triandra*. Herbs: *Barleria macrostegia*, *Dicoma schinzii*, *Harpagophytum*

procumbens subsp. *procumbens*, *Helichrysum cerastioides*, *Hermbstaedtia odorata*, *Hibiscus marlothianus*, *Jamesbrittenia aurantiaca*, *Lippia scaberrima*, *Osteospermum muricatum*, *Vahlia capensis* subsp. *vulgaris*. Succulent Herbs: *Aloe grandidentata*, *Piранthus decipiens*.

Biogeographically Important Taxa: (^{GW}Griqualand West endemic, ^KKalahari endemic) Low Shrub: *Blepharis marginata*^{GW}. Succulent Shrub: *Euphorbia bergii*^{GW}. Graminoid: *Panicum kalaharensis*^K. Herbs: *Helichrysum arenicola*^K, *Neuradopsis bechuanensis*^K. Succulent Herbs: *Lithops aucampiae* subsp. *aucampiae*^{GW}, *Tridentea marientalensis* subsp. *marientalensis*^K.

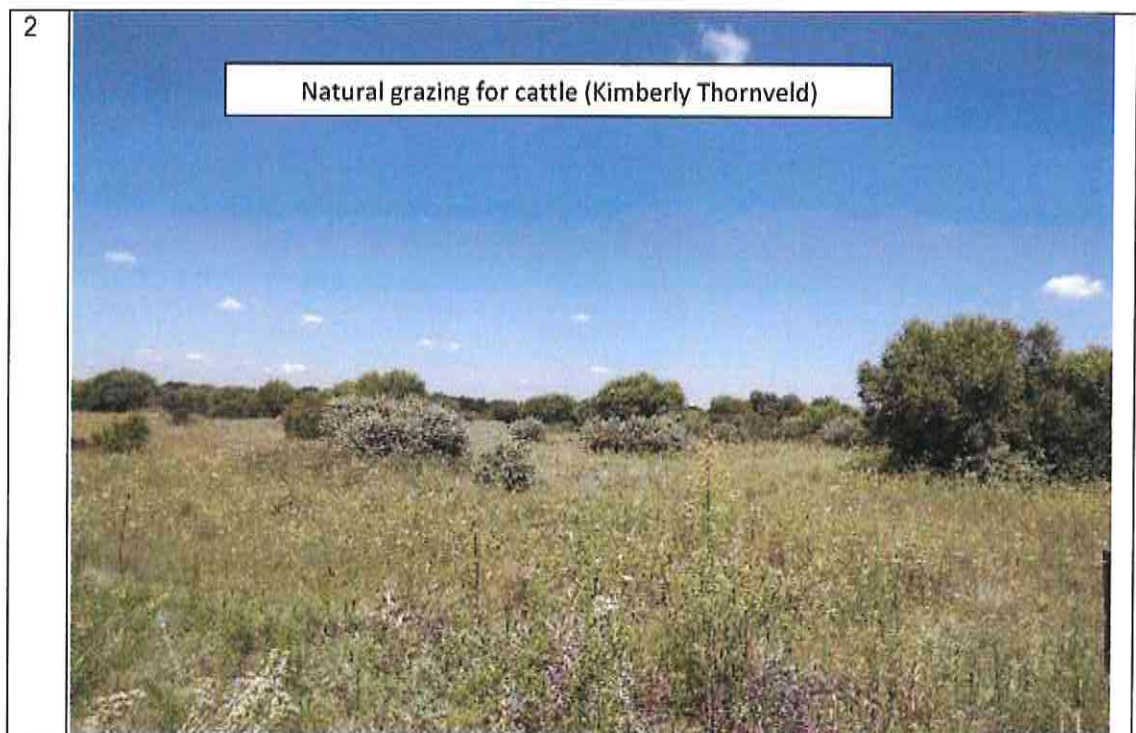
Conservation: Least threatened. Target 16%. Only 2% statutorily conserved in Vaalbos National Park as well as in Sandveld, Bloemhof Dam and S.A. Lombard Nature Reserves. **Some 18% already transformed, mostly by cultivation. Erosion is very low. Area is mostly used for cattle farming or game ranching. Overgrazing leads to encroachment of *Acacia mellifera* subsp. *detinens*.** References Bezuidenhout (1994, 1995), Smit (2000).

Some indication of the **original vegetation type** could be found on the **459.2268 hectares**. Though the years the site have been disturbed by agricultural activities (grazing for cattle) and historic prospecting activities. **This is a “brownfields site”.**

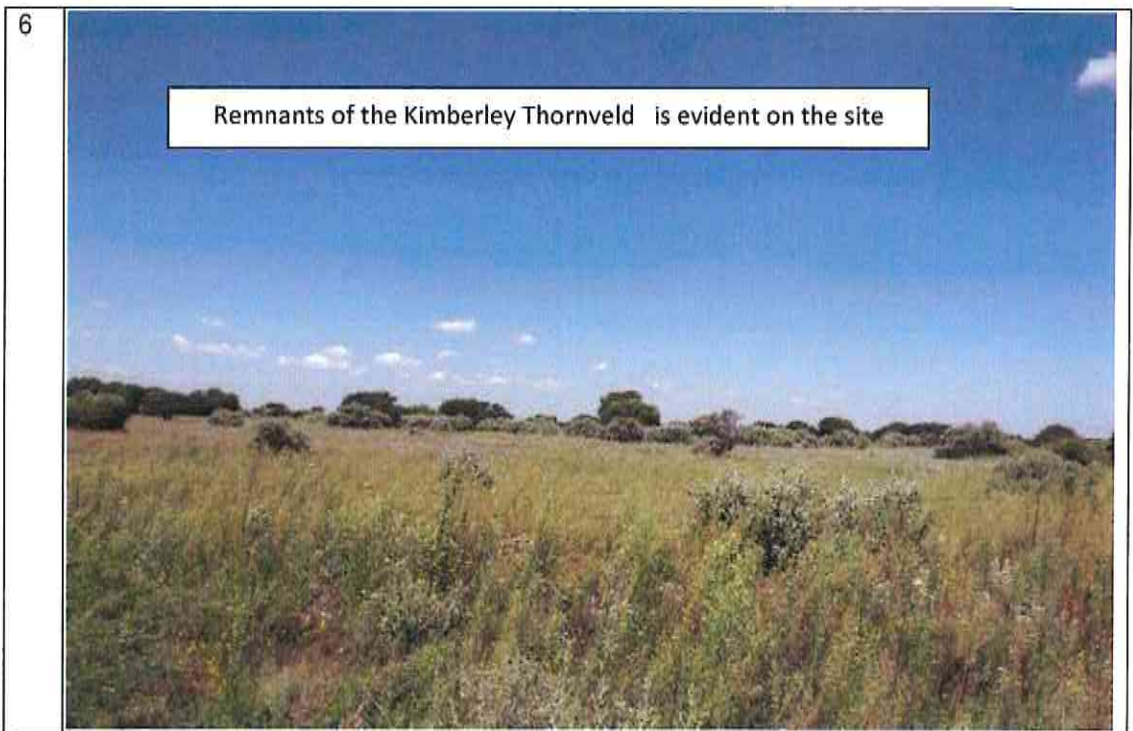
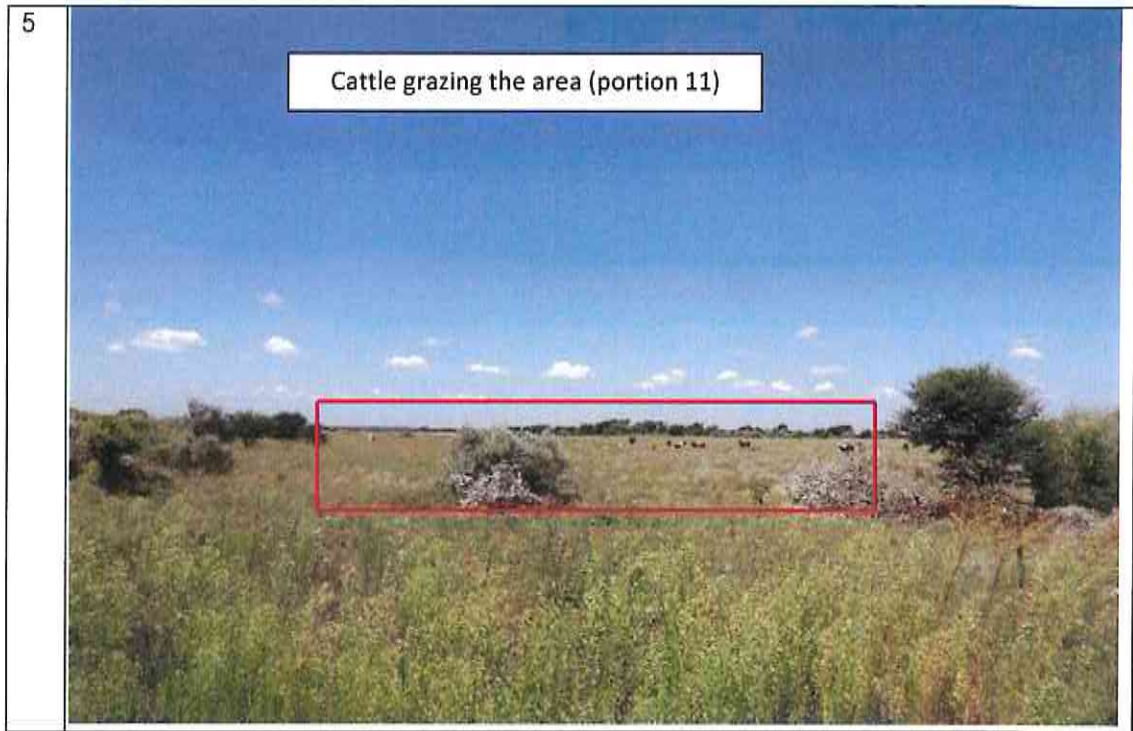
See photo sheets below:



	PHOTO
1.1	









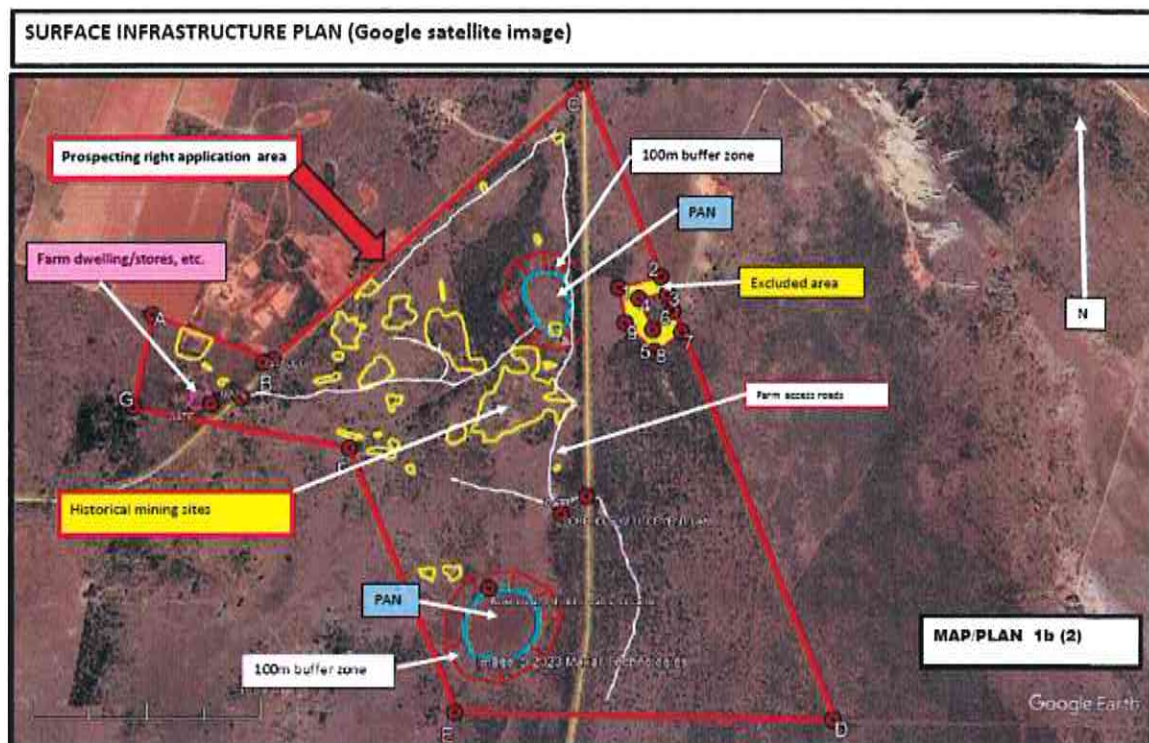
11) **Animal Life [Fauna]:**

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 africaeaustralis* (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 with regard to the production of Cattle.

12) **Surface Water:**

This application area fall within the water management area of the Lower Vaal (10) and secondary catchment area C91 and tertiary drainage region C91A (Surface area 360 km²). It is not expected that this 459.2268 ha prospecting sites area will have any effect on the surface run-off in the drainage catchment area (C91A). Two natural pans occur on site. See description under SENSITIVE LANDSCAPES for further information. No prospecting could take place within 100m from such sensitive landscape (pans). See Appendix 1: Map/plan 1(b) 2 below. Some evidence from the Appendix 1: Map/plan 1(b) 2 indicates that historically the northern located pan has been impacted partially by mining activities.

According to NEMA's Screening Tool the Aquatic biodiversity sensitivity was classified as being VERY HIGH sensitive, specifically with regard to pans.



13) **Ground Water:**

The applicant intends to use water from a BOREHOLE/S located on the farm (portion 11). Water uses will be 2'000 liters a day for the primary processing in the bulk sampling phase. The applicant indicated that he can also transport water from his adjacent farm from a borehole. The applicant is the new owner of the farm Vuurfontein 117 HO. Potable water will be supplied by tanker for workers or from existing boreholes.

14) **Air Quality:**

The impact on air quality will occur from test pits, trenches and movement on the roads. This impact will be low and will be monitored and mitigated through wetting of the roads. This area falls in a very rural area and the impact from windblown dust particles, will be shielded by natural plant cover and trees. Areas where testing are completed must be backfilled and re-vegetated so soon as possible in order for the natural vegetation to establish a cover layer in order to retain the loose soil fractions.

15) **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 **SMALL extent of these prospecting activities over the next 36 months which will be limited to only 0.36 ha**, the sound will get lost and no residence on neighboring farms will be adversely affected (**located 870 m to 3.3 km from border of application site**). The 870 m site is located near an existing mining operation on the neighbour's farm. See Map/sat image below. **The landowner's (also the applicant) farmstead is also located within the application area (portion 15)** and will they be the most affected by any noise of the prospecting activities. The impact may be greater with regards to wild animals, but they tend to move away toward areas less influenced by noise disturbance, see **Figure 10** below.

Figure 10: Distance from neighbouring residences



16) **Sites of Archaeological and Cultural Interest:**

There are no known sites of archaeological interest on the mine site. A large portion of the surface area is already disturbed by agricultural and historical mining activities. Graves sites were identified on the application area and is known to the lanowner, see photo below and map/plan 1(b)2).

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 grave sites or artefacts.

Should any archaeological sites be discovered, all work will be ceased and the area should be fenced off and the relevant specialist must be contacted in conjunction with SAHRA, and the appropriate steps will be taken to protect the identified resource.



GPS-Coordinates:

27° 26' 41,68"	S
25° 16' 22,24"	E

Palaeontology Theme was classified as being MEDIUM sensitivity. It is however not foreseen that there will be any such sites on the application area that the landowner may not be aware of any findings. **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.

17) **Sensitive Landscapes:**

Two natural pans are located on the 459.2268 hectares site. See surface water section (point 12) for more info regarding the location of the site. No prospecting could take place within such a sensitive landscape, all prospecting activities must be kept 100 meters horizontally away.

18) Visual Aspects:

These prospecting activities will be visible to the landowner (the applicant). The landowner's (also the applicant) farmstead is located within the application area. The site will not be visible from the major tourist route (R34) between Bloemhof and Schweizer-Reneke.

19) Socio-economics:

The proposed activity will employ **8 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 Bloemhof, which is located \pm 45.6 km away from the proposed operation.

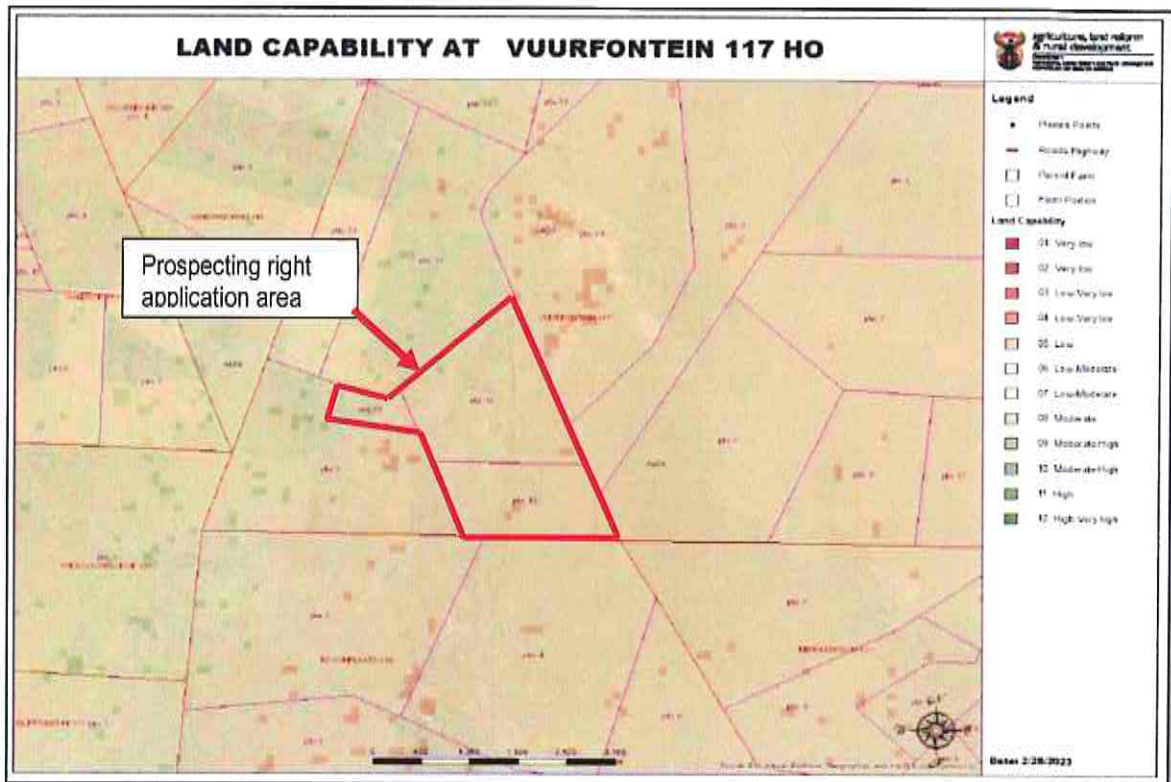
(a) Description of the current land uses.

The **current land use (agricultural)** is natural vegetation for **grazing by cattle**. There are also areas that were previously mined. The **grazing capacity is 7 ha per large stock unit (ha/ LSU)** (Source: National Agriculture Resource Atlas for South Africa).



- **Land capability:** According to the Natural Agricultural Resources Atlas of South Africa the **land capability could be described as low to moderate with regard to agriculture**. See map below with reference to prospecting right application area.

Figure 11: Land Capability



- (b) Description of specific environmental features and infrastructure on the site.

The application is over: **VUURFONTEIN 340 HO: Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3)**. This area consists of natural vegetation (grazing for cattle) and historical disturbed prospecting areas (rehabilitated and disturbed). **The focus area of prospecting activities will be mainly on the grazing areas for cattle. The natural pans will not be available for prospecting.**

All of the above infrastructure can be seen on the Infrastructure Plan – **Appendix 1: Map 1(b1 & b2)**. **The surrounding farms** are mostly utilized as cultivated field for cash crops and natural grazing and prospecting. The evidence of years of alluvial diamond prospecting can clearly be seen over these neighbouring areas. Access to farm will be from the R34 running between Bloemhof and Schweizer-Reneke and the P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road) in the North West Province of South Africa. See **Appendix 1: Map 1(b1 & b2)** for Infrastructure Plan of the application area.

According to the screening of environmental sensitivity of the proposed site it is indicated that **Agricultural Theme** was classified as being MEDIUM sensitivity. The prospecting activities will disturb **only 0.36 ha in total over 36 months** and should be regarded as a “**brownfields site**” as the site has been disturbed by agriculture activities (Grazing for cattle) and historic prospecting activities. No cultivation is taking place. Only grazing by cattle. Rehabilitation of the 0.36 ha site will return the site to some grazing capability for cattle. **The majority of the farm still continues with agricultural activity (grazing for cattle)(IV; marginal potential arable land) and is in no way hindered by the proposed activity and the environmental sensitivity for the 0.36 ha should be low.**

- (c) Environmental and current land use map.

Current land use on the application area is grazing over natural veld. This is privately owned land. See **Appendix 1: Map 1 C** for more detail.

v) Impacts and risks identified

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(h)(j) (g)(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 Scoping 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 during the Scoping Phase, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 7** on the next page.

[PJIC PRETORIUS & SEUN BOERDERY (Pty) Ltd. -- VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) -- NW 30/5/1/1/2/ 13643 PR]

Table 7: Impact significance identification matrix for – Vuurfontein 117 HO

PHASE	Activity, Product or Service	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				
1	Delineation of prospecting focus area.			L	L	L												
			M	H	H			M	H	H	H	L	L	M		L		M
2	Establishment (site preparation, vegetation clearance, topsoil removal and stockpiling) of proper access roads (upgrade existing roads), site workshop & storage area (temporary containers), mineral processing plant conveyor, mobile screen and 1 x 1½ feet washing pan, generator, etc.) initial vegetation clearance, topsoil removal & stockpiling next to first open cast/streams within the mine focus area.		M	H	H													
			M	M	H			M	H	M	M							
3	Establishment of bundled diesel and oil/chemical storage facilities, chemical toilets		M	M	H					M								
4	Provision of storage tanks for potable (drinking water) and process water (last suppressor)		H	H	H					L	M	M	H	H	H	M	L	
5	Provision of waste handling/posal facilities (domestic & industrial waste bins)			L						L	L	L						
6	Fencing-off active prospecting site in as required in terms of the MHEA. Ensure access control (gate), etc.				M										M			H+
7	Vegetation clearance, topsoil removal & stockpiling next to open cast/french within the mine focus area (0.36 ha of surface area disturbed at any given time).		M	H	H			M	H	L	L			H	L	M		H

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. -- VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/11/1/2/ 13643 PR)

PHASE	Components Impacts	ABIOTIC										BIOTIC				SOCIO-ECONOMIC		
		A	B	C	D	E	F	E	F	G	H	I	J	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	Affected parties	
8	Activity, Product or Service Mechanically excavating overburden with an excavator and stockpile separately from topsoil dump. Remove gravel with excavator and stockpile on side of trench into load onto trucks.	H	H+	H	H	H	L	M	L	L	H	L		L+		M	H	
9	Transport with trucks to mineral processing plant (conveyor, screen, 1 x 14 feet washing pans) for processing and sorting of concentrates at set intervals.			H	H		L	H	L	L	H			M+		M	H	
10	The wet waste tailings coming out of the pans will be pumped to open excavations & paired dams, from where excess water is re-cycled. Backfilling of excavations (as part of concurrent rehabilitation): the coarse gravel (roughly sized & from the pans will be transported back by front-end-loaders towards all open pits for backfilling.	M	H	H	H	H	H	M	L	L						M	H	
11	Final backfilling of all voids/intercept pits and sloping of overburden dumps (excess material as the result of 'sweet factor').	H+	H+	H+	H+	H+	H+	H+	L	L				L		H+	H+	
12	Compaction of backfilled sites		H+	H+	H+	H+	H+	H+	L	L						H+	H+	
13	Replace and spread all topsoil evenly over backfilled sites.		H+	H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+	
14	Establishment of vegetation cover.			H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+	
15	Removal of all temporary & demolition of all permanent structures (Section 44 of the MPPROA).			H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+	
16	Rehabilitation of all access roads, compacted areas, etc.			H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+	

vi) **Methodology used in determining the significance of environmental impacts**

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(h) (g)(vi)

I. **Introduction:**

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

IMPACT ASSESSMENT

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

ACTIVITIES:

3. Access Roads (Existing farm roads to be upgraded)
4. Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings
5. Prospecting equipment (conveyor, drum screen, 1 x 14 feet washing pan, generator)
6. Stockpiles
7. Overburden dumps
8. Opencast and test pits & trenches (as part of bulk sampling)
9. Tailings dam (porrel dam)

II. **Environmental Impact Assessment Summary:**

- **Environment likely to be affected by the prospecting operation. - see Appendix 1: Map 1(b) 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 (Only 0,36 ha will be effected over a 36 months period in total)		
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 will not be a totally new land use over the application area as there is an existing mining permit area on the north-eastern boundary. The site that is earmarked for prospecting represents ± 0.07 % of the total area applied for. And it is further not foreseen that prospecting activities would disturbed an area of not more than 0.36 ha at any given time. The rest of the terrain would continue to be used for agriculture purposes by the landowner.
- **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 Bloemhof 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.

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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.

III. 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 opencast prospecting operation. During operation which will be for the next 36 months, the mineral resource (<i>Alluvial Diamonds</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	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
2. TOPOGRAPHY					
Nature of the impact	<p>* Change in landform :</p> <p>* The prospecting site is situated over <u>level plains with some relief</u>.</p> <p>* Disturbance of the surface drainage:</p> <p>The prospecting of the (<i>Alluvial Diamonds</i>) deposits will result in the creation of 100 test pits (3m x 2m x ± 2.5 m deep) during Phase 2, and 10 trenches (10 m x 30 m x ±2.5 m or less) during Phase 3, that act as depressions in the environment that captures run-off. Prospecting activities will be concentrated as indicated on Figure 5 on the application area (approximately 2.5 m depth).</p> <p>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).</p>				
Extent	Site				Activity causing the impact
Duration	Short				Bulk sampling through trenches, etc.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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 In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.
Duration	Long				
Probability	High				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

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</i>) deposits could be found. In the same time a certain surface area is therefore alienated. The active prospecting surface area (alienated) would be restricted within the 0.36 ha (in relation to area of application of the prospecting right of 459.2268 hectares) for the next 36 months.				
Extent	Site				Activity causing the impact Site preparation for additional prospecting sites and the construction, operation of listed infrastructure.
Duration	Short				
Probability	High				
Significance	Moderate				
Phase responsible for the impact	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 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
Duration	Very short				
Probability	Very low				
Significance	Low				
Phase responsible for the impact	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 Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.
Duration	Long				
Probability	Moderate				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

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. The small area where the active prospecting activities occur (trenches, tailings dumps, stock piles, prospecting equipment) etc. will thus be temporary alienated, until the area is rehabilitated.</p> <p>All trenches would be rehabilitated as part of the prospecting process during which trenches are back-filled.</p> <p>If the old areas be re-worked this will make more land available for grazing. 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
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 (although there is an existing mining permit over the north-eastern boundary) and therefore the land use to support grazing on a certain portion of the 459.2268 hectares during the next 36 months will be lost. Only a small portions of land (0.36 ha) would be affected by the prospecting operation relation to the total prospecting right application area of 459.2268 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		

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

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
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

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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)
Probability	Low				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	Animals will probably only move back when human movement is
	X	X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
8.1 SURFACE WATER					
Nature of the impact	<p><u>Increased silt load</u> 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).</p>				
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	<p><u>Change in surface water quality</u> Spillages from vehicles and also surface water run-off that is not adequately diverted away from the active prospecting excavations could end-up in the excavations creating problems regarding water quality and hindering the prospecting process. Surface run-off from active prospecting sites (overburden dumps & tailings dam/dump) if not adequately contained on site could end-up in the adjacent undisturbed natural veld. If the natural surface run-off is not adequately diverted in the case of the dry-water course area, prospecting sections it could become silted-up.</p>				
Extent	Local				Activity causing the impact
Duration	Short				"Dirty / Clean" water systems at facilities like the overburden dumps, roads, trenches, etc. may impact on the quality of the surface water. The water should be contained in the
Probability	Moderate				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X		

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
8.3 SURFACE WATER									
Nature of the impact	<u>Change in surface water quantity:</u> This application area falls within the water management area of the <u>Lower Vaai (10) and secondary catchment area C91 and tertiary drainage region C91A (Surface area 360 km²).</u> It is not expected that this 0,36 ha prospecting sites will have any effect on the surface run-off in the drainage catchment area (C91A). Two natural pans (drainage landscape features) are found on the prospecting area. <u>No prospecting could take place within 100m from such sensitive landscape/ water body = pans.</u> Standing water in pits & trenches could as the result of rain/ surface run-off ending up in shallow depressions. All prospecting activities should be kept 100 meter horizontally away from this surface water body.								
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	<table border="1"> <thead> <tr> <th>Phase 1</th> <th>Phase 2</th> <th>Phase 3</th> <th>Closure</th> </tr> </thead> <tbody> <tr> <td align="center">X</td> <td align="center">X</td> <td align="center">X</td> <td></td> </tr> </tbody> </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							
8.4 SURFACE WATER									
Nature of the impact	<u>Surface Water Quantity Use</u> No surface water abstraction will take place. No stream flowing in the area.								
Extent	Site	Activity causing the impact							
Duration	Short	Opencast prospecting operation.							
Probability	Low								
Significance	High								
Phase responsible for the impact	<table border="1"> <thead> <tr> <th>Phase 1</th> <th>Phase 2</th> <th>Phase 3</th> <th>Closure</th> </tr> </thead> <tbody> <tr> <td align="center">X</td> <td align="center">X</td> <td align="center">X</td> <td align="center">X</td> </tr> </tbody> </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"> <thead> <tr> <th>Phase 1</th> <th>Phase 2</th> <th>Phase 3</th> <th>Closure</th> </tr> </thead> <tbody> <tr> <td align="center">X</td> <td align="center">X</td> <td align="center">X</td> <td align="center">X</td> </tr> </tbody> </table>		Phase 1	Phase 2	Phase 3	Closure	X	X	X
Phase 1	Phase 2	Phase 3	Closure						
X	X	X	X						

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

ASPECT	IMPACTS				CUMULATIVE IMPACTS
9.2 GROUND WATER					
Nature of the impact	Water supply will be from a borehole with pipe/tanker to the site for prospecting use. The applicant intends TO USE WATER from a BOREHOLE/S located on the farm or water from his adjacent farm property. Water uses will be 2'000 litres a day for the primary processing in the bulk sampling phase.				
Extent	Site				Activity causing the impact
Duration	Short				Opencast prospecting operation.
Probability	Low				
Significance	High				
Phase responsible for the impact	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 with regard to infrastructure (roads) that involves earth moving equipment. During the phase 2 & 3, dust could be generated as indicated during
Probability	Moderate				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

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 located 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. Old 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			

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

ASPECT	IMPACTS	CUMULATIVE IMPACTS
13. SENSITIVE LANDSCAPE		
Nature of the impact	All prospecting activities must be kept 100 m horizontally away from any wetland, stream or pan.	
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 landowner (applicant), neighbour and NO people traveling on the R34 road.	
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	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
15. SOCIO ECONOMICS		
Nature of the impact	Increase in Socio – economic activity at local level. The project in itself would ensure that approximately 8 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 Bloemhof district. Once all prospecting operations have ceased it would definitely have a negative impact.	The increase in socio-economic activity will add to the current growth and development in Bloemhof 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	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 0.36 ha that will not be available for agricultural activities over a period of 36 months.	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	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 small prospecting focus areas (0.36 ha) 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	Phase 1	Phase 2	Phase 3	Closure	
	X	X	X	X	

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. 328 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(h) (g)(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 (*Alluvial Diamonds gravels*). The no-go option entails the continuation of the current land use (grazing for cattle) 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.

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 2 – 2. (1)(h) (g)(viii)

There were no issues raised by any interested or affected parties or any one that was consulted. Up till now no comments were received from the State Departments, if comments still be received it will be addressed in the EIA.

The mitigation measures and technical management action plans which address potential impacts are discussed below:

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> No mitigation exists except to backfill the excavations (pits & trenches) with the rock waste material and fine tailings. As prospecting progressed and the excavation has 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</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. Cognisance should be taken of the fact that bulk sampling would take place by means of an opencast prospecting method until such level is reach / cut-off point is reach where rehabilitation could begin. Care must be taken that the removal of (Alluvial Diamonds) deposits by means of earthmoving equipment is restricted to what is really 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 & trenches should be back-filled with waste tailings material and eventually overburden material, covered with a shallow layer of topsoil (if available). Access to all active bulk sampling excavation areas should be controlled. The active bulk sampling area should be fenced off. The necessary warning signs should be put in place. All prospecting activities should be restricted to the fenced-off area. Surface run-off control should be put in place at active trenches (preventing water from entering) and also rehabilitated tailings dumps and overburden dumps in order 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 really necessary). As part of the PWP the handling of tailings material, overburden material, construction of dumps and back-filling of trenches should also form part of it. 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 trenches 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 really 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 (demarkated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (exiting 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. Re-vegetation of exposed soil surfaces (man-made surfaces on tailings dumps , overburden dumps, disturb surfaces in excavated sites, roads, etc.) 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 in order 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. The soil on the rehabilitated area must be analysed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility, if necessary. Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized. Do not use stockpiled soil for any other purpose but for rehabilitation. Do not use topsoil to construct roads. Ensure the rehabilitation plan makes provision for fertiliser. Make sure rehabilitated topsoil is analyzed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The soil must be fertile enough to sustain vegetation.	

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 exposed surfaces, tailings dumps, etc.).	

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 reseeding 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 and keep contaminated water contained. Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil. 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, etc).</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 from the site and keep (silt) contaminated water contained.</p> <p>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	
<p>In the case of the use of borehole water: Reduction of groundwater quantity, lowering of groundwater level: Water levels in the boreholes that are used for prospecting activities should be recorded monthly.</p> <p>Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction.</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	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 and the trucks are operating).</p> <p>Daily spraying of roads with water. Inspection should be done on a daily basis.</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	
Dust count must be the same as before prospecting. Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.	

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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 and trucks would be utilized for rehabilitation.	

Environmental Component	Archaeological and Cultural Sites
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Some old graves have been identified on site (portion 15). All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts. No activities should take place 20 m from the site. The site needs to be fenced off. It is advised that SAHRA and a qualified archaeologist are informed immediately if any archaeological objects are uncovered.	
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 permit from SAHRA has been issued.	

Environmental Component	Sensitive Landscapes
Environmental Management/Mitigation Measures/Action Plans/Commitments	
All prospecting activities must be kept 100 meters horizontally away from any stream, pan (3 pans occur on site, Portion 11) , etc.	
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 temporary building, scrap, 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. Active prospecting site should be fenced off and also any deep water holes. 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.</p> <p>No prospecting should be conducted under or near any 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.	

ix) The outcome of the site selection Matrix. Final Site Layout Plan

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(h) (g)(ix)

As this is a prospecting operation of the whole of the **application area (459.2268 ha)** will have to be geologically surveyed in order to determine where economical viable prospecting sites could be located. It will also not be a static operation as the whole area will eventually be sampled and analysed.

x) Motivation where no alternative sites were considered

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(h) (g)(x)

Alternative is not applicable. The current land use is agriculture (mainly natural grassveld for grazing by cattle). The option to explore the possibility for prospecting is not an alternative land use, as previous prospecting/prospecting has already taken place over certain areas. The applicant, **PJC PRETORIUS & SEUN BOERDERY (PTY) LTD.**, is not interested in any other alternative land use over this land aside for exploration of the said minerals, or any other activity, or method use other than prospecting 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.

xi) Statement motivating the preferred site.

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(h) (g)(xi)

The prospecting operation will not be a static operation, the mobile plant will move as prospecting progress, thus the whole application is to determine a potential site for when the prospecting phase is being reached. The feasibility of prospecting the alluvial gravel diamond material from an environmental, social and economic perspective also plays a role.

(i) Plan of study for the Environmental Impact Assessment process

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

i. Description of alternatives to be considered including the option of not going ahead with the activity

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

Alternative is not applicable. For this specific project, no alternatives have been investigated. The activities included in this application are determined by the location of the mineral reserves in the study area, and the proposed prospecting method to be employed as was assessed. The current land use is agricultural and is being utilized as grazing for cattle at present by the landowner (also the applicant).

The option to explore the possibility for prospecting is not an alternative land use as previous prospecting has already taken place over some areas. The applicant, **PCJ PRETORIUS & SEUN BOERDERY (PTY) LTD.**, is not interested in any other alternative land use over this land aside of diamonds exploration, or any other activity, or method use other than prospecting for diamonds in the conventional way, which is the most cost effective.

The No-Go option entails the continuation the **current land use (grazing of cattle)** on the application area without exploiting the mineral reserves. The prospecting activities will contribute towards the achievement of providing employment opportunities for members of the surrounding communities, thus aiding socio-economic development. Should the project therefore not be authorized to proceed, the current **employment opportunities (8) (manager included)** will be terminated. Therefore, the No-Go alternative is not a feasible option in this case, as it suggests that the mineral reserves should not be exploited and current employment opportunities should not be prolonged. Alternative is not applicable for the application area. The current land use is agricultural and is being utilized as mainly natural grazing for cattle by the landowner.

ii. **Description of the aspects to be assessed as part of the environmental impact assessment process**

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

The aspects that will be assessed as part of the proposed project and its area include:

- Geology
- Soil Erosion
- Rehabilitation of previously disturbed areas
- Fauna [Wildlife/Wildlife habitat destruction]
- Changes to surface water quality
- Dust
- Noise
- Archaeological/Cultural Sites

Geology:

Alluvial Diamond deposits will be destroyed during the opencast prospecting operation. During operation which will be for the next 42 months, the mineral resource (Alluvial Diamonds) will be extracted from gravel deposits. Waste rock material/overburden material is disposed off/backfilled in excavations as part of the backfilling process.

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. Temporary loss of land capability to support grazing for cattle. The **small area (0.36 ha)** where the active prospecting activities occur (trenches, tailings dumps, stock piles, prospecting equipment) etc. will thus be temporary alienated, until the area is rehabilitated. All trenches would be rehabilitated as part of the prospecting process during which trenches are back-filled. The rest of the application area will still be used by the landowner as agricultural land.

Rehabilitation:

This is a new prospecting operation and therefore will lose its land use to support grazing on a certain portion of the **459.2268 hectares during the next 36 months. Only a small portion of land (0.36 ha = 0.07% of the application area) would be affected by the prospecting operation relation to the total prospecting right application area of 459.2268 hectares.** All pits & trenches would be rehabilitated as part of the prospecting process during which excavations are back-filled.

Wildlife or wildlife habitat destruction/change / disturbance:

Increase 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).

Change in surface water quality:

Spillages from vehicles and also surface water run-off that is not adequately diverted away from the active prospecting excavations could end-up in the excavations creating problems regarding water quality and hindering the prospecting process.

Surface run-off from active prospecting sites (overburden dumps & tailings dam/dump) if not adequately contained on site could end-up in the adjacent undisturbed natural veld.

If the natural surface run-off is not adequately diverted in the case of the **prospecting** sites it could become silted-up.

Dust:

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.

Noise:

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). The mine itself is located 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.

Archaeological/Cultural Sites:

The terrain is not archaeologically vulnerable. It is unlikely that the proposed development will result in any significant archaeological impact at the site.

iii. Description of aspects to be assessed by specialists

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(f)(h)(a)(iii)

As this is only a prospecting application and pan surface area should be treated as a sensitive areas, all prospecting activities will be kept 100 metres horizontally away from this surface water body (2 natural pans located on portion 11). No heritage areas of significance were noted on the application area there will be no specialist studies. All impacts noted will be mitigated.

iv. Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(f)(h)(a)(iv)

A thorough foot survey and site inspection was done by the EAP and further visit will be done before compiling the EIA. Each aspect was then assessed individually with the 25 year experience of the EAP.

v. The proposed method of assessing duration significance

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(f)(h)(a)(v)

The assessing of the duration is done on hand of the different phases as described in the Prospecting Works Program (PWP) which is also described under **Point ii) h)**. The significance is assessed form experience and from the actual situation on the specific site. Please see **Point vi)** for detail.

vi. The stages at which the competent authority will be consulted

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)(f)(h)(a)(vi)

Consultation with all competent authorities will be done. The Scoping Report will be send to them from the office of the EAP.

vii. Particulars of the public participation process with regard to the Impact Assessment process that will be conducted

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

1. Steps to be taken to notify interested and affected parties.
The landowner, as well as the competent authorities will be consulted. Please see **Table 4** for more detail on public participation process.
2. Details of the engagement process to be followed.
The process as described by NEMA for Environmental Authorization was followed. See **Table 5** for the identification of Interested and Affected Parties to be consulted with. The landowner (current landowner still Mrs M Bornman, but land was sold to PJC Pretorius & Sens (Pty) Ltd – they are still awaiting registration) 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 farm Vuurfontein. 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 February 2023 to notify the general public about the application and scoping process that is under way and to give chance for comments or objections. See proof of consultation under **Appendix 2**. A site meeting had been held on the 28th of February 2023. A copy of the Scoping Report was sent to all the State Departments. The Public Participation process is still on-going and the documents will be updated as more feedback is received back. See proof of consultation under **Appendix 2**.
3. Description of the information to be provided to Interested and Affected Parties.
A copy of the map, and Prospecting Works Programme (PWP) and draft Scoping Report will be handed to the landowner. A copy of the Scoping Report was sent to the State Departments.

viii. Description of the tasks that will be undertaken during the environmental impact assessment process

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

Site inspection by foot survey, discussions with applicant and landowner as well as discussions with competent authorities where necessary. Completion of the EIA template.

- ix. Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

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

This will be kept in mind with the site inspection where each impact will again be evaluated and the mitigation and management thereof will be confirmed on site. The risk of each impact will be evaluated and if any residual risks the management thereof.

The mitigation measures and technical management action plans which address potential impacts are discussed below:

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> No mitigation exists except to backfill the excavations with the rock waste material and fine tailings (puddle). As prospecting progressed and the excavation has 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 (Alluvial Diamonds) 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. Cognisance should be taken of the fact that bulk sampling would take place by means of an opencast prospecting method until such level is reach / cut-off point is reach where rehabilitation could begin. Care must be taken that the removal of (Alluvial Diamonds) deposits by means of earthmoving equipment is restricted to what is really necessary to achieve the objective. 	
Rehabilitation/ Closure:	
<ul style="list-style-type: none"> * Concurrent backfilling of the excavations (pits and trenches) with the rock waste material (overburden) and fine tailings (puddle). * The impact will be mitigated by backfilling and sloping the sides of the excavation and stabilizing the soil to prevent soil erosion. * The side of pit will be sloped and the soil stabilized to prevent erosion. * Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape. 	
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 trenches should be back-filled with waste tailings (puddle) material and eventually overburden material, covered with a shallow layer of topsoil (if available). Access to all active bulk sampling excavation areas should be controlled. The active bulk sampling area should be fenced off. The necessary warning signs should be put in place. All prospecting activities should be restricted to the fenced-off area. Surface run-off control should be put in place at active trenches (preventing water from entering) and also overburden dumps in order 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 really necessary). As part of the PWP the handling of tailings material (puddle), overburden material, construction of dumps and back-filling of trenches should also form part of it.</p>	
Rehabilitation/ Closure:	
<ul style="list-style-type: none"> All trenches should be back-filled with waste tailings (puddle) material and eventually overburden material, covered with a shallow layer of topsoil (if available). 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). 	

Closure Objective
Rehabilitation of the new 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 trenches or construction of infrastructure should be preceded by the removal of <u>all available topsoil (Hutton form)</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 really 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 kept next to open excavations for easy backfilling and rehabilitation.</p>	
Rehabilitation/ Closure:	
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 (exiting 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.</p>	
Rehabilitation/ Closure:	
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.	
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>	
Rehabilitation/ Closure:	
<p>Re-vegetation of exposed soil surfaces (man-made surfaces such as tamps overburden dumps, disturb surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.</p>	
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. 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>	
Rehabilitation/ Closure:	
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 in order to enhance the natural occurring soil microbial activity).	
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.</p>	
Rehabilitation/ Closure:	
The soil must also be compacted as backfilling is done. Use organic material e.g. manure to restore the soil structure during rehabilitation (if available). Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation.	
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. The soil on the rehabilitated area must be analysed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility, if necessary. Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized. Do not use stockpiled soil for any other purpose but for rehabilitation. Do not use topsoil to construct roads. Ensure the rehabilitation plan makes provision for fertiliser. Make sure rehabilitated topsoil is analyzed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation.</p>	
Rehabilitation/ Closure:	
See above section: Soil fertility : Environmental Management/Mitigation Measures/Action Plans/Commitments	
Closure Objective	
The soil must be fertile enough to sustain vegetation.	

Environmental Component	Land Capability
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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.	
Rehabilitation/ Closure:	
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.	
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	
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.	
Rehabilitation/ Closure:	
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.	
Closure Objective	
The opencast prospecting 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	
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.	
Rehabilitation/ Closure:	
Replace the vegetation by reseeding of grasses and natural growth.	
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 exposed surfaces, tailings dumps, etc.).	

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Habitat change, loss of species, spread of alien and invasive species: No mitigation exists except to replace the vegetation by reseeding 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. An invasive and alien control programme must be implemented by the mine.</p>	
Rehabilitation/ Closure:	
<p>Replace the vegetation by reseeding of grasses and natural growth. Habitat change, loss of species, spread of alien and invasive species: No mitigation exists except to replace the vegetation by reseeding 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. <i>Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species.</i> 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.</p>	
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	
<p>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.</p>	
Rehabilitation/ Closure:	
No excessive dust must be present during the normal growth season after closure.	
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	
<p>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.</p>	
Rehabilitation/ Closure:	
Restoration of habitat: Ensure the rehabilitation plan is implemented	
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: Keep incidence register on killings and disturbances.	
Rehabilitation/ Closure:	
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	
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	
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.	
Rehabilitation/ Closure:	
All staff must undergo basic environmental awareness lecture (rehabilitation) during induction training.	
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	
Change in surface water quality: Storm water control measures must be implemented to divert clean water away from the active prospecting site and keep contaminated water contained. Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil. Vegetation disturbance must be as little as possible. All domestic waste must be collected in bins and taken off site to Wolmaransstad licensed waste disposal site. All used oils and filters must be collected and responsibly recycled. 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.	
Rehabilitation/ Closure:	
Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil. 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. Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.	
Closure Objective	
The post closure water run-off may in no circumstance impact negatively on the water quality.	

[PJC PRETORIUS & SEUN BOERDERY (Pty) Ltd. – VUURFONTEIN 117 HO (Portion 11 (portion of portion 3) & Portion 15 (portion of portion 3) – NW 30/5/1/1/2/ 13643 PR]

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. All prospecting activities must be kept 100 meters horizontally away from any surface water body (pans, etc.).</p>	
Rehabilitation/ Closure:	
<p>Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil. 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. Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan. Final rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources.</p>	
Closure Objective	
<p>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.</p>	

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 from the site and keep (silt) contaminated water contained. 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. 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. 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 car and the workshop area). An incidence register for this purpose must be kept. Drip trays must be available and used where emergency repairs is done. All waste must be stored according to best practices and disposed at an authorized waste disposal facility.</p>	
Rehabilitation/ Closure:	
<p>All oil spills on soil to be removed and bio-remediate immediately. All waste must be stored according to best practices and disposed at an authorized waste disposal facility.</p>	
Closure Objective	
<p>Post water quality need to indicate a positive trend/improvement.</p>	

Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Reduction of groundwater quantity, lowering of groundwater level: Water levels in the borehole/s that are used for prospecting activities should be recorded monthly. Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction. Water will be supplied via a tanker.</p>	
Rehabilitation/ Closure:	
<p>Post water quality need to indicate a positive trend/improvement</p>	
Closure Objective	
<p>Post water quality need to indicate a positive trend/improvement.</p>	

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 and the trucks are operating). Daily spraying of roads with water. Inspection should be done on a daily basis. If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.</p>	
Rehabilitation/ Closure:	
Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.	
Closure Objective	
Dust count must be the same as before prospecting. Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.	

Environmental Component	Noise
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>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.</p>	
Rehabilitation/ Closure:	
During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation.	
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 and trucks would be utilized for rehabilitation.	


Environmental Component	Archaeological and Cultural Sites
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Graveyard found on site: The site needs to be fence-off. All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts. No activities should take place 20 m from the site. The area are however identify as being high sensitive. 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.</p>	
Rehabilitation/ Closure:	
A 20m buffer zone must be marked around any graveyard in order to avoid potential damage during prospecting activities	
Closure Objective	
No site of archaeological importance should be disturbed or damaged until the necessary permit from SAHRA has been issued.	

Environmental Component	Sensitive Landscapes
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Pans: All prospecting activities must be kept 100 meters horizontally away from it.	
Rehabilitation/ Closure:	
No impact = no rehabilitation necessary	
Closure Objective	
No surface water bodies, its flow or stream areas must be disturbed during the prospecting activities.	


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; re-establish vegetation cover as soon as possible after closure of excavations * removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. Concurrent rehabilitation should be done simultaneously as prospecting activities progress.	
Rehabilitation/ Closure:	
Visual impact would be addressed by means of; * re-vegetation of disturbed areas with grasses; re-establish vegetation cover as soon as possible after closure of excavations. * removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. Concurrent rehabilitation should be done simultaneously as prospecting activities progress.	
Closure Objective	
No residual visual impacts will remain after closure. The terrain should blend in with the surrounding landscape.	

h) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(j)(i), [(k)](i), [(l)](k), [(m)](i)

<p>UNDERTAKING</p> <p>I, <u>H.M. Erasmus</u>, the undersigned and duly authorised thereto by</p> <p><u>DERA Omgewingskonsultante (PTY) Ltd</u> hereby confirms:</p> <ul style="list-style-type: none"> ✓ 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. <p>Signed at <u>Klerksdorp</u> on this day <u>22nd February 2023</u></p> <p></p> <p>Signature of EAP</p>
--

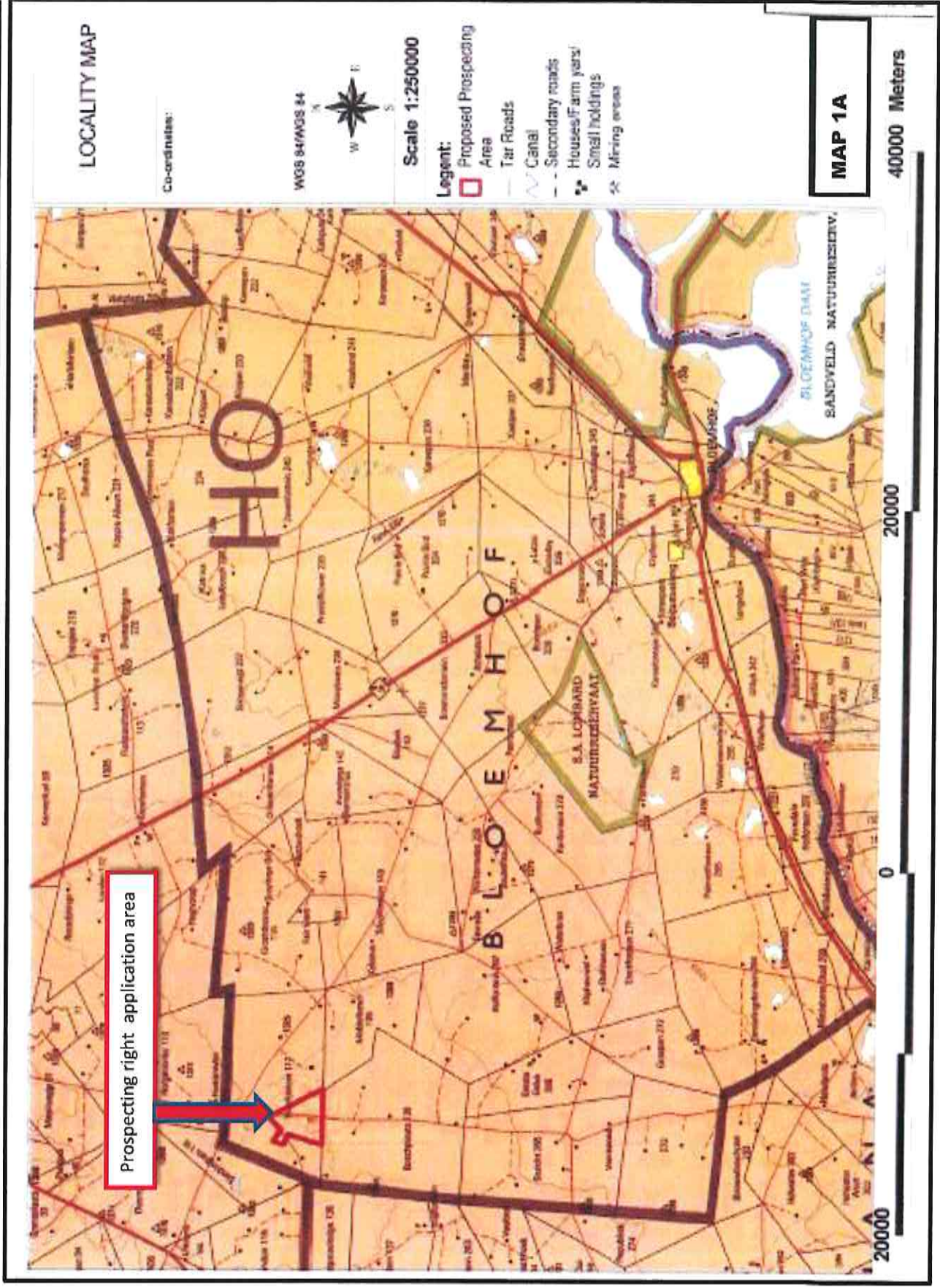
-END-



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
Reference/Verwysing: 9/1/8/2 Klerksdorp

MAPS: ANNEXURE 1

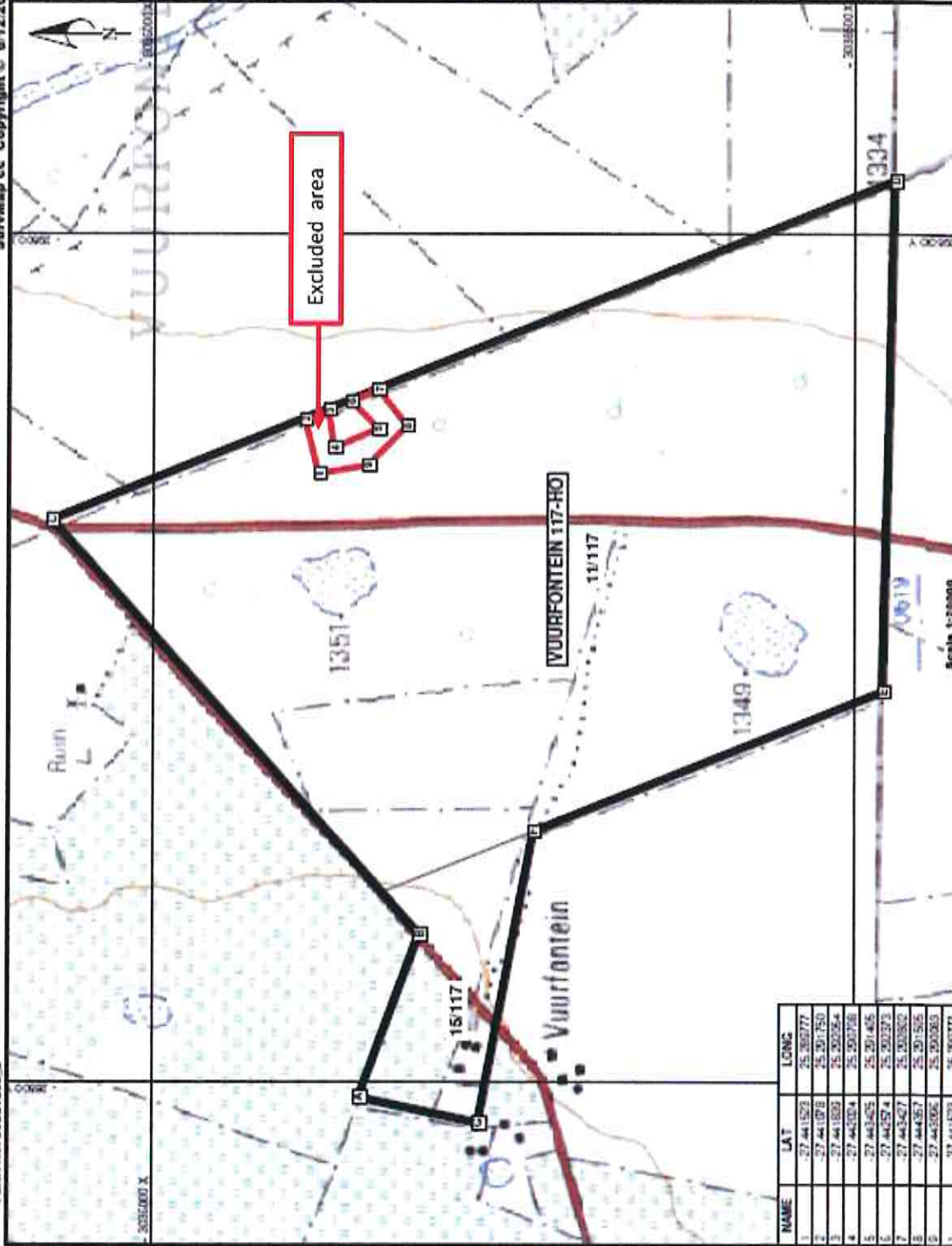
General location of Prospecting right application area (459, 2268 ha)



SURFACE INFRASTRUCTURE MAP/PLAN

PLAN No. 20221206_2

SurvMap cc Copyright © 6/12/2022



NAME	LAT	LONG
1	-27 44 1523	25 30 0777
2	-27 44 1078	25 30 1750
3	-27 44 1003	25 30 2584
4	-27 44 0304	25 30 3708
5	-27 44 0425	25 30 1465
6	-27 44 0574	25 30 0373
7	-27 44 0427	25 30 0302
8	-27 44 0367	25 30 1506
9	-27 44 0306	25 30 0303
10	-27 44 1523	25 30 0777

The FIGURE is used (A, B, C, D, E, F, G, A) EXCLUDING FIGURE (1, 2, 3, 4, 5, 6, 7, 8, 9) approximately 459,2368 ha in extent, applicable to a PROSPECTING RIGHT over PORTION 11 (portion of portion 3) of the farm VUURFONTEIN 117-HO, situated in the BLOEMHOF DISTRICT, NORTH-WEST PROVINCE, granted in terms of Section 16 of the Mineral and Petroleum Resources Development Act, No. 28 of 2002.

to P.J.C. Pretorius & Seun Boordery (Pty) Ltd. (2003/017010/07)

OFFICIAL PURPOSES
 DMR REF. NO.: NR 2055132
 PR

SurvMap cc
 Survey & Mapping
 Engineering Survey

REG. No.: 086205
 74 Pijn Stree
 FLOERNAVE
 TEL.: 012 267 2862
 FAX: 012 267 4782

DATE: _____
 APPLICANT: _____
 DATE: _____

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

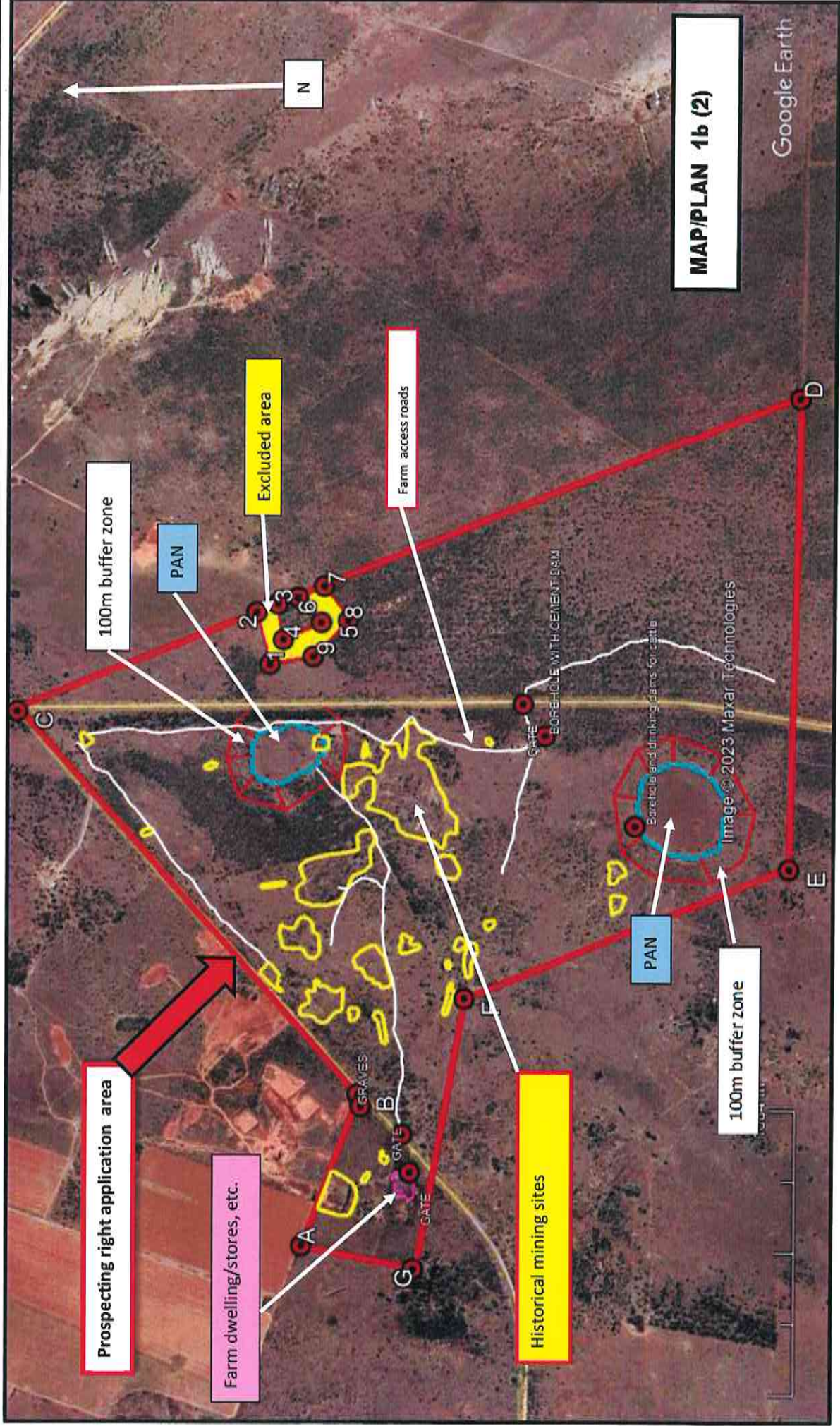
NAME	Y	X
A	-26444.15	30367.33 20
B	-27020.06	30362.46 75
C	-26466.53	30366.40 72
D	-26689.23	30385.41 00
E	-27076.88	30385.94
F	-27383.07	30373.65 00
G	-26353.82	30373.65 00
A	-26444.15	30367.33 20
A	-27 44 0303	25 30 1462
B	-27 44 4815	25 27 2312
C	-27 45 0302	25 30 0114
D	-27 45 0301	25 30 0353
E	-27 45 0300	25 28 2206
F	-27 44 6474	25 27 0903
G	-27 44 6725	25 26 5277
A	-27 44 0303	25 30 1462

EXCLUDED MINING PERMIT AREA

1	-26448.67	30365.97 52
2	-26544.84	30365.36 67
3	-26073.71	30362.03 07
4	-26740.52	30362.43 25
5	-26008.13	30367.38 63
6	-26005.05	30367.04 59
7	-26047.34	30367.38 71
8	-26018.78	30367.01 96
9	-26076.52	30367.61 20
10	-26448.67	30365.97 52

MAP/PLAN 1b (1)

SURFACE INFRASTRUCTURE PLAN (Google satellite image)



LAND USE COMPOSITE MAP

