



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

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

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: **DAJA SILICA (Pty) Ltd.**

TEL NO: **078 409 0764**

FAX NO: -

POSTAL ADDRESS: **Postnet #102, Private Bag X2004, Sasolburg 1947**

FILE REFERENCE NUMBER SAMRAD: **FS 30/5/1/2/2/ 10074 MR**

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a mining or mining right if among others the mining "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 (maiden name Claase) 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** & **Figure 2** for copies of his qualifications and CV.

Figure 1: Copy of Qualification

TECHNIKON PRETORIA



**NASIONALE NATIONAL
DIPLOMA**

LANDBOU: HULPBRONBENUTTING AGRICULTURE: RESOURCE UTILISATION


Toegeken aan Awarded to


HESTER MAGDALENA CLAASE

95057691 1975-04-03

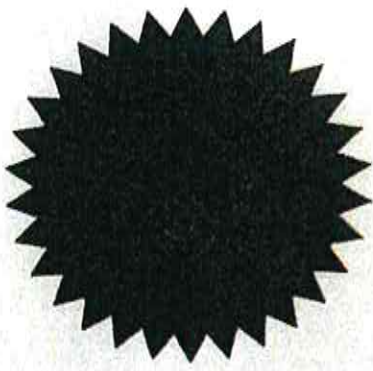
met ingang van with effect from

1998-01-01


Registrateur (Akademies)
Registrar (Academic)

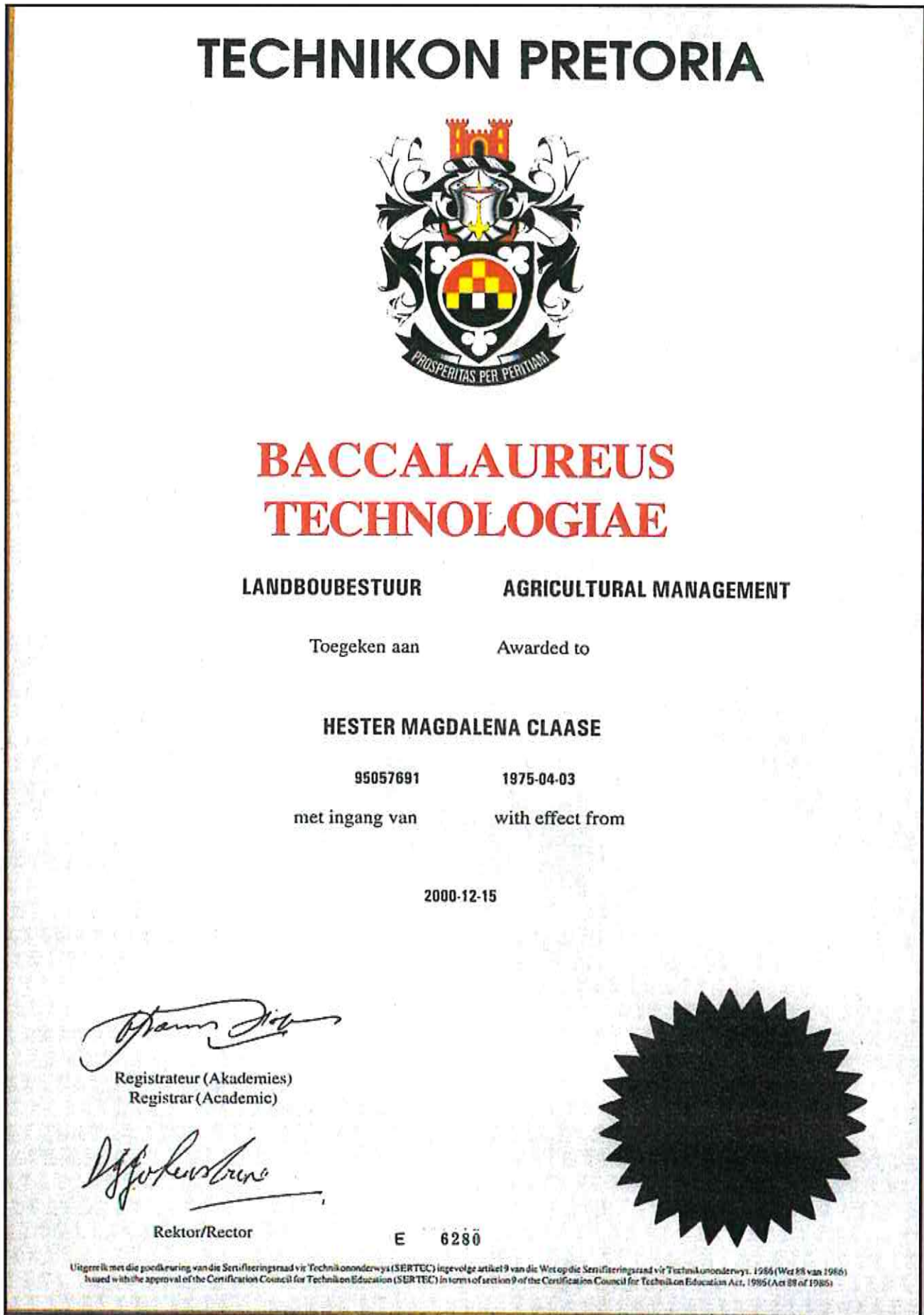

Rektor/Rector

No.
N^o 30054



Uitgereik met die goedkeuring van die Sertifiseringsraad vir Technikononderwys (SERTTEC) in gevolge artikel 9 van die Wet op die Sertifiseringsraad vir Technikononderwys, 1986 (Wet 88 van 1986)
Issued with the approval of the Certification Council for Technikon Education (SERTTEC) in terms of section 9 of the Certification Council for Technikon Education Act, 1986 (Act 88 of 1986)

Figure 2




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

HM (Esna) Erasmus is an environmental practitioner with 24 years' experience in Agricultural and Mining Management and Science. Experience in the field of inspection and evaluation of Environmental Impact Assessment in Free State. Since 1998 involvement in mining activities with Department of Minerals and Energy in the Free State 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 Free State Province. A member of the Slimes Dam Core Committee of Free State 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 Free State. 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

SKILLS

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

ABOUT ME

Environmental practitioner with 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.

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. Management of personnel and personnel related matters. 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. Evaluation of EMPR's and EIA's. 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. Monitoring work to evaluated compliance to environmental legislation; evaluating outstanding rehabilitation liabilities for mining companies. Risk assessment and applications for closure certificates. Compile EMPR/EIA for Mining Rights and compilation of EMPlan's for Prospecting and Mining Right applications. Compile BAR & EMPR's in support of applications for listed activities under NEMA such as Chicken Broilers, Feed lots, Fuel Storage, ect. Manages consultation between Departments and applicants.</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.
- Hartzler & Steyn Beleggers (Zwartplaat) - was done as part of Mining Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Bethlehem Sand en Klip CC (Killarney) - was done as part of Mining Right Application, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- KMF Agro Processing (Pty) Ltd (Rietfontein) - was done as part of an Environmental Authorization for a listed activity, for the construction of Chicken slaughter facility, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Summit Ridge (Graslaagte) - was done as part of an Environmental Authorization for a listed activity for feed mill for chicken feed, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.

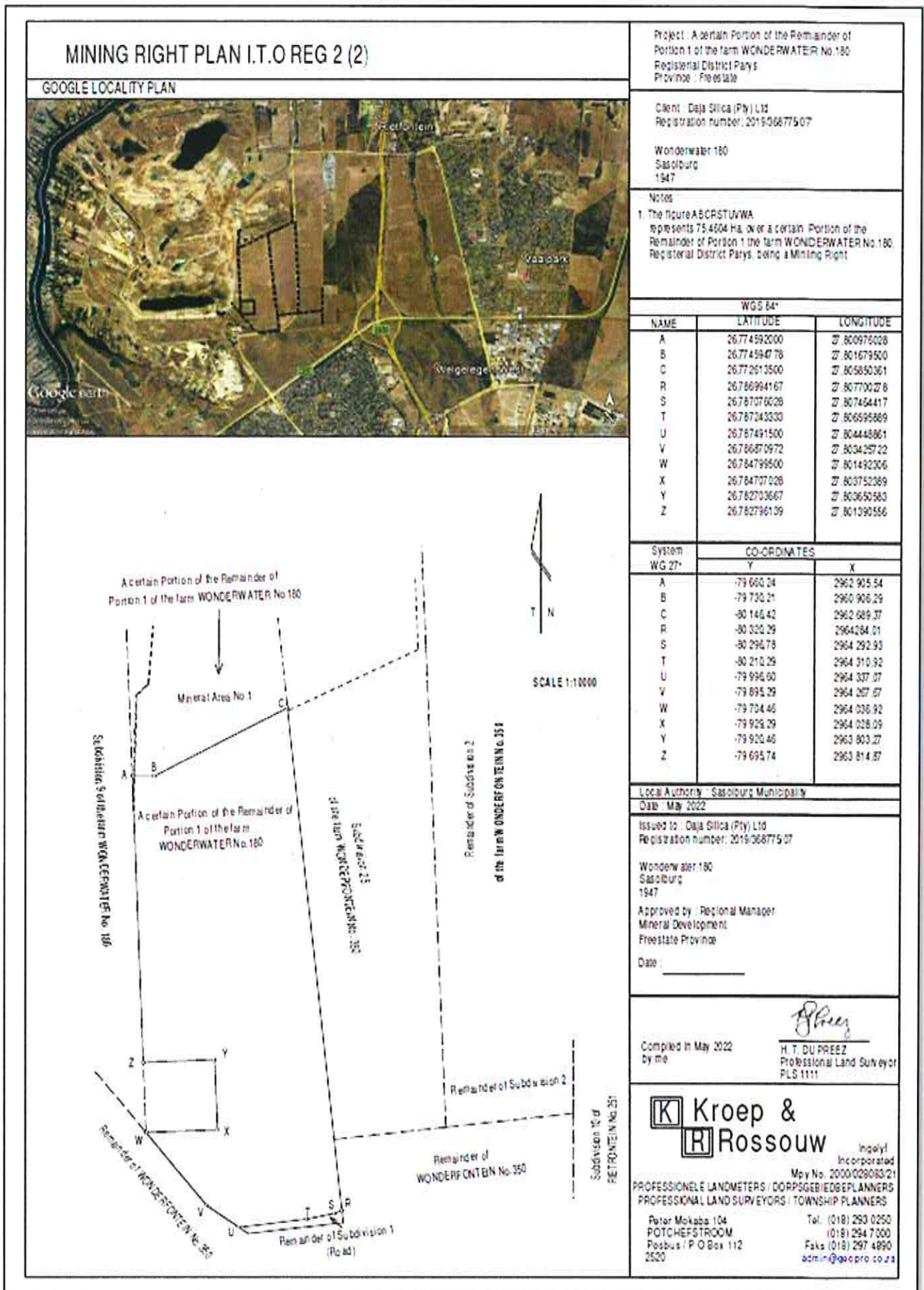
b) LOCATION OF THE ACTIVITY

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	F0250000000018000001																																						
(ii) Farm Name:	WONDERWATER 180 ➤ (a certain portion of the Remainder of Portion 1)																																						
(iii) Coordinates - Co-ordinates List WG 27°	WGS 84°																																						
	<table border="1"> <thead> <tr> <th>NAME</th> <th>LATITUDE</th> <th>LONGITUDE</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>26,774592000</td> <td>27,800976028</td> </tr> <tr> <td>B</td> <td>26,774594778</td> <td>27,801679500</td> </tr> <tr> <td>C</td> <td>26,772613500</td> <td>27,805850361</td> </tr> <tr> <td>R</td> <td>26,786994167</td> <td>27,807700278</td> </tr> <tr> <td>S</td> <td>26,787078028</td> <td>27,807464417</td> </tr> <tr> <td>T</td> <td>26,787243333</td> <td>27,806595889</td> </tr> <tr> <td>U</td> <td>26,787491500</td> <td>27,804448861</td> </tr> <tr> <td>V</td> <td>26,786870972</td> <td>27,803425722</td> </tr> <tr> <td>W</td> <td>26,784799500</td> <td>27,801492306</td> </tr> <tr> <td>X</td> <td>26,784707028</td> <td>27,803752389</td> </tr> <tr> <td>Y</td> <td>26,782703667</td> <td>27,803850583</td> </tr> <tr> <td>Z</td> <td>26,782796139</td> <td>27,801390556</td> </tr> </tbody> </table>	NAME	LATITUDE	LONGITUDE	A	26,774592000	27,800976028	B	26,774594778	27,801679500	C	26,772613500	27,805850361	R	26,786994167	27,807700278	S	26,787078028	27,807464417	T	26,787243333	27,806595889	U	26,787491500	27,804448861	V	26,786870972	27,803425722	W	26,784799500	27,801492306	X	26,784707028	27,803752389	Y	26,782703667	27,803850583	Z	26,782796139
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Application area (Ha)	74,4604 ha																																						
Magisterial district:	The area is situated within the district of Parys in an important mining, industrial, agricultural (maize, sunflower, soya bean, chicken, cattle farming) town situated on the R56, 8km north from Sasolburg in the Free State, via the DF Malan tar road out of Sasolburg. The town lies in <u>the Metsimaholo Local Municipality</u> , which further falls under the <u>Fezile Dabi District Municipality</u> .																																						
Distance and direction from nearest town	The nearest town is Sasolburg, which is situated 8 km south from the application area.																																						
Minerals applied for	Sand (General)																																						

See Sketch Plan Figure 4 below

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 Parys** is an important mining, industrial, agricultural (maize, sunflower, soya bean, chicken, cattle farming) town situated on the **R56**, 8km north from Sasolburg in the Free State, via the DF Malan tar road out of Sasolburg. The town lies in **the Metsimaholo Local Municipality**, which further falls under the **Fezile Dabi District Municipality**. See **Figure 5** below, as well as **Appendix 1(a) - Locality Map** indication where the applied area is situated within the **district of Parys**, Free State Province.

Figure 5 – Locality Map



Figure 6: 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 Mining Right over: Wonderwater 180 (certain portion of the Remainder of Portion 1).

The application area is situated over a rural part of the Parys district. The mining right application area is characterized by natural and cultivated grassveld vegetation (grazing for cattle) and evidence of mining.

All of the above infrastructure can be seen on the Infrastructure Plan. There is a store/workshop, ablution facility, temporary site office and an entrance road.

All of the above infrastructure can be seen on the Infrastructure Plan - **Appendix 1(b1 & b2)**. The **surrounding farms** are mostly utilized as cultivated field for grazing and natural grazing and mining (existing sand mining and historic opencast coal operations). **Access to farm will be from the R59 running between Parys and Sasolburg via the DF Malan tar road out of Sasolburg.** See **Appendix 1(b1 & b2)** for Infrastructure Plan and Google image of the application area.

1. The mineral

Daja Sand Works (Pty) Ltd. intends to mine for **Sand (general)** situated on a portion of the farm Wonderwater 180, Parys district and 74.4604 hectares in total but not more than 2 ha at any given time will be disturbed by opencast excavations. The sand will be used in different facets of the building industry.

2. The extend

The sand is situated on this demarcated area on average 3-5 meters deep. The identified and demarcated mining area is 74.4604 hectares in total. The sand reserve on this 74.4604 hectares is estimated at 5'528'250 tons.

3. Mining method

The above area will be mined through **opencast excavations** where the sand will be removed with an excavator onto a stockpile and loaded by a frond end loader onto trucks for transporting to the clients. The sand from the stockpile is transported at an average rate of 200 tons a day to the clients or as needed. The total estimated reserve of sand is 5'528'250 tons (3'685'000 m³) taken at a production rate of 7'200-9'000 a month it will take 42 years to work this reserve. The sand which is 4 m thick and with this relatively low production rate of this operation make this 74.4604 hectare to be worked sustainable over a period of 42 years. Equipment to be used includes:

- ✓ 1 x Frond end loader;
- ✓ 1 x Excavator;
- ✓ 1 x Tractor Water cart;
- ✓ 3 x Permanent labourers and one manager will used in this operation.

The total cost of the operation is taken at R 1112/m³ and the total material moved monthly at 72'00-9'000m³ per month. The total monthly mining cost will be on average ±R 10'010'163.00 and the total estimated monthly income was calculated at ±R 11'880'000.00. This operation can thus be economical viable.

4. The grade

It is estimated that this sand will be sold for R 110.00/m³.

The mining focus area will be clearly demarcated but will probably be over the whole of the application area. It is foreseen that the main mining area will most probably be over the already disturbed areas (by agriculture) as indicated in **Figure 6**. The area applied for is over the mining right application area of the entire **74.4604 hectare**. 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

Table 1: 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 2 - Activity 17: An activity including the operation of that activity which requires a mining right as contemplated in section 22 of the MPRDA, 2002 (Act No. 28 of 2002), including-</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or</p> <p>(b) the primary processing of a resource including winning, extraction, classifying, concentrating, crushing, screening or washing;</p> <p>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 the Notice applies.</p>	74.4604 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>	2 ha	X	327

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)

Table 2: Description of Activities to be followed

Activities	Description of phases	Associated structures and infrastructures
Mining	<p><u>Mining method</u> The above area will be mined through (1) opencast excavations where the sand will be removed with an excavator onto a (2) stockpile and (3) loaded by a frond end loader onto trucks for (4) transporting to the clients. The sand from the stockpile is transported at an average rate of 200 tons a day to the clients or as needed. The total estimated reserve of sand is 5'528'250 tons (3'685'000 m³) taken at a production rate of 7'200-9'000 a month it will take 42 years to work this reserve. The sand which is 4 m thick and with this relatively low production rate of this operation make this 74.4604 hectare to be worked sustainable over a period of 42 years.</p> <p>Equipment to be used includes:</p> <ul style="list-style-type: none"> ✓ 1 x Frond end loader; ✓ 1 x Excavator; ✓ 1 x Tractor Water cart; ✓ 3 x Permanent labourers and one manager will used in this operation. 	Workshop/store, ablution facility, temporary mobile office container, access road (gravel).

	<p>The total cost of the operation is taken at R 1112/m³ and the total material moved monthly at 72'00-9'000m³ per month. The total monthly mining cost will be on average ±R 10'010'163.00 and the total estimated monthly income was calculated at ±R 11'880'000.00. This operation can thus be economical viable.</p>	
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e) POLICY AND LEGISLATIVE CONTEXT

[in term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(e)]

Table 3: Legislative and Guidelines used

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/EMP. Submit documents that will describe the impacts and sustainable mitigation thereof.	Regulation 21 Section 23	Scoping Report in process following by EIA/EMP
Compliance to Act and Regulations during course of activities. Show impacts and mitigation thereof. National Water Act, 1998 (Act 36 of 1998)	Section 21 (a)	Application for water use license with DWS, will follow.
Application for Water abstraction for mining use South African National Heritage Resources Act (Act 25 of 1999) (SAHRA) Compliance to Act and Regulations during course of activities. Ensure that no graves or heritage site will be disturbed.	Section 38	SAHRA was notified process will be followed. Completion of HIA over the application area in order to identify possible archaeological and paleontological sites or occurrences.
Conservation of Agricultural Resources Act No 43 of 1983 (CARA) Compliance to Act and Regulations during course of activities. Stabilization of soil after rehab to be sustainable with no erosion. Eradication of declared weeds	Section 29	Regulation will be applicable during construction and operational phases of mining.
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	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.
National Environmental Management Laws Amendment Act (Act 2 of 2022)	Section 49	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.

[DAJA SILICA (PTY) LTD. – Wonderwater 180 (certain portion of the Remainder of Portion 1)] – [FS 30/5/1/2/2/10074 MR]

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 mining operations.
National Environmental Management :Air Quality Act (Act 39 of 2004)		
National Dust Control Regulations (GN. 827 of 1 November 2013)		
National Environmental Management: Biodiversity Act (Act 10 of 2004): Threatened or Protected Species Regulations		

f) 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: SAND 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 mining activities, indicating the potential for SAND being also present and the fact that there have been previously worked over 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 **74.4604 hectare** application area specific according to the sketch plan. The duration of the activities will be **±42 years**.

The farm portions over which the application was applied for is currently used and grazing for cattle. There are very few infrastructure on this area aside for a gravel road on site, workshop/store area and ablution facility and temporary mobile container office.

Access to the farm is gained by an existing farm road from the DF Malan tar road out of Sasolburg. Only a small portion (2ha) of the agricultural land will be impacted upon at any given time and land use on the rest of farm area can proceed normally.

The area will be mined and concurrently rehabilitated. After mining the land will be used for grazing again.

g) PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORIZATION IS REQUIRED
±42 years

h) 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 mining area was identified through aerial photographs/ Google images and geological maps. The **extent of the mining area will be 74.4604 hectare**.

i) DETAILS OF ALL ALTERNATIVES CONSIDERED

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

Alternative is not applicable. The **current land use is agriculture with grazing for cattle** (cultivated and natural grassveld vegetation) and mining on the mining right application area. Thus the option to mine the area will be an alternative land use over some of the areas. The applicant, **DAJA SILICA (PTY) LTD.** is not interested in any other alternative land use over this land aside for the mining for SAND, or continuing with his agricultural activities as is, or method use other than mining 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 whole of the application area will systematically be mined for sand eventually. There are no alternative sites as the whole of the application area was identified as being favourable to bear SAND deposits

(b) the type of activity to be undertaken

The type of activity is in line with the submitted **Mining Work Programme (MWP)**. Sand mining normally uses the opencast mining method. As this is only mining operation it will be the basic opencast method with associated machinery. It will also only be load and haul with no washing or processing that will be done.

(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 mined (± 2 ha will be disturbed at any given time). There are no preferred sites as the whole of the application area was identified as being favourable to be mined. This mining operation will also not be a static operation. They will perhaps have a temporary office building next to the open excavations. There will also be toilets on the site for ablution facilities.

(d) the technology to be used in the activity

The technology used in the activity will be as described in the MWP and the best options will be determined by the applicant, which will be opencast excavations with only load and haul of the sand to the clients.

(e) the operational aspects of the activity, and

The operational aspect is only the mining for SAND on this specific area, making use of opencast excavations. Operations will be done through systematically excavating sand deposit that will be made with a back-actor on the application area. Doing concurrent rehabilitation, meaning that as soon as the sand in an excavation has been mined, the floor levelled and side walls sloped and ripped and topsoil will be replaced. The topsoil will be removed and spread over the closed out 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)(iii)

The process as described by NEMA for Environmental Authorization was followed. See **Table 4** below for the identification of Interested and Affected Parties to be consulted with. The landowner (Riverbanks Trust) and the direct neighbours were consulted personally and through a letter that was given to them by hand. A site notice was placed at the entrance gate of the application area. With this site notice all passers-by are requested to submit any written comments to be forwarded to the consultant. A notice was published in the Parys Gazette Newspaper of 29th September 2022 and a public meeting was held on 10th October 2022. See attendance register and minutes of the meeting attached at **Appendix 2**.

A copy of the Scoping Report was sent to all the State Departments. See proof of consultation under **Appendix 2**.

Appendix 2 – Proof of consultation

III) SUMMARY OF ISSUES RAISED BY I&AP'S

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

Table 4: Interested and affected Party Consultation

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an "X" where those who must be consulted were in fact consulted.	Date sent and/or Comments Received	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s			
Riverbanks Trust (Landowner) Ms. S. Burger (Trustee) P.O. Box 2705, Paarl, 7646 Tel: 083 326 3424	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent			
Mr. E. Eybers (Neighbour) Sasolburg 1947 Tel: 010 350 0333 E-mail: eric@masspet.co.za	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Dr. C. H. van Niekerk (Neighbour) 49 Golf Road, Three Rivers, Vereeniging, 1930 Tel: 082 928 6011 E-mail: chrisdoc@absamail.co.za	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Municipal councillor			
Municipality			
Ngwathe Local Municipality P.O. Box 359, Parys, 9585 Tel: 056 816 2700 Fax: 056 811 2046 E-mail: icordaanr@ngwathe.co.za	23 Sep 2022	Consultation letter sent	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Communities			
N/A			
Dept. Land Affairs			
Cyndi Benyani E-mail: Cindy.Benyane@dalrdd.gov.za	23 Sep 2022	Request for verification of land claims sent to Ms. Benyani	
Traditional Leaders			
Dept. Water and Sanitation			

Dt. T. Ntuli 2 nd Floor, Bloem Plaza Building, Cnr East Burger & Charlotte Maxeke, Bloemfontein, 9300 Tel: 051 405 9000; E-mail: NtuliT@dws.gov.za	30 Sep 2022	EIA/EMPr was sent with Fastway couriers for comments
Dept. Agriculture, Forestry and Fisheries X Grace Mkhosana Building 113, St Andrew Street, Bloemfontein, 9300 Cell: 066 487 2840 Tel: 051 400 4904 E-mail: Grace.Mkhosana@deftea.gov.za	30 Sep 2022	EIA/EMPr was sent with Fastway couriers for comments
Other Competent Authorities		
OTHER AFFECTED PARTIES		
INTERESTED PARTIES		

Notice published in the Parys Gazette Newspaper of 29th September 2022 .

PLACEMENT OF ADVERT AT GATE:

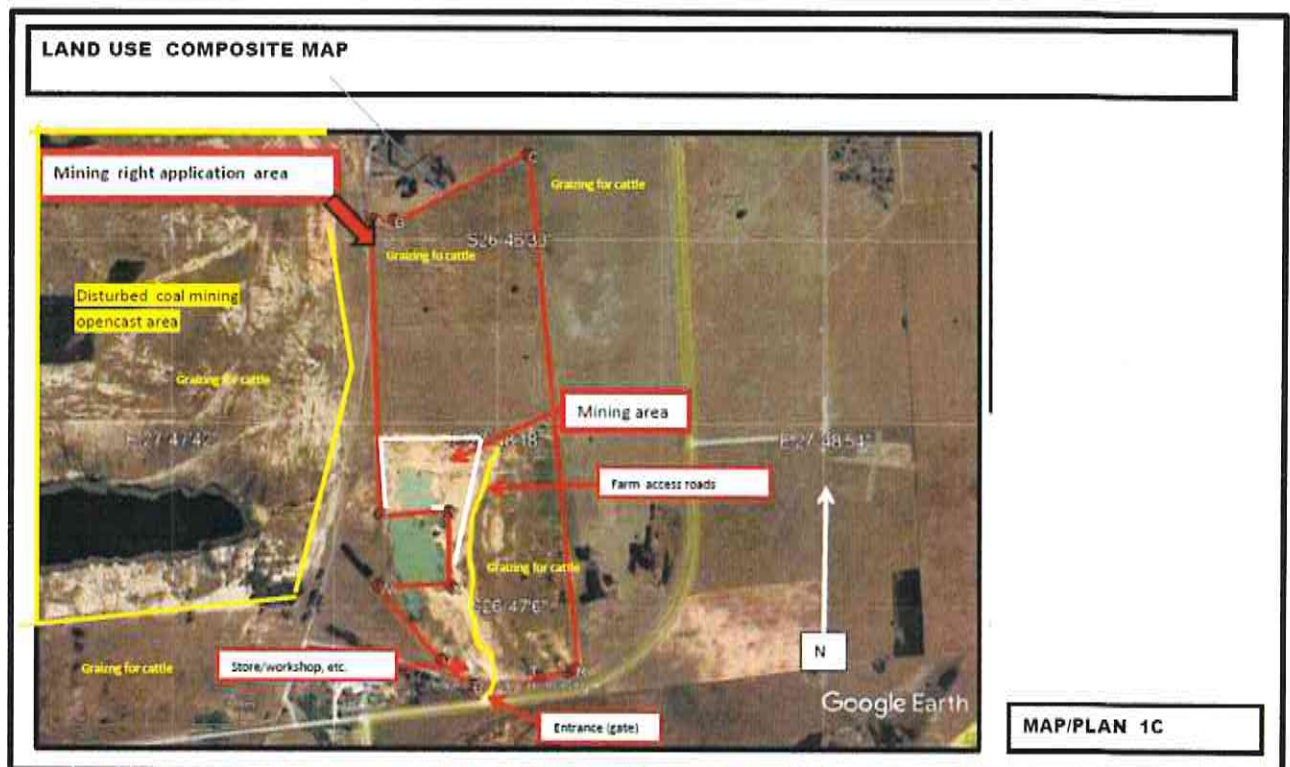
<p>Photo 1</p>	
<p>Photo 2</p>	
	<p>GPS Location: S 27.328801 E 25.764028</p>

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)(iv)

Introduction: The purpose of this section is to provide information on the environment in which the proposed mining activities will take place, with a view to identify sensitive issues/areas, which need to be considered when conducting the impact assessment. The application is over: **WONDERWATER 180 – a certain portion of the Remainder of Portion 1**). This area consists of cultivated and natural vegetation (grazing for cattle). **The focus area of mining activities will be on the cattle grazing areas/cultivated grazing areas:**



Magisterial District: The area is situated within the **district of Parys** is an important mining, industrial, agricultural (maize, sunflower, soya bean, chicken, cattle farming) town situated on the R56, 8km north from Sasolburg in the Free State, via the DF Malan tar road out of Sasolburg. It is along the DF Malan tar road out of Sasolburg. The town lies in the Metsimaholo Local Municipality, which further falls under the Fezile Dabi District Municipality. See **Figure 6** , as well as **Appendix 1(a) - Locality Map** indication where the applied area is situated within the **district of Parys**, Free State Province.

Direction from neighbouring town: The driving direction and distance to propose application area is as follow: the site is situated approximately 6 min (4.4 km) from Saps – Sasolburg c/o Fichardt Street & Eric Louw Road, Sasolburg, 1947. Drive via DF Malan Road head northwest on Eric Louw Road toward Van Eck Street for 400 m. Turn left onto DF Malan Road and drive for 4.0 km. The site (-26.7827961, 27.8013906) will be situated on your left hand side.

The nearest town is Sasolburg, which is situated 8 km south from the application area.

Longitude (approximate centre of mining site): 27.8013906 E

Latitude (approximate centre of mining site): -26.7827961 S

Existing Surface Infrastructure:

The application area is situated over a rural part of the Parys district. The area is characterized by mainly natural and cultivated grazing land for cattle and mining activities. There is a store/workshop, ablution facility, temporary site office and an entrance farm road.

All of the above infrastructure can be seen on the Infrastructure Plan - **Appendix 1(b1 & b2)**. The **surrounding farms** are mostly utilized as cultivated field for grazing and natural grazing and mining (existing sand mining and historic opencast coal operations). **Access to farm will be from the R59 running between Parys and Sasolburg via the DF Malan tar road out of Sasolburg.** See **Appendix 1(b1 & b2)** for Infrastructure Plan and Google image of the application area.

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

Vegetation [Flora] and Landscape Features: This application area falls over veld type: According to VEGMAP (2006) the area falls within the **Central Free State Grassland [Gh 6], VT 49 Transitional Cymbopogon - Themeda Veld (50%) (Acocks 1953), LR 39 Moist Cool Highveld Grassland (78%) (Low & Rebel° 1996)**.

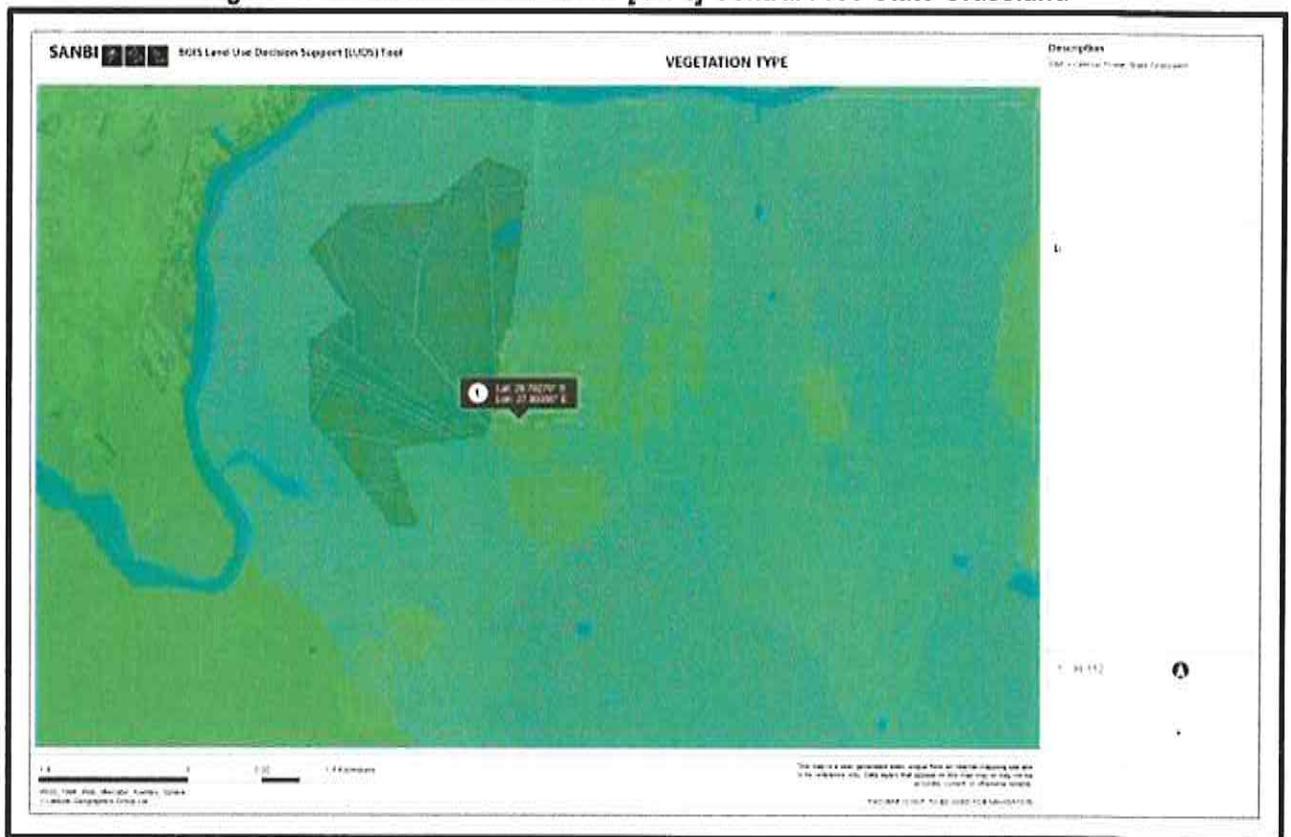
Undulating plains supporting short grassland, in natural condition dominated by *Themeda triandra* while *Eragrostis curvula* and *E. chloromelas* become dominant in degraded habitats. Dwarf karoo bushes establish in severely degraded clayey bottomlands. Overgrazed and trampled low-lying areas with heavy clayey soils are prone to *Acacia karoo* encroachment.

Distribution: A broad zone from around Sasolburg in the north to Dewetsdorp in the south. Other settlements located within this unit include Kroonstad, Ventersdurg, Steynsrus, Winburg, Lindley and Edenville. Altitude about 1 400-1 460m. According to Veld types of South Africa, Acocks (1988:p100) it is classified as being: **48 – CYMPOBOGON-THEMEDA VELD**

CYMPOBOGON-THEMEDA VELD: This (together with No. 56), is the veld of the sandy parts of the wetter higher-lying portion of the Highveld in the north-eastern Cape, Orange Free State and south-central Transvaal, undulating to flat country. Altitude ranges from 1350-2 000 m above the sea, and rainfall from 450-750 mm per annum, falling in summer. Winters are severely frosty. Under these conditions, a mixed to sour grassveld is the climax; much of it has been ploughed up and the sandy soil is beginning to break down into sand. Two variations can be recognized: 48a, Southern Variation in the Orange Free State and north-eastern Cape; 48b, Northern Variation in the Transvaal.

VEGMAP (2006) further classify this area as part of the: **[Gh 6] Central Free State Grassland [Gh 6]** over most of the mining right application area of **74.4604 hectare**. See **Figure 7** below. **Below is a summary of the plant species that may occur over the surrounding undisturbed areas, which in turn can be a source for regrowth of natural species once mining, have totally ceased over this area.**

Figure 7: VEGMAP classification: [Gh 6] Central Free State Grassland



Important Taxa: 48a. Southern Variation:

This is a moderately dense grassveld rather short. Species of general occurrence: *Themeda triandra*, *Setaria flabellate*, *Microchloa caffra*, *Elionurus muticus*, *Heteropogon contortus*, *Eragrostis chloromelas*, *Eragrostis racemosa*, *Eragrostis capensis*, *Tristachya leucothrix*, *Helichrysum rugulosum*, *Brachiaria serrate*, *Cymbopogon plurinodis*, *Harpochloa falx*, *Hermannia depressa*, *Eragrostis plana*. Species of less general occurrence include the following and many more: *Digitaria tricholaenoides*, *Kyllinga sp.*, *Digitaria eriantha*, *Digitaria monodactyla*, *Trichoneura grandiglumis*, *Senecio erubescens*, *Rhynchosia totta*, *Anthospermum pumilum* subsp. *rigidum*.

Gh6 Conservation:

Conservation Vulnerable. Target 24%. Only small portions enjoy statutory conservation (Willem Pretorius, Rustfontein and Koppies Dam Nature Reserves) as well as some protection in private nature reserves. Almost a quarter of the area has been transformed either for cultivation or by building of dams (Allemankraal, Erfenis, Groothoek, Koppies, Kroonstad, Lace Mine, Rustfontein and Weltevrede). No serious infestation by alien flora has been observed, but encroachment of dwarf karoo shrubs becomes a problem in the degraded southern parts of this vegetation unit. Erosion low (45%), moderate (30%) or very low (20%).

Remarks On cool moist southern slopes, elements of the Gm 4 Eastern Free State Sandy Grassland are notable. Stands of Gh 7 Winburg Grassy Shrubland are present on outcrops (dykes and sills) of dolerite embedded within this grassland.



References Acocks (1953, 1988), Müller (1986), Du Preez & Bredenkamp (1991), Fuls et al. (1992), Müller (2002).

Gm6 Conservation: vulnerable. Target 24%. None conserved in statutory conservation areas. **More than a third already transformed for cultivation (maize) or flooded by dams (Vaal Dam). Erosion is very low (95%).** References Eckhardt et al. (1993a, b), Fuls et al. (1993c).

Indication of this vegetation type could be found of the original vegetation type on the **74.4604 ha**. Though the years the site has been disturbed by agricultural activities (grazing for cattle) and historic mining activities (rehabilitated). **This is a “brownfields site”.**

See photo table (next pages):



	PHOTO
1	<p data-bbox="667 280 1098 353">Grazing land for cattle</p> 
2	<p data-bbox="555 1120 1348 1227">Grazing land for cattle, access road with surface water control trench/berm wall</p> 

3

Grazing land for cattle



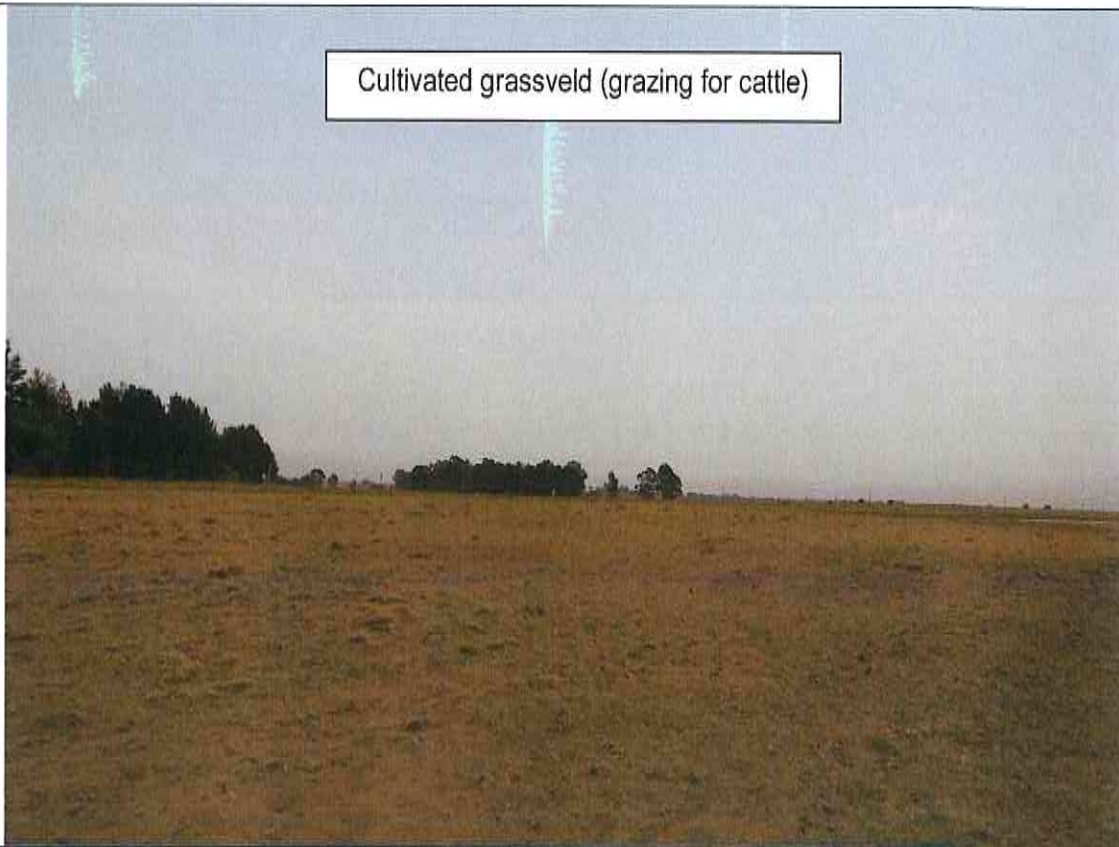
4

Grass species dominant



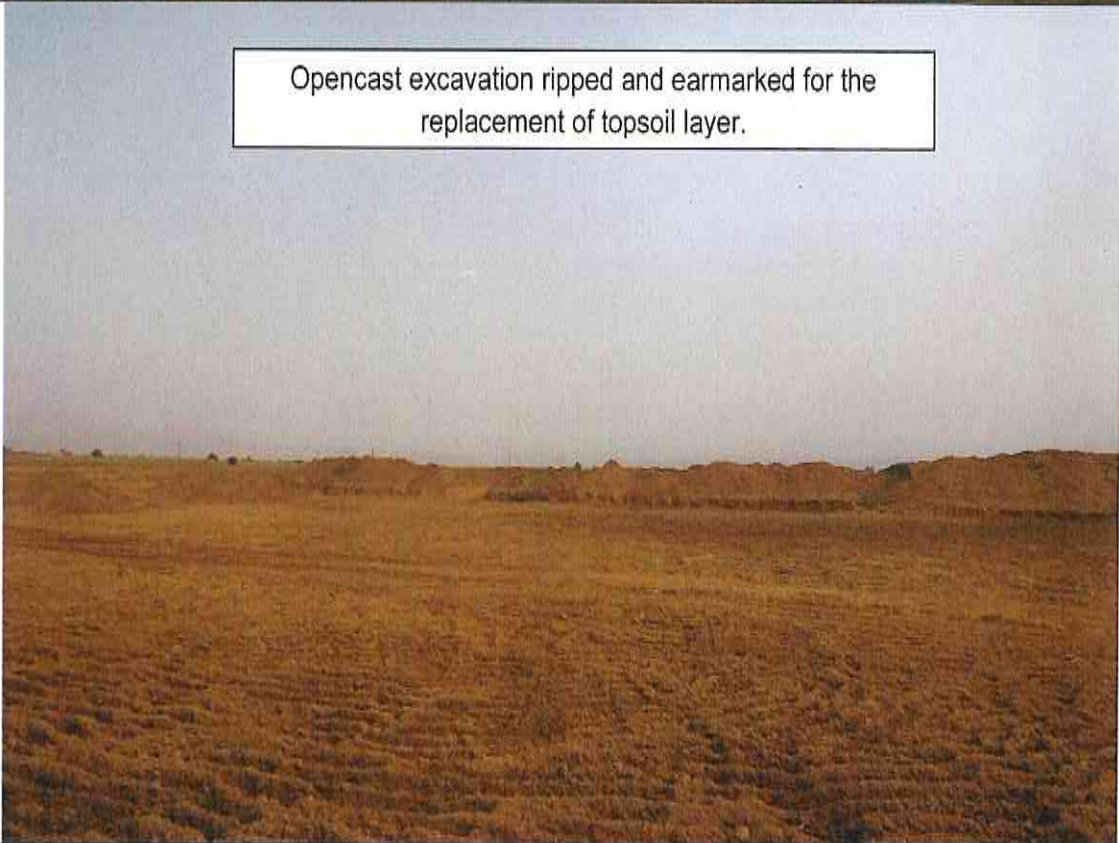
5

Cultivated grassveld (grazing for cattle)



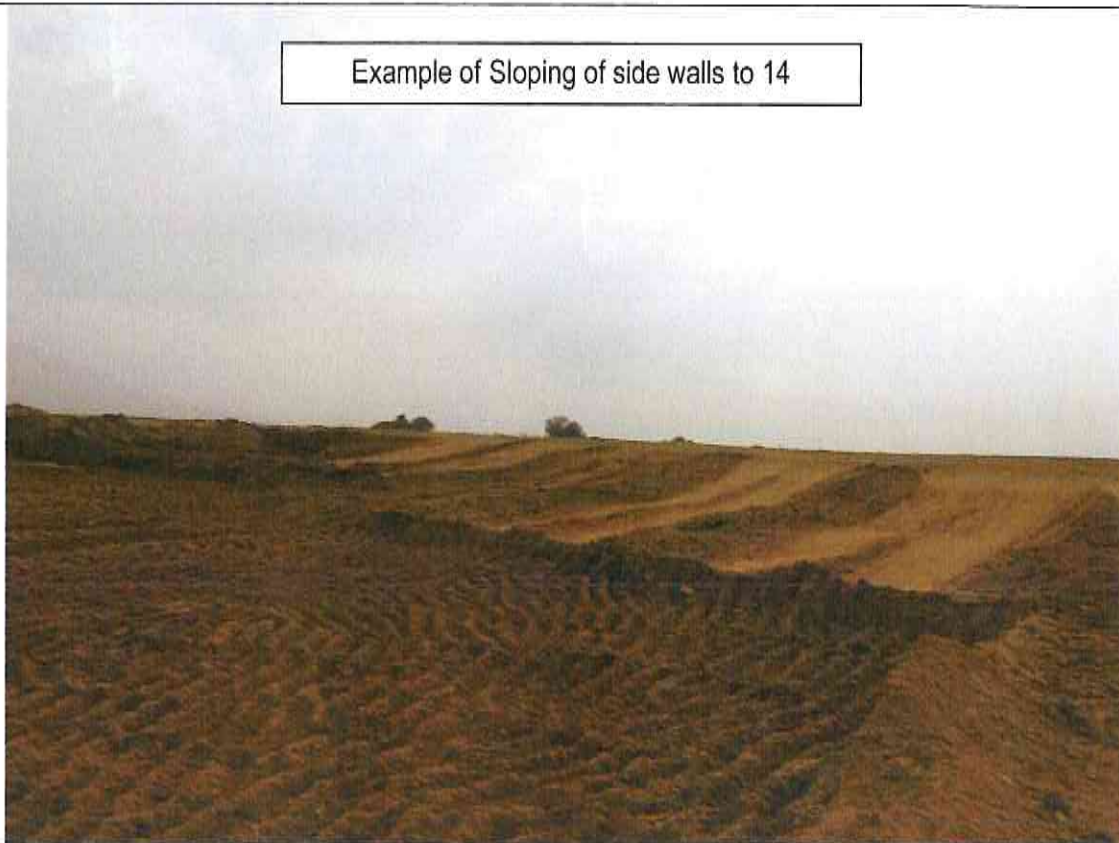
6

Opencast excavation ripped and earmarked for the replacement of topsoil layer.



7

Example of Sloping of side walls to 14



8

Topsoil ready for replacement on top of levelled opencast



9

Natural grassveld grazing for cattle



10



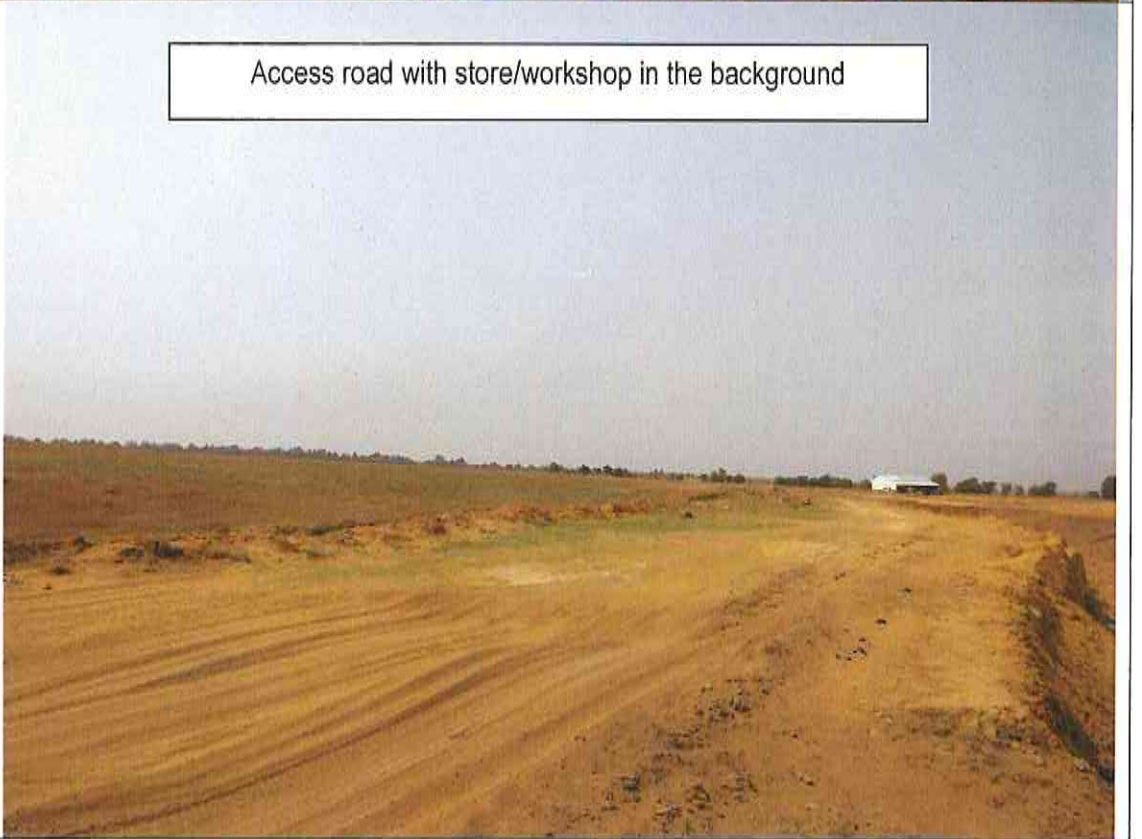
11

Topsoil in the process of replacement



12

Access road with store/workshop in the background



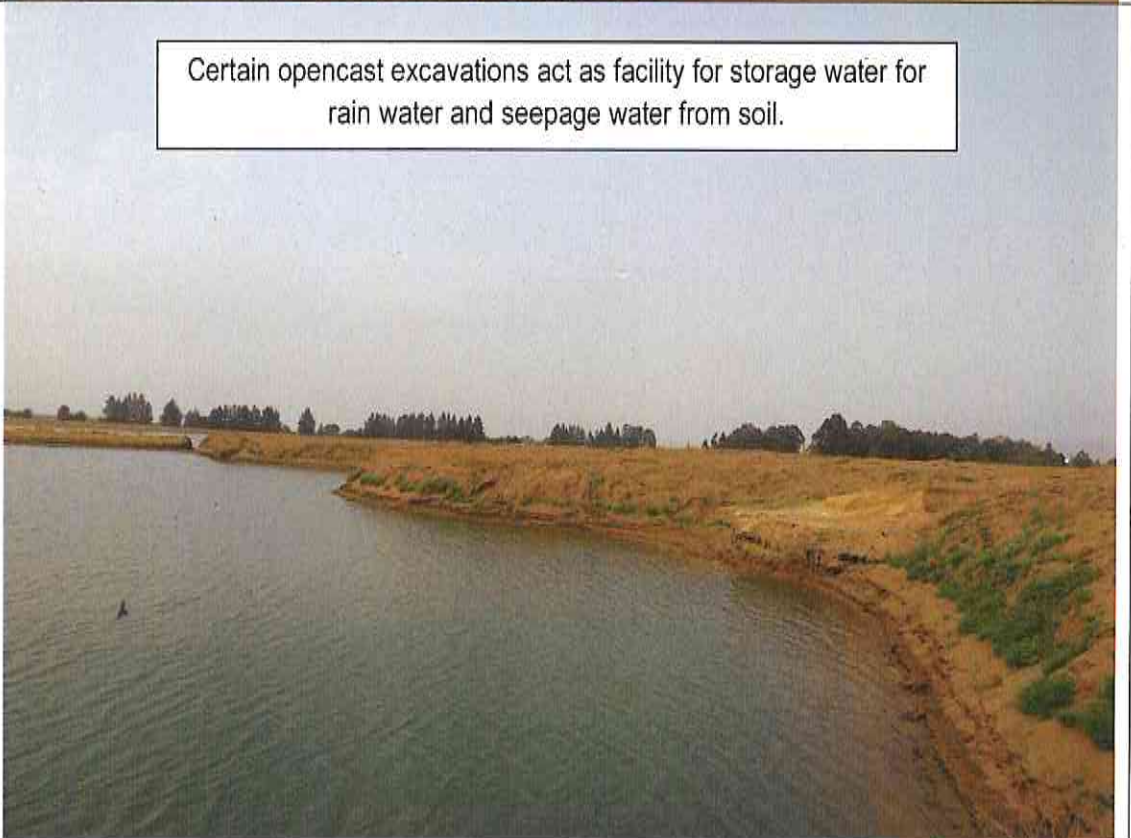
13

Surface run-off control trench/ berm next to road



14

Certain opencast excavations act as facility for storage water for rain water and seepage water from soil.



Screening of environmental sensitivity of the proposed site (See Appendix 4 for full report):

Furthermore according to the DEDACT's (Department of Economic Development, Environment, Conservation and Tourism's) screening tool the footprint of this application area, although only **large scale mining (74.4604 ha disturbed over 42 months) (not more than 2 ha at any given time)**, are classified (by background reference to the whole **mining right application area** as per summary table below.

According to the **screening of environmental sensitivity of the proposed mining site (74.4604 ha)** it is indicated that **Terrestrial Biodiversity Theme was classified as being LOW**. Also the whole of the area is being regarded as to have a **MEDIUM** environmental sensitivity with regard to **plant species**. The majority of the area has been disturbed by agricultural activities and some mining activity. The **proposed mining site** should be regarded as a "**brownfields site**" as the site has been disturbed by agriculture activities (natural and cultivated grassveld for grazing for cattle) and mining activities. The **Animal Species Theme** is regarded as of **HIGH** sensitivity. The **site has been disturbed by agricultural activities and mining activities in the past and currently** and it is likely that animals would not stay in such a habitat but rather move to other undisturbed areas.

Palaeontology Theme was further classified as being **VERY HIGH** sensitive. It is however not foreseen that there will be any such sites on the application area that the landowner (applicant) may not be aware of any findings and they would have come across item if there were any. **The mining activity will be only sand deposits and not hard rock formations**. The mining project manager will have to keep a look out for possible sightings and report it as soon as possible. Dr Lloyd Rossouw was commissioned to do a Phase 1 Heritages Assessment over the application area, which will be included in the EIAr/EMPr.

According to the screening of **environmental sensitivity** of the proposed site it is indicated that **Agricultural Theme was classified as being HIGH** sensitivity. The mining sites will disturb the **74.4604 ha mining right application area** over a period of ± 42 years and should be regarded as a "**brownfields site**" as the site has been disturbed by agriculture activities (cultivation of grazing and natural grassveld grazed by cattle), mining activities. Rehabilitation of the 74.4604 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 74.4604 ha should be low.**

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 mining 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 actually "Brownfields site"**.

The use of explosives will not take place during the mining operation, so there will be no impact on the environmental sensitivity with regard to the Aviation theme.

See Summary, Table 5: Results of screening report for the mining right application area of 74.4604 ha in total. See full report attached as Annexure 3.

Table 5: 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

Climate: Region H - or the Highveld. The average annual precipitation in this Highveld region varies from about 900 mm (36 inches) on its eastern border to about 650 mm (26 inches) in the west. The rainfall is almost exclusively due to showers and thunderstorms and falls mainly in summer, from October to March, the maximum fall occurring in January. The winter months are normally dry and about 85% of the annual rainfall falls in the summer months; heavy falls of 125 to 150 mm (5 to 6 inches) occasionally fall in a single day. The annual average number of thunderstorms varies from about 75 in the Transvaal to 100 in Basutoland. These storms are often violent with severe lightning and strong (but short-lived) gusty south-westerly winds and are sometimes accompanied by hail. This region has about the highest hail frequency in South Africa; about 4 to 7 occurrences (depending mainly on altitude) may be expected annually at any one spot, whilst occasionally hailstones grow to the size of hen's eggs or tennis balls and can cause tremendous damage. Snow occurs about eight times annually (mainly in midwinter) in Basutoland; the frequency decreases rapidly northwards and in the eastern Transvaal it may occur about once or twice a year. Very exceptionally, snow will fall further northwards and has been observed as far north as the Soutpansberg.

Average daily maximum temperature is roughly 27°C (81°F) in January and 17°C (63°F) in July but in extreme cases these may rise to 38°C (100°F) and 26°C (79°F) respectively. Average daily minima range from about 13°C (55°F) in January to 0°C (32°F) in July, whereas extremes can sink to 1°C (34°F) and -13°C (9°F) respectively. The period during which frost is likely to form lasts on the average for about 120 days from May to September, though this period is longer in the southern highlands (Basutoland). On the whole winds are light except for short periods during thunderstorms. Very occasionally tornadoes do occur and cause tremendous damage if they happen to strike a populated area. Sunshine duration in summer is about 60% and in winter about 80% of the possible. Source: South Africa (WB 28), 1982.

Geology: Regional geology - Sedimentary sandstone mainly of the Ecca Group (Karoo Supergroup). Sand materials will be derived mainly from the Karoo Supergroup lithologies (Pv= Sandstone/Shale/coal). See Geological map attached as Annexure 4.

Soils: Yellow soils: Avalon form dominates the site. **Diagnostic horizons:** (Otic A/yellow apedal horizon/ soft plintic) See photos of profile of test pits showing sand resources attached under Annexure 5.

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), and *Phacochoerus africanus* (Common Warthog (*Suidae*)). The study area is being known for the agriculture with regard to the production of Cattle.

Surface Water: Water management area (8) Upper Vaal. The mine falls under the primary drainage region C and in quaternary sub-catchment C22G. The catchment is approximately 40 km² in size. It is not expected that 74.4606 ha mining sites in total will have any effect on the surface run-off in the drainage catchment area (C22G).

According to NEMA's Screening Tool the *Aquatic biodiversity sensitivity* was classified as LOW sensitive. All mining activities need to be kept 100 m horizontally way from any surface water body, etc.).

Ground Water: There is one monitoring borehole (No. WW60) (installed by a historic coal mine company) on the application area. The applicant intends **NOT TO USE WATER** from any borehole. Potable water will be transported via tanker to site. The water uses will be 1000 L a day for potable water and ablution facility supply. Dust mitigation on dirt roads using standing water in excavations.



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, can have just as big an impact. Areas where testing is completed must be backfilled and re-vegetated as soon as possible to establish a vegetation layer in order to retain the loose soil fractions.

Noise: The impact of noise will be generated by the mining equipment. This operation will only be in day time working hours and will have a low impact on current surroundings. And because of the extent of this application area 74.4604 ha, the sound will get lost and no residence on neighboring farms will be adversely affected. The impact may be greater with regards to wild animals, but they tend to move away toward areas less influenced by noise disturbance.

(b) Description of the current land uses.

The current land use (agricultural) is **mainly natural and cultivated grassveld for grazing by cattle, sand mining operations, etc.**

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

The application area is situated over a rural part of the Parys district. The area is characterized by mainly natural and cultivated grazing land for cattle and mining activities. There are a store/workshop, ablution facility, temporary site office and an entrance road.



All of the above infrastructure can be seen on the Infrastructure Plan - **Appendix 1(b1 & b2)**. **The surrounding farms** are mostly utilized as cultivated field for grazing and natural grazing and mining/mining (existing sand mining and historic opencast coal operations). **Access to the farm will be from the R59 running between Parys and Sasolburg via the DF Malan tar road out of Sasolburg.** See Appendix 1(b1 & b2) for Infrastructure Plan of the application area.

(d) Environmental and current land use map.

Current land use on the application area is (agriculture) grazing over mainly natural grassveld and some cultivated grassveld and mining. This is privately owned land (by the applicant (also landowner)). See **Appendix 1 C** for more detail.

V) IMPACTS AND RISKS IDENTIFIED

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)[(h)] (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 6** on the next page.

Table 6: Impact significance identification matrix for – Wonderwater 180

PHASE	ABIOTIC										BIOTIC				VISUAL	SOCIO-ECONOMIC		
	A	B	C	D	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		
1	Impacts	M	L	L	L	M	M	H	H	H	L	L	L					
2	Activity, Product or Service	M	H	H	H	M	M	H	H	H	H	L	M		L	M		
3	Construction	M	H	H	H	M	M	M	H	H	M	M	L					
4	Operational	H	H	H	H	L	L	M	H	H	H	M	L					
5	Construction	M	H	H	H	M	M	M	H	H	M	M	L					
6	Operational	H	H	H	H	L	L	M	H	H	M	M	L			H+		
7	Operational	M	H	H	H	L	L	L	M	H	L	L	L		M	H		
8	Operational	H	H	H	H	L	L	L	L	L	L	L	L+		M	H		

[DAJA SILICA (PTY) LTD. – Wonderwater 180 (certain portion of the Remainder of Portion 1)] – [FS 30/5/1/2/2/10074 MR]

PHASE	Components	ABIOTIC										BIOTIC			SOCIO-ECONOMIC		
		A	B	C	D	E	F	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
Decommissioning and closure	Activity, Product or Service																
	Transport with trucks to client.			H			L	H	L	L	H			M+		M	H
	Final levelling of open-cast excavation floor and sloping of site walls. The site will then be clipped to alleviate compaction.	H+	H+	H+	H+	H+	H+	H+	L	L				L		H+	H±
	Replace and spread all topsoil evenly over rippled surface areas (concurrent rehabilitation).			H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+
	Establishment of vegetation cover.			H+	H+	H+	H+	H+	H+		H+	H+		H+		H+	H+
	Removal of all temporary & demolition of all permanent structures (Section 44 of the MPRDA)			H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+
	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 mining 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 | 10. Air Quality |
| 2. Topography | 11. Noise |
| 3. Soil | 12. Archaeological and Cultural sites |
| 4. Land Capability | 13. Sensitive Landscapes |
| 5. Land Use | 14. Visual Aspects |
| 6. Vegetation | 15. Socio-economic Structure |
| 7. Wildlife | 16. Interested and Affected Parties |
| 8. Surface Water | |
| 9. Ground Water | |

IMPACT ASSESSMENT

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

ACTIVITIES:

- Access Roads (Existing roads to be upgraded)
- Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings
- Sand Stockpiles – Temporary stockpile area as mining progresses.
- Topsoil (Ortic A) stockpiles
- Opencast excavations

II. Environmental Impact Assessment Summary:

- Environment likely to be affected by the mining operation. (See Appendix 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	
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**

Mining will be a new land use over this area. **The site that is earmarked for mining represents ± 100 % of the total area applied for.** And it is further not foreseen that mining activities would disturb an area of not more than 2 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 mining 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 Parys area .
Regional	Direct and indirect impacts affecting environmental elements within Free State Province .
National	Direct and indirect impacts affecting environmental elements on a national level.
Global	Direct and indirect impacts affecting environmental elements on a global level.

*Explanation of **duration** of impact*

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

*Explanation of impact **significance***

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

High significance	Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.
Very high significance	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

III. Assessment of the nature, extent, duration, probability and significance of the potential environmental, social and cultural impacts of the proposed mining operation, including the cumulative environmental impacts

ASPECT	IMPACTS	CUMULATIVE IMPACTS	
1. GEOLOGY			
Nature of the impact	The geology will be destroyed during the opencast mining operation. During operation which will be for the next ±42 years, the mineral resource (SAND) will be excavated.		
Extent	Site	Activity causing the impact	
Duration	Permanent	An opencast mining method will be used to excavate sand. Therefore the original geology will be totally destroyed.	
Probability	Definite		
Significance	High		
Phase responsible for the impact	Operational		Closure
	X		

ASPECT	IMPACTS	CUMULATIVE IMPACTS	
2. TOPOGRAPHY			
Nature of the impact	<p>* Change in landform: The mining site is situated over <u>level plains with some relief</u>.</p> <p>* Disturbance of the surface drainage: The mining of the SAND deposits will result in the creation of opencast excavations (±4 m deep), that act as depressions in the environment that captures run-off. Mining activities will be concentrated as indicated on Figure 1C on the application area (approximately 4m depth). No backfilling will take place but the site will be levelled and side walls sloped. The site will lower in elevation up to 4 m. Topsoil will be replaced. Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site. All mining activities will be kept 100 m horizontally from any surface water feature.</p>		
Extent	Site	Activity causing the impact	
Duration	Short	Bulk sampling through trenches, etc.	
Probability	Definite		
Significance	High		
Phase responsible for the impact	Operational		Closure
	X		X

ASPECT	IMPACTS	CUMULATIVE IMPACTS	
3.1 SOIL			
Nature of the impact	The surface area is characterized by various soil depths. Any construction of infrastructure should be preceded by the removal of all available topsoil.		
Extent	Site	Activity causing the impact	
Duration	Long	In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.	
Probability	High		
Significance	Moderate		
Phase responsible for the impact	Operational		Closure
	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 /, cause compaction of soil. All mining activities will be concentrated on the identified mining focus area where SAND deposits could be found. In the same time a certain surface area is therefore alienated. The active mining surface area (alienated) would be restricted within the 2 ha (in relation to area of application of the mining right of 74.4604 hectares) at any given time, for the next ±42 years . Topsoil will be replaced that would be stored separated in piles until rehabilitation (concurrent).	
Extent	Site	Activity causing the impact
Duration	Short	Site preparation for additional mining sites and the construction, operation of listed infrastructure.
Probability	High	
Significance	Moderate	
Phase responsible for the impact	Operational	Closure
	X	X

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

ASPECT	IMPACTS	CUMULATIVE IMPACTS
3.4 SOIL		
Nature of the impact	Potential of soil contamination.	None.
Extent	Site	Activity causing the impact
Duration	Long	Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.
Probability	Moderate	
Significance	Moderate	
Phase responsible for the impact	Operational	Closure
	X	X

ASPECT	IMPACTS	CUMULATIVE IMPACTS
3.5 SOIL		
Nature of the impact	Loss of soil structure	None
Extent	Site	Activity causing the impact
Duration	Long	In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.
Probability	High	
Significance	Moderate	
Phase responsible for the impact	Operational	Closure
	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	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
4. LAND CAPABILITY		
Nature of the impact	Temporary loss of land capability to support grazing. The small area where the active mining activities occur (opencast excavations, stock piles, mining equipment) etc. will thus be temporary alienated, until the area is rehabilitated. All opencast excavations would be rehabilitated as part of the mining process during bottom floor areas are levelled and side slopes sloped. 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.	
Extent	Site	Activity causing the impact
Duration	Long	Site preparation for additional mining sites and the construction, operation of listed infrastructure, the land capability of the active mining area will be totally destroyed.
Probability	Definite	
Significance	Moderate	
Phase responsible for the impact	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
5. LAND USE		
Nature of the impact	This is a new mining operation and therefore the land use to support grazing on a certain portion of the 74.4604 hectares during the next years will be temporarily lost. Only a small portions of land (2 ha at any given time) would be affected by the mining operation relation to the total mining right application area of 74.4604 hectares. No backfilling will take place, only sloping.	
Extent	Site	Activity causing the impact
Duration	Short	Site preparation for mining and the construction, operation of listed infrastructure
Probability	Definite	
Significance	Moderate	
Phase responsible for the impact	Operational X	

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

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

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

ASPECT	IMPACTS	CUMULATIVE IMPACTS					
8.1 SURFACE WATER							
Nature of the impact	<p>Increased silt load</p> <p>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 mining area.					
Probability	Moderate						
Significance	Moderate						
Phase responsible for the impact	<table border="1"> <tr> <td>Operational</td> <td></td> <td>Closure</td> </tr> <tr> <td>X</td> <td></td> <td>X</td> </tr> </table>		Operational		Closure	X	
Operational		Closure					
X		X					

ASPECT	IMPACTS	CUMULATIVE IMPACTS					
8.2 SURFACE WATER							
Nature of the impact	<p>Change in surface water quality</p> <p>Spillages from vehicles and also surface water run-off that is not adequately diverted away from the active mining excavations could end-up in the excavations creating problems regarding water quality and hindering the mining process.</p> <p>Surface run-off from active mining sites if not adequately contained on site could end-up in the adjacent undisturbed natural veld.</p> <p>If the natural surface run-off is not adequately diverted in the case of the natural veld, mining sections it could become flooded with standing water.</p>						
Extent	Local	Activity causing the impact					
Duration	Short	"Dirty / Clean" water systems at facilities like the roads, opencast excavations, etc. may impact on the quality of the surface water. The water should be contained in the surface runoff control measures provided therefore.					
Probability	Moderate						
Significance	High						
Phase responsible for the impact	<table border="1"> <tr> <td>Operational</td> <td></td> <td>Closure</td> </tr> <tr> <td>X</td> <td></td> <td></td> </tr> </table>		Operational		Closure	X	
Operational		Closure					
X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS					
8.3 SURFACE WATER							
Nature of the impact	<p>Change in surface water quantity</p> <p>Surface Water: Water management area (8) Upper Vaal. The mine falls under the primary drainage region C and in quaternary sub-catchment C22G. The catchment is approximately 40 km² in size. It is not expected that 74.4606 ha mining sites in total will have any effect on the surface run-off in the drainage catchment area (C22G). Standing water in opencast excavations could as the result of rain/ surface run-off ending up in shallow depressions. The other source of standing water is seepage water from the soil.</p> <p>All mining activities should be kept 100 meter horizontally away from this surface water body.</p>						
Extent	Site	Activity causing the impact					
Duration	Short	It is an operational objective to contain or divert all surface run-offs from the active mining 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"> <tr> <td>Operational</td> <td></td> <td>Closure</td> </tr> <tr> <td>X</td> <td></td> <td></td> </tr> </table>		Operational		Closure	X	
Operational		Closure					
X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS
8.4. SURFACE WATER		
Nature of the impact	Surface Water Quantity Use: No stream flowing in the area.	
Extent	Site	Activity causing the impact
Duration	Short	Opencast mining operation.
Probability	Low	
Significance	High	
Phase responsible for the impact	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
9.1 GROUND WATER		
Nature of the impact	<u>Reduction of groundwater quality</u> Mining activities are not likely to impact on local ground-water quality. 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	Opencast mining operation.
Probability	Definite	
Significance	High	
Phase responsible for the impact	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
9.2 GROUND WATER		
Nature of the impact	Potable water supply will be from a tanker to the site. Standing water in excavations will be used for mitigation of dust on access roads . The water uses will be 1000L a day for potable water and water supply to ablution facility via a tanker .	
Extent	Site	Activity causing the impact
Duration	Short	Opencast mining operation.
Probability	Low	
Significance	High	
Phase responsible for the impact	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
10. AIR QUALITY		
Nature of the impact	Dust will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation to the client and on access roads.	
Extent	Site	Activity causing the impact
Duration	Short	Initial construction work with regard to infrastructure (roads) that involves earth moving equipment. During the operational phase and closure phase, dust could be generated as indicated during mining.
Probability	Moderate	
Significance	Moderate	
Phase responsible for the impact	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
11. NOISE		
Nature of the impact	Noise will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation to client via gravel road on site. 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	Operational X	

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

ASPECT	IMPACTS	CUMULATIVE IMPACTS
13. SENSITIVE LANDSCAPE		
Nature of the impact	All mining activities must be kept 100 m horizontally away from surface water body.	
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	Operational X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS
14. VISUAL ASPECTS		
Nature of the impact	Mining will only be visible to landowners, neighbour and people traveling on D.F. Malan road.	
Extent	Site	Activity causing the impact
Duration	Short	Diamond mining operation.
Probability	Definite	
Significance	Low	
Phase responsible for the impact	Operational 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 3 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 Parys district . Once all mining 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 Sasolburg already created by industry and mining.	
Extent	Local	Activity causing the impact	
Duration	Long	Additional employment opportunities created.	
Probability	Definite		
Significance	High		
Phase responsible for the impact	Operational		Closure
	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 74.4604 ha (2ha mined at any given time) that will not be available for agricultural activities over a period of ±42 years.	The economic benefits in terms of investment and the delivery of services in the Free State 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	Operational		Closure
	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 mining focus area of 74.4604 ha (2ha mined at any given time) 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	Operational		Closure
	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. 326 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 mining right is being applied for the sole purpose of mining (SAND). 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, Appendix2 – 2. (1)(h) (g)(viii)

As soon as all the comment is received by interested and affected parties it will further be incorporated in the EIAR/EMP to be compiled.

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 replace topsoil layer after the opencast excavation floor has been levelled and side walls sloped to 14 degrees. • Planned, systematic and thorough mining of the mineral resource (SAND) should take place. • Optimal utilization of the mineral resource should take place within the boundaries of the mining terrain. • Strip, remove and store soil as far as practical in an orderly fashion and replace as far as possible. Cognisance should be taken of the fact that bulk sampling would take place by means of an opencast mining method until such level is reach / cut-off point is reach where rehabilitation could begin. • Care must be taken that the removal of SAND 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 opencast excavations should be levelled (floor area) and side walls sloped and eventually after being ripped, covered with a layer of topsoil. Access to all opencast excavation areas should be controlled and area should be fenced off. The necessary warning signs should be put in place. All mining 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). <p>Mining would be done according to a definite MWP (only disturbing an area that is really necessary). Rehabilitation of the new lowered 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 mining 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 opencast excavations or construction of infrastructure should be preceded by the removal of <u>all available topsoil and stockpiled for concurrent replacement.</u> The surface of any new areas to be disturbed must be kept to a minimum. <u>All available topsoil 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. Topsoil I 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 mining operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (existing farm roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily. Mining & rehabilitation should be done in a well-planned manner (according to a MWP) 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 mining terrain, including roads.	

Environmental Component	Soil (Soil erosion)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil Erosion: <i>To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.</i> Re-vegetation of exposed soil surfaces (man-made surfaces, 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 mining 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.	

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 mining site only. Remove topsoil where it is available and stockpile for concurrent replacement. Take care that roads needed are restricted to one entry to the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner. All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Rehabilitated to the state that it is suitable for the predetermined and agreed land capability.	

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

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
No mitigation exists except to replace the vegetation by reseedling of grasses and natural growth. Mining should be done in a well-planned manner (according to a MWP) and in the process ensuring that activities are only restricted to surface areas really required.	
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 mining 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 reseedling of grasses. Mining should be done in a well-planned manner (according to a MWP) 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. 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 mining site (utilized by mining 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 mining 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	
<p>Injury and death to wildlife: Re-establish trees and grass cover as soon as possible during and after mining. 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.</p>	
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 mining 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 MWP 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 mining activities must be kept 100 meters horizontally away from any surface water body.</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.</p> <p>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 mining 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 mining processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area. The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel storage and the workshop area).</p> <p>An incidence register for this purpose must be kept.</p> <p>Drip trays must be available and used where emergency repairs is done.</p> <p>All waste must be stored according to best practices and disposed at an authorized waste disposal facility.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Water will be supplied via a tanker for potable water and standing water in excavations will be used for dust suppression on access roads on site.	
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 mining method will serve as mitigation measure because mining will limit dust to the active mining 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>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Dust count must be the same as before mining. 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>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No noise attributed to mining 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>No graves on site. However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered. All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts.</p>	
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	
Surface water bodies (if any): - All mining activities must be kept 100 meters horizontally away from it.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

Environmental Component	Visual Aspects
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Visual impact would be addressed by means of; * re-vegetation of disturbed areas with grasses; * removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. Concurrent rehabilitation should be done simultaneously as mining 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 mining 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	
Access control should always be a priority. Active mining 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. No mining 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>)	
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, Appendix 2 – 2. (1)(h) (g)(ix)

As this is a mining operation of the whole of the **application area (74.4604 ha)**.

X) MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED

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

Alternative is not applicable. The current land use is agriculture (natural grassveld for grazing by cattle and mining. The option to explore the possibility for mining is not an alternative land use, as previous mining/mining has already taken place over certain areas. The applicant, **DAJA SILICA (PTY) LTD.** is not interested in any other alternative land use over this land aside for excavating of the SAND, or any other activity, or method use other than opencast mining 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 mining operation will not be a static operation, thus the **whole application area of 74.44604 ha (not more than 2 ha at any given time)** is to be mined by the opencast method. **The prospecting and mining operation on the mining permit area already indicated that it is feasible to conduct a bigger mining operation on the total mining right application area of 74.44604 ha.** The sand deposit is ideal for to be utilized in the building industry.

The current land use is agriculture (natural grassveld for grazing by cattle and mining). **The option to explore the possibility for mining is not an alternative land use, as previous mining has already taken place over certain areas.** The applicant, **DAJA SILICA (PTY) LTD.** is not interested in any other alternative land use over this land aside for excavating of the SAND, or any other activity, or method use other than opencast mining 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.

XII) PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 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, Appendix2 – 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 reserve (SAND) in the study area, and the opencast mining 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 & applicant (Riverbanks Trust).

The option to explore the possibility for mining is not an alternative land use as previous mining/mining has already taken place over some areas. The **applicant, DAJA SILICA (PTY) LTD.** is not interested in any other alternative land use over this land aside of SAND exploration, or any other activity, or method use other than mining for SAND in the conventional OPENCAST 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 reserve (SAND). The mining 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 (3) (manager included)** will be terminated. Therefore, the No-Go alternative is not a feasible option in this case, as it suggests that the mineral reserve (SAND) 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 and mining.

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 in surface water quality
- Dust
- Noise
- Archaeological/Cultural Sites

Geology:

SAND deposits will be destroyed during the opencast mining operation. During operation which will be for the **next ±42 years**, the mineral resource (SAND) will be excavated (**not more than 2 ha at any given time**) as mining progresses and also concurrently rehabilitated as part of the mining operation.

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 (2 ha)** that is mined at any given time will thus be temporary alienated, until the area is rehabilitated. All opencast excavations would be rehabilitated as part of the mining process. The rest of the application area will still be used by the landowner as agricultural land.

Rehabilitation:

This is a new mining operation and therefore will lose its land use to support grazing on a certain portion of the **74.4604 hectares during the next ±42 years**. **Only a small portion of land (2 ha at any given time)**, as mining progresses, would be affected by the mining operation relation to the total mining right application area of 74.4604 hectare. All opencast excavations would be concurrently rehabilitated as part of the mining process.

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 mining excavations could end-up in the excavations creating problems regarding water quality and hindering the mining process.

Surface run-off from active mining sites 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 opencast mining sections it could become silted-up hindering the mining process and also concurrent rehabilitation process.

Dust:

Dust will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation to the client on gravel/dirt/farm roads.

Noise:

Dust will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation to the client. 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)(i)(h)(a)(iii)

As this is a mining application, all mining activities will be kept 100 metres horizontally away from this surface water body. No heritage areas of significance were noted on the application area. All impacts noted will be mitigated.

Specialist studies will be required as follows:

- * Biophysical study
- * Groundwater and surface water study (Monitoring borehole by Coal mining company have been Identified on site)
- * Archaeological study

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)(i)(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 24 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)(i)(h)(a)(v)

The assessing of the duration is done on hand of the different phases as described in the **Mining Works Program (MWP)** which is also described under **Point ii) h)**. The significance is assessed from 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)(i)(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 4** for the identification of Interested and Affected Parties to be consulted with. The landowner (Riverbank Trust) and the direct neighbours were consulted personally and through letters that was given to them by hand. The result of this consultation and responses as received are all attached under **Appendix 2**. An advertisement was placed in the local newspaper Parys Gazette Newspaper of 29th September 2022, see copies of these attached. Notice was put up at the entrance to the application area, where all passers-by are invited to give through their comments of objections toward the proposed application. A copy of the Scoping Report was sent to all the State Departments. 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 Mining Works Programme and draft Scoping Report will be handed to the neighbours and landowners. 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.

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> • No mitigation exists except to replace topsoil layer after the opencast excavation floor has been levelled and side walls sloped to 14 degrees. • Planned, systematic and thorough mining of the mineral resource (SAND) should take place. • Optimal utilization of the mineral resource should take place within the boundaries of the mining terrain. • Strip, remove and store soil as far as practical in an orderly fashion and replace as far as possible. Cognisance should be excavating would take place by means of an opencast mining method until such level is reach / cut-off point is reach where rehabilitation could begin. • Care must be taken that the removal of SAND 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 opencast excavations should be levelled (floor area) and side walls sloped and eventually after being ripped, covered with a layer of topsoil. • Access to all opencast excavation areas should be controlled and area should be fenced off. The necessary warning signs should be put in place. All mining 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). <p>Mining would be done according to a definite MWP (only disturbing an area that is really necessary). Rehabilitation of the new lowered 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 mining 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 opencast excavations or construction of infrastructure should be preceded by the removal of <u>all available topsoil and stockpiled for concurrent replacement.</u> The surface of any new areas to be disturbed must be kept to a minimum. <u>All available topsoil 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. Topsoil 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 mining operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (existing farm roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily. Mining & rehabilitation should be done in a well-planned manner (according to a MWP) 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 mining terrain, including roads.	

Environmental Component	Soil (Soil erosion)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil Erosion: <i>To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.</i> Re-vegetation of exposed soil surfaces (man-made surfaces, 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 mining 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.	

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 mining site only. Remove topsoil where it is available and stockpile for concurrent replacement. Take care that roads needed are restricted to one entry to the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner. All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Rehabilitated to the state that it is suitable for the predetermined and agreed land capability.	

Environmental Component	Land Use
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>The disturbance of land must be restricted (kept to a minimum) to the planned active, fenced-off mining site only. Remove topsoil where it is available and stockpile on site, ready for concurrent replacement.</p> <p>Take care that roads are the only areas used to enter the area for mining 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 reseedling of grasses and natural growth.</p> <p>Mining should be done in a well-planned manner (according to a MWP) 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 mining 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:</p> <p>No mitigation exists except to replace the vegetation by reseedling of grasses.</p> <p>Mining should be done in a well-planned manner (according to a MWP) and in the process ensuring that activities are only restricted to surface areas really required.</p> <p>Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species.</p> <p>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> <p>An invasive and alien control programme must be implemented by the mine.</p>	
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 mining site (utilized by mining 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 mining 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 mining. 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	
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.	
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 mining site and keep contaminated water contained.</p>	
	
<p>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 MWP 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 mining activities must be kept 100 meters horizontally away from any surface water body.</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 mining 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>Seepage water from the natural soil deposit is also need to be contained and diverted to a portion of an opencast site in order not to hinder any mining process.</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 mining processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area. The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel storage and the workshop area).</p> <p>An incidence register for this purpose must be kept.</p> <p>Drip trays must be available and used where emergency repairs is done.</p> <p>All waste must be stored according to best practices and disposed at an authorized waste disposal facility.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Water will be supplied via a tanker for potable water and standing water in excavations will be used for dust suppression on access roads on site.	
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 mining method will serve as mitigation measure because mining will limit dust to the active mining 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>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Dust count must be the same as before mining. 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>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No noise attributed to mining 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>No graves on site. However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered. All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts.</p>	
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	
Manmade surface water bodies (on site): All mining activities must be kept 100 meters horizontally away from any surface water body.	
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 mining 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 mining 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	
Access control should always be a priority. Active mining 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 mine and pollution. No mining 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>)	
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.	

XIII) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

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


UNDERTAKING

I, H.M. Erasmus, the undersigned and duly authorised thereto by

DERA Omgewingskonsultante (PTY) Ltd hereby confirms:

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

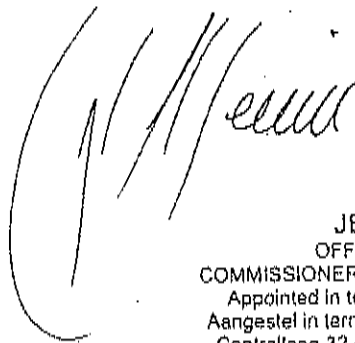
Signed at Klerksdorp on this day 30th September 2022



.....

Signature of EAP

-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

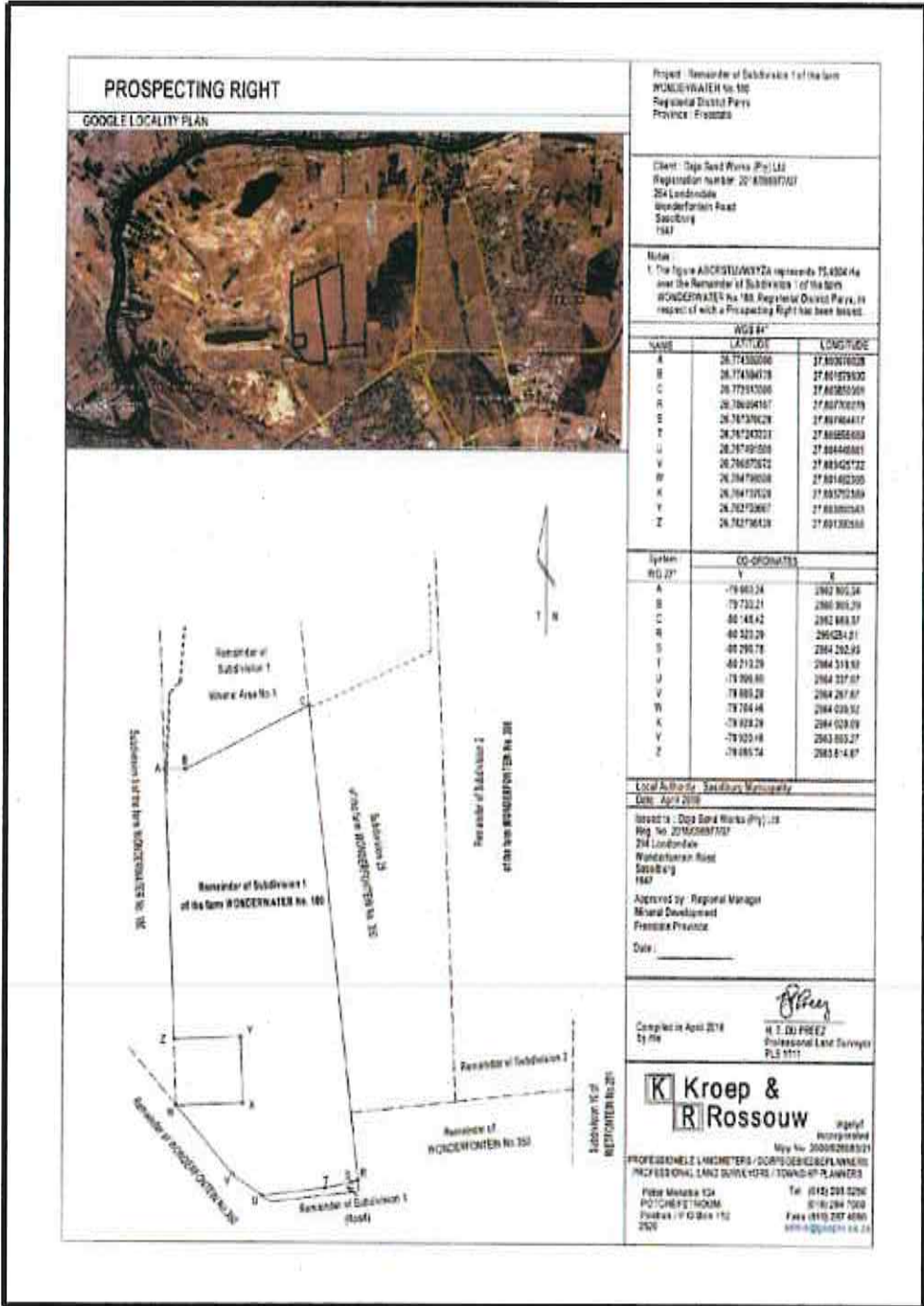
MAPS 1(B1 & B2) & 1(C): APPENDIX 1

General location of Mining right application area (74,4604 ha)



MAP 1A

SURFACE INFRASTRUCTURE MAP/PLAN



MAP/PLAN 1b (1)

SURFACE INFRASTRUCTURE PLAN (Google satellite image)



NAME	WGS 84° LATITUDE	LONGITUDE
A	26 71 43.0000	27 80 26.6203
B	26 71 43.94778	27 80 27.676530
C	26 71 43.10500	27 80 26.60331
D	26 70 59.4817	27 80 27.0778
E	26 70 59.628	27 80 27.44417
F	26 70 59.3333	27 80 26.56889
G	26 70 59.1650	27 80 26.48351
H	26 70 59.70572	27 80 26.25722
I	26 70 59.500	27 80 26.2206
J	26 70 59.10128	27 80 26.27389
K	26 70 59.667	27 80 26.30363
L	26 70 59.138	27 80 26.29356

MAP/PLAN 1b (2)

LAND USE COMPOSITE MAP



PROOF OF CONSULTATION: APPENDIX 2

APPENDIX 3: DETAILS OF THE PUBLIC PARTICIPATION PROCESS

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an "X" where those who must be consulted were in fact consulted.	Date sent and/or Comments Received	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s			
Riverbanks Trust (Landowner) Ms. S. Burger (Trustee) P.O. Box 2705, Paarl, 7646 Tel: 083 326 3424 Lawful occupier/s of the land	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Landowners or lawful occupiers on adjacent			
Mr. E. Eybers (Neighbour) Sasolburg 1947 Tel: 010 350 0333 E-mail: eric@masspet.co.za	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Dr. C. H. van Niekerk (Neighbour) 49 Golf Road, Three Rivers, Vereeniging, 1930 Tel: 082 928 6011 E-mail: chrisdoc@absamail.co.za	23 Sep 2022 31 Oct 2022	Consultation letter sent No objection, see consultation letter attached.	
Municipal councillor			
Municipality			
Ngwathe Local Municipality P.O. Box 359, Parys, 9585 Tel: 056 816 2700 Fax: 056 811 2046 E-mail: lordaan@ngwathe.co.za	23 Sep 2022	Consultation letter sent	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom,			
Communities			
N/A			
Dept. Land Affairs			
Cyndi Benyani E-mail: Cyndi.Benyani@dalird.gov.za	23 Sep 2022	Request for verification of land claims sent to Ms. Benyani	
Traditional Leaders			
Dept. Water and Sanitation			
Dt. J. Ntuli			
2 nd Floor, Bloem Plaza Building, Cnr East Burger & Charlotte Maxeke, Bloemfontein, 9300 Tel: 051 405 9000; E-mail: NtuliT@dws.gov.za	30 Sep 2022	EIA/EMPr was sent with Fastway couriers for comments	
Dept. Agriculture, Forestry and Fisheries			

<p>Grace Mkhosana Building 113, St Andrew Street, Bloemfontein, 9300 Cell: 066 487 2840 Tet: 051 400 4904 E-mail: Grace.Mkhosana@deftea.gov.za</p>		30 Sep 2022	EIA/EMPr was sent with Fastway couriers for comments
Other Competent Authorities			
OTHER AFFECTED PARTIES			
INTERESTED PARTIES			

Public notice was published in Parys Gazette 29 September 2022

DERA

23 September 2022

Environmental Consultants

CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING RIGHT IN TERMS SECTION 22 OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014 OVER: A CERTAIN PORTION OF REMAINDER OF PORTION 1 OF THE FARM WONDERWATER 180, PARYS DISTRICT.

You are herewith informed that **Daja Silica (Pty) Ltd** has submitted an application in terms of Section 22 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and **NEMA, EIA 2014**, to the Regional Manager: Mineral Regulation, Free State Region in respect of the mining of Sand (General), in the magisterial district of Sasolburg.

Daja Silica (Pty) Ltd. is in the process of compiling the Scoping Report, which needs to be submitted at the Regional Office of DMR. An Environmental Management Programme (EMP) & Environmental Impact Report (EIA) need to be submitted at the Regional Office of DMR within 106 days from date of acceptance of the Scoping Report. The documents will be available for I&AP's for comments. See attached the Sketch plan & Environmental Authorisation.

In terms of Section 10 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and in terms of Regulation 39(1) of the regulations published in the Government Notice No. R10328 (of 4 December 2014) under Chapter 6 of the NEMA, EIA 2014, the landowner or legal occupier of the land, as well as any other interested party must be notified and consulted with in terms of the proposed project.

Daja Silica (Pty) Ltd. deems it necessary to consult with inter alia yourself / your company/ your organization, and you are therefore kindly requested to comment very clearly and unambiguously with regards to the proposed mining project. You are requested to submit in writing, any interest/ objection and/or comments you may have and return it to the appointed consultants (**Reference no. FS30/5/1/2/2/10074MR**) within 30 days from the date of receipt of this letter. If no correspondence is received from you within the mentioned time frame, the applicant shall accept that you have no objection with the proposed mining activities.

Please call me if any further information is needed.

Your co-operation will be appreciated.

Yours faithfully

P.P. 

Esna Erasmus (DERA Environmental Consultants)

.....

REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING RIGHT OF DAJA SILICA (PTY) LTD. OVER A CERTAIN PORTION OF THE REMAINDER OF PORTION 1 OF THE FARM
WONDERWATER 180, MAGISTERIAL DISTRICT OF PARYS.

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3518
E-mail: esane@dera.co.za

PERSONAL INFORMATION:

Title/Titel: MS Initials/Voorletters: S First Name/Eerste naam: Sophia

Surname/Van: BURGER

E-mail/E-pos:

Telephone/Telefoon: 083326 3424 Fax/Faks:

Organisation (if applicable)/Organisasie (indien van toepassing): RIJVERBANKS TRUST

Capacity (member, etc.)/Kapasiteit (lid ens): TRUSTEE

Landowner/Grondeienaar/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas:

Postal Address/ Posadres: PO BOX 2705

Town/City/Dorp/Stad: PARL Code/Kode: 7646

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?

PROPERTY OWNER

2. Do you have any ground for objection or do you support the proposed project/Hat u enige gronde tot beswaar of ondersteun u die bogenoemde projek?

NONE

YES/NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgename projek 'n negatiewe inpak kan he op u self of die omgewing?

YES/NO JA/NEE

If "Yes", please describe shortly/Indien 'JA', verduidelik asseblief kortliks.

Filled in on/Ingevol op: 18 day of /dag van: OCTOBER (month)/(maand) 2022

S.BURGER / RIJVERBANKS TRUST
Name and Surname/ Company
Naam en Van/Maatskappy

[Signature]
Signature/Handtekening

REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING RIGHT OF DAJA SILICA (PTY) LTD. OVER A CERTAIN PORTION OF THE REMAINDER OF PORTION 1 OF THE FARM
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Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel. 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: daane@dera.co.za

PERSONAL INFORMATION:

Title/Titel: Mr Initials/Voorletters: E First Name/Eerste naam: Eric
Surname/Van: Eybers
E-mail/E-pos: eric@masspet.co.za
Telephone/Telefoon: 010 350 0333 Fax/Faks: _____
Organisation (if applicable)/Organisasie (indien van toepassing): _____
Capacity (member, etc.)/Kapasiteit (lid ens): Manager
Landowner/Grondeienaar/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas: _____
Postal Address/ Posadres: _____
Town/City/Dorp/Stad: Stooburg Code/Kode: 1947

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?

Geen Beswaar

2. Do you have any ground for objection or do you support the proposed project/Het u enige gronde tot oeswaar of ondersteun u die bogenoemde projek?

Geen Beswaar

YES/NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

Nee

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgename projek 'n negatiewe inpak kan he op uself of die omgewing?

YES/NO JA/NEE

If "Yes", please describe shortly/Indien 'JA', verduidelik asseblief kortliks.

Nee, geen sone nie.

Filled in on/Ingevol op 25 day of /dag van October (month)/(maand) 2022

Eric Eybers (Mass Petroleum)
Name and Surname/ Company Signature/Handtekening
Naam en Van/Maatskappy

P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za
daane@dera.co.za

DERA

23 September 2022

Environmental Consultants

CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING RIGHT IN TERMS SECTION 22 OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014 OVER: A CERTAIN PORTION OF REMAINDER OF PORTION 1 OF THE FARM WONDERWATER 180, PARYS DISTRICT.

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Please call me if any further information is needed.

Your co-operation will be appreciated.

Yours faithfully

P.P. 

Esna Erasmus (DERA Environmental Consultants)



DR CH VAN NIEKERK
MMed (Anaes)

.....
30/10/2022

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING RIGHT OF DAJA SILICA (PTY) LTD. OVER A CERTAIN PORTION OF THE REMAINDER OF PORTION 1 OF THE FARM
WONDERWATER 180, MAGISTERIAL DISTRICT OF PARYS.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-468 5355
Fax: 018-011 3780
Mobile: 082 895 3516
E-mail: daane@dera.co.za

PERSONAL INFORMATION:

Title/Titel: Dr Initials/Voorletters: CH First Name/Eerste naam: Chris Hendrik
Surname/Van: Van Niekerk
E-mail/E-pos: chrisdoc@absamail.co.za
Telephone/Telefoon: 0829286011 Fax/Faks: —
Organisation (if applicable)/Organisasie (indien van toepassing): Wonderfontein 350 Onv 25 (van 1)
Capacity (member, etc.)/Kapasiteit (lid ens): Landowner
Landowner/Grondseenaar/Neighbour/Buurman/Interested and/or affected party on the farm/op die plaas: Wonderfontein 350 Onv 25 (van 1)
Postal Address/ Posadres: 49 Golf Road, Three Rivers
Town/City/Dorp/Stad: Vereeniging Code/Kode: 1930

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?
Landowner: Wonderfontein 350 Onv 25 (van 1). Adjacent to remainder of Portion 1 Wonderwater 180

2. Do you have any ground for objection or do you support the proposed project/Het u enige gronde tot beswaar of ondersteun u die bogenoemde projek?
No objection to the mining of Sand (General) A certain portion of the property has been mined and in the process of rehabilitation.

YES NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgename projek 'n negatiewe inpak kan he op uself of die omgewing?

YES NO JA/NEE

If "Yes", please describe shortly/Indien 'JA', verduidelik asseblief kortliks.

If properly rehabilitated after general Sand mining it will have no negative impact on myself or the environment.

Filled in on/Ingevol op... 30 ... day of /dag van... October ... (month)/(maand) 2022

Dr CH van Niekerk

Name and Surname/ Company

Naam en Van/Maatskappy



Signature/Handtekening

DR CH VAN NIEKERK
MMed (Anaes)

.....

Gerda

From: Gerda <dera.office@dera.co.za>
Sent: Friday, 23 September 2022 12:51
To: 'jordan@ngwathe.co.za'
Subject: Consultation letter for Mining Right application - Daja Sand Silica (Pty) Ltd
Attachments: Consultation letter for Mining Right application - Daja Sand Silica (Pty) Ltd.pdf

Good day Sir

See attached the consultation letter for a proposed Mining Right application in the district of Parys.

It will be appreciated if you can acknowledge the e-mail and attached letter as received.

Can you please return the attached consultation letter to dera.office@dera.co.za

Regards.

Gerda Els
Cell: 083 225 1593

Esna Erasmus
Dera Omgewingskonsultante (Pty) Ltd.
Reg no: 2014/051013/07
P.O. Box 6499, Flamwood, 2572
VAT no: 4590284073
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516
e-mail: dera.office@dera.co.za

Your message is ready to be sent with the following file or link attachments:

Consultation letter for Mining Right application - Daja Sand Silica (Pty) Ltd

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Cell: 082 895 3516
E-mail: dera.office@dera.co.za

.....

DERA

23 September 2022

Environmental Consultants

Ngwathe Local Municipality
Attention: Municipal Manager
E-mail: jordaan@ngwathe.co.za

RE: CONSULTATION WITH INTERESTED & AFFECTED PARTIES

It is hereby confirmed that Daja Silica (Pty) Ltd has applied for a Mining Right over a certain Portion of the Remainder of Portion 1 of the farm Wonderwater 180, magisterial district of Parys.

The Department of Mineral Resources has requested that the Ngwathe Local Municipality must be informed about the proposed mining right application.

Please find attached the consultation letter with the information regarding the proposed mining right application.

It would be highly appreciated if you could return the attached consultation letter to Dera Environmental Consultants at Fax: 018 011 3760 or dera.office@dera.co.za

Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

pp. 

Esna Erasmus
DERA Environmental Consultants

.....

DERA

23 September 2022

Environmental Consultants

CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING RIGHT IN TERMS SECTION 22 OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014 OVER: A CERTAIN PORTION OF REMAINDER OF PORTION 1 OF THE FARM WONDERWATER 180, PARYS DISTRICT.

You are herewith informed that **Daja Silica (Pty) Ltd** has submitted an application in terms of Section 22 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and **NEMA, EIA 2014**, to the Regional Manager: Mineral Regulation, Free State Region in respect of the mining of Sand (General), in the magisterial district of Sasolburg.

Daja Silica (Pty) Ltd. is in the process of compiling the Scoping Report, which needs to be submitted at the Regional Office of DMR. An Environmental Management Programme (EMP) & Environmental Impact Report (EIA) need to be submitted at the Regional Office of DMR within 106 days from date of acceptance of the Scoping Report. The documents will be available for I&AP's for comments. See attached the Sketch plan & Environmental Authorisation.

In terms of Section 10 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and in terms of Regulation 39(1) of the regulations published in the Government Notice No. R10328 (of 4 December 2014) under Chapter 6 of the NEMA, EIA 2014, the landowner or legal occupier of the land, as well as any other interested party must be notified and consulted with in terms of the proposed project.

Daja Silica (Pty) Ltd. deems it necessary to consult with inter alia yourself / your company/ your organization, and you are therefore kindly requested to comment very clearly and unambiguously with regards to the proposed mining project. You are requested to submit in writing, any interest/ objection and/or comments you may have and return it to the appointed consultants (**Reference no. FS30/5/1/2/2/10074MR**) within 30 days from the date of receipt of this letter. If no correspondence is received from you within the mentioned time frame, the applicant shall accept that you have no objection with the proposed mining activities.

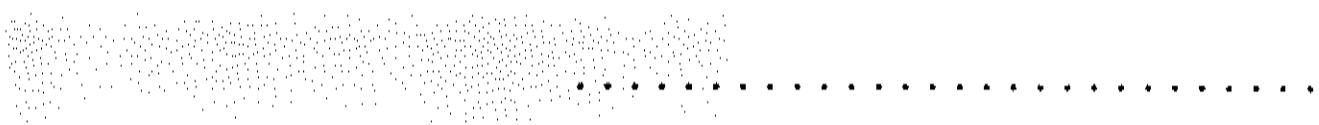
Please call me if any further information is needed.

Your co-operation will be appreciated.

Yours faithfully

PP. 

Esna Erasmus (DERA Environmental Consultants)



REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING RIGHT OF DAJA SILICA (PTY) LTD. OVER A CERTAIN PORTION OF THE REMAINDER OF PORTION 1 OF THE FARM
WONDERWATER 180, MAGISTERIAL DISTRICT OF PARYS.

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel. 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: daane@dera.co.za

PERSONAL INFORMATION:

Title/Titel: Initials/Voorletters: First Name/Eerste naam:

Surname/Van.....

E-mail/E-pos.....

Telephone/Telefoon..... Fax/Faks.....

Organisation (if applicable)/Organisasie(indien van toepassing):

Capacity (member, etc.)/Kapasiteit (lid ens):

Landowner/Grondeenaar/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas.....

Postal Address/ Posadres

Town/City/Dorp/Stad: Code/Kode:

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?

2. Do you have any ground for objection or do you support the proposed project/Het u enige gronde tot beswaar of ondersteun u die bogenoemde projek?

YES/NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgename projek 'n negatiewe inpak kan he op uself of die omgewing?

YES/NO JA/NEE

If "Yes", please describe shortly/Indien 'JA', verduidelik asseblief kortliks.

Filled in on/Ingevol op..... day of /dag van..... (month)/(maand) 2022

Name and Surname/ Company

Naam en Van/Maatskappy

Signature/Handtekening



Gerda

From: Gerda <dera.office@dera.co.za>
Sent: Friday, 23 September 2022 12:37
To: Cindy.Benyane@dalrrd.gov.za
Cc: Cindy Benyane
Subject: Verification of land claims - Wonderwater - Parys district
Attachments: Verification of land claims - Wonderwater - Parys district.pdf

Good day Cindy

See attached our request for verification of land claims on the farm Wonderwater in the district of Parys.

Kind regards.

Gerda Els
Cell: 083 225 1593

Esna Erasmus
Dera Omgewingskonsultante (Pty) Ltd.
Reg no: 2014/051013/07
P.O. Box 6499, Flamwood, 2572
VAT no: 4590284073
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516
e-mail: dera.office@dera.co.za

Your message is ready to be sent with the following file or link attachments:

Verification of land claims - Wonderwater - Parys district

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

P O Box 6499
Fiamwood
2572
Tel. 018-468 5355
Fax. 018-011 3760
Cell. 082 895 3516
E-mail: dera.office@dera.co.za

.....
DERA

23 September 2022

Environmental Consultants

Department of Land Affairs & Rural Development

Attention: Ms. C. Benyane

Re: Verification of Land Claim

We are Environmental Consultants situated in Klerksdorp and has applied for a Mining Right on the farm Wonderwater 180, in the magisterial district of Parys.

Could you please be so kind to verify if there are any land claims over the area as listed below:

- Portion of the Remainder of Portion 1 of Wonderwater 180
- Ngwathe Local municipality

It would be highly appreciated if you could help us in this matter as soon as possible.

Please feel free to contact the office of Dera Environmental Consultants or Mrs. Erasmus on cell: 082 895 3516 for any further information.

Yours truly,

P.P. - 

Esna Erasmus

.....

PUBLIC NOTICE

APPLICATION FOR AN ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED ACTIVITIES.

Notice is given for the following application:

1) Environmental authorization application for mining.

- **Proponent:** The applicant is Daja Silica (Pty) Ltd.
- **Ref. no:** FS30/5/1/2/2/10074MR
- **Property description:** The proposed mining area is over a certain portion of the Remainder of Portion 1 of the farm Wonderwater 180, Parys district. The total extent of the mining area is 75,4604 hectares. (21 SG digital code: F02500000000018000001)
- **Location:** The property is situated ±8 km north of Sasolburg.
- **Project description:** The purpose of the application is to obtain the required authorisation from the Department to mine for Sand (general)
- **Activity applied for:** the following activities as listed in terms of NEMA (Act No. 107 of 1998) as amended and EIA Regulations, 2014 was applied for under Listing Notice 1 – GNR 327 of 2014, Activity 27 & Listing Notice 2 – GNR 325 of 2014, Activity 17
- **Minerals applied for:** Sand (General)
- **Date submitted:** 12 August 2022
- **Stakeholder involvement:** Stakeholders are invited to register as interested and affected parties and to participate in the application process by identifying issues of concern and suggestions for consideration in the Scoping Report. I&AP's can contact Dera Environmental Consultants for any further information required. Please submit your written comments by mail, fax or e-mail in this 30 day of this notice to:

Mrs. Esna Erasmus of DERA Environmental Consultants
PO Box 6499 E-mail: daane@dera.co.za
Flamwood Cell: 082 895 3516
2572 Fax: 018 011 3760

- **Date of advertisement:** Thursday 29 September 2022
- **Date and venue of public meeting:** Monday 10 October 2022 at 9H00 on site coordinates: -26.787459 Long 27.804666

SITE NOTICE


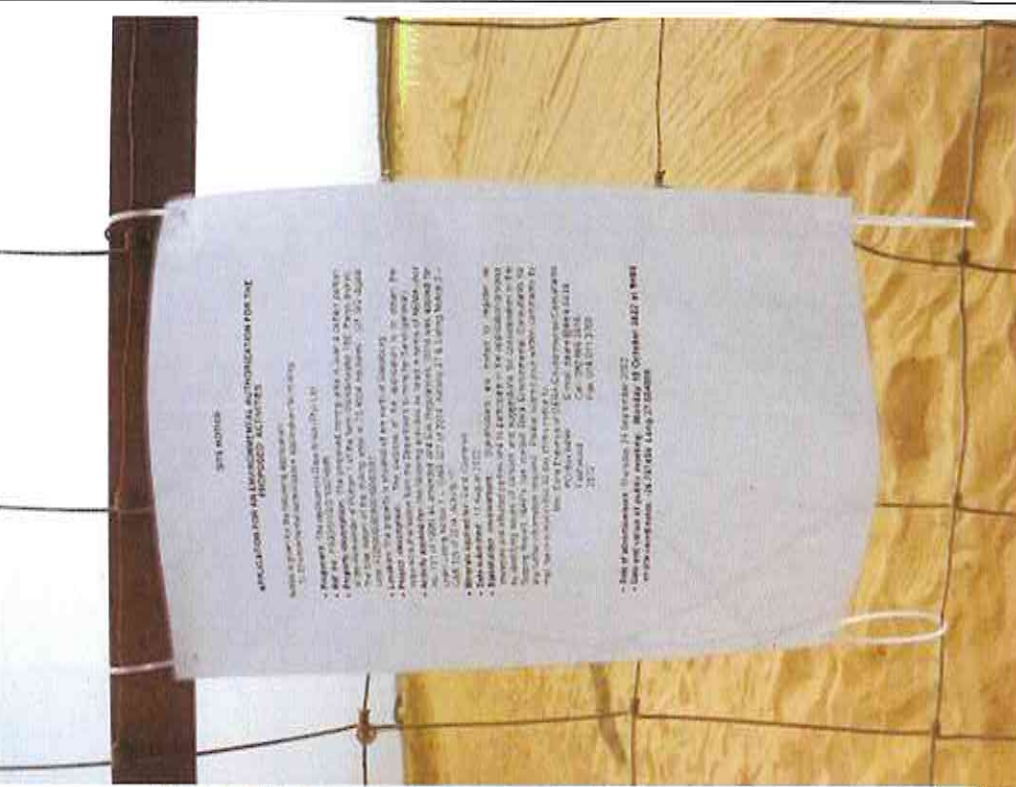
APPLICATION FOR AN ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED ACTIVITIES.

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Mrs. Esna Erasmus of DERA Environmental Consultants
PO Box 6499 E-mail: daane@dera.co.za
Flamwood Cell: 082 895 3516
2572 Fax: 018 011 3760
- **Date of advertisement:** Thursday 29 September 2022
- **Date and venue of public meeting:** **Monday 10 October 2022 at 9H00**
on site coordinates: -26.787459 Long 27.804666

PLACEMENT OF ADVERT AT GATE:

<p>Photo 1</p> 	<p>Photo 2</p> 
<p>GPS Location: S 27.328801 E 25.764028</p>	

AGENDA OF PUBLIC MEETING

DAJA SILICA (PTY) LTD.

Mining right over a certain portion of the Remainder of Portion 1 of the farm Wonderwater 180, Parys district.

Venue: on site coordinates: Lat -26.787459, Long 27.804666

Date: Monday 10 October 2022 Time: 9H00

1. Welcome
2. Background of proposed Mining Right
3. Open discussion on impacts and mitigation measures
4. Closure

ATTENDANCE REGISTER OF PUBLIC MEETING			
	Capacity	Call No.	E-mail address
1	Esna Erasmus	0828953516	daane@dera.co.za
2	Andrew Burgel	084602574	andrewburgel@bickel
3	Annél Mouton	0834388501	
4			
5			
6			

Comments: None, only attendees was employees of Daja Silica (Pty) Ltd.
 Meeting was arranged for 9:00 by 10:00 still no other interested and affected parties that arrived or called.

Date: 10/10/2022 Signature: [Signature]

.....



P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018 011 3760
Cell: 082 895 3516
E-mail: dera_office@dera.co.za

DERA

30 September 2022

Environmental Consultants

Department of Environmental Affairs & Dept Agriculture Forestry & Fisheries
Building 113
St Andrew Street
Bloemfontein, 9300

Attention: Grace Mkhosana

RE: Scoping Report

Reference Number: FS30/5/1/2/2/10074MR

It is hereby confirmed that Daja Silica (Pty) Ltd has applied for a mining right over a certain portion of the remainder of portion 1 of the farm Wonderwater 180, situated in the magisterial district of Parys, Free State Province.

The application was accepted by the Department of Mineral Resources and they have requested that the Department of Environmental Affairs & Dept Agriculture, Forestry & Fisheries (Free State Regional Office) must be consulted about the proposed mining right. See attached the Scoping Report for comments.

Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516.

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

Esna Erasmus
DERA Environmental Consultants

.....

Deja Silica (Pty) Ltd. Scoping Report-FS 10074MK

To

Company Name:

Street Address: (no PO Boxes)

Department of Environmental Affairs &
Department of Agriculture, Forestry & Fisheries
Building 113
St Andrew Street
Bloemfontein
9301

Tel: 051 400 4872 Contact: Grace Mkhosana
066 487 2840

No Dangerous Goods Declaration

I hereby certify that this consignment does not contain any dangerous or prohibited goods, eg. explosives, flammables, corrosives, aerosols or poisonous substances.

Name:

E. Kruger

Signature:

Kruger

↑ Lift & Peel

Pickup
VA0013414166

↑ Lift & Peel

Delivery
VA0013414166

VA0013414166

.....



P O Box6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Cell: 082 895 3516
E-mail: dera_office@dera.co.za

DERA

30 September 2022

Environmental Consultants

Department of Water and Sanitation
2nd Floor, Bloem Plaza Building
Cnr East Burger & Charlotte Maxeke
Bloemfontein
9300

Attention: Dr. T. Ntli

RE: Scoping Report

Reference Number: FS30/5/1/2/2/10074MR

It is hereby confirmed that Daja Silica (Pty) Ltd has applied for a mining right over a certain portion of the remainder of portion 1 of the farm Wonderwater 180, situated in the magisterial district of Parys, Free State Province.

The application was accepted by the Department of Mineral Resources and they have requested that the Department of Water and Sanitation (Free State Regional Office) must be consulted about the proposed mining right. See attached the Scoping Report for comments.

Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516.

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

Esna Erasmus
DERA Environmental Consultants

.....

Daja Silica City Ltd - Scoping Report - FS 10074 MK

To

Company Name:

Street Address: (no PO Boxes)

To: Department of Water & Sanitation

2nd Floor, Bloem Plaza Building

Cnr East Burger & Charlotte Maxeke streets

Bloemfontein

9301

Phone: 051 405 9000/9109 Attention: Dr. T. Ntuli

082 808 5584 / 082 878 5707

No Dangerous Goods Declaration

I hereby certify that this consignment does not contain any dangerous or prohibited goods, eg. explosives, flammables, corrosives, aerosols or poisonous substances.

Name:

E. Kruger

Signature:

E. Kruger

↑
Lift & Peel



Pickup

VA0013414165

↑
Lift & Peel



Delivery

VA0013414165

VA0013414165



NEMA SCREENING REPORT: APPENDIX 3

**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number:

Project name: Mining Right

Project title: Wonderwater No 180

Date screening report generated: 11/08/2022 16:08:25

Applicant: Daja Silica (Pty) Ltd

Compiler: DERA Omgewingskonsultante (Pty) Ltd

Compiler signature:



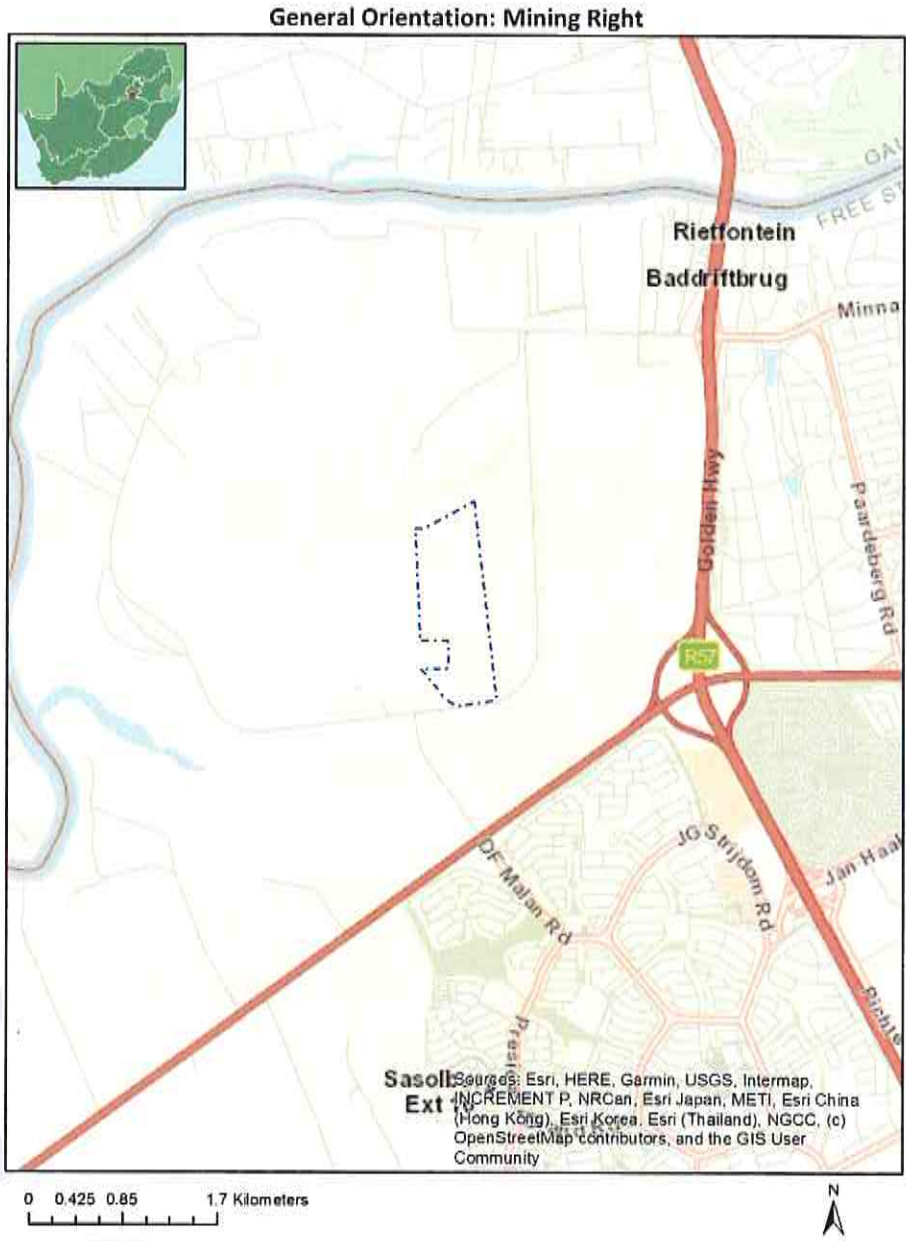
Application Category: Mining|Mining Right

Table of Contents

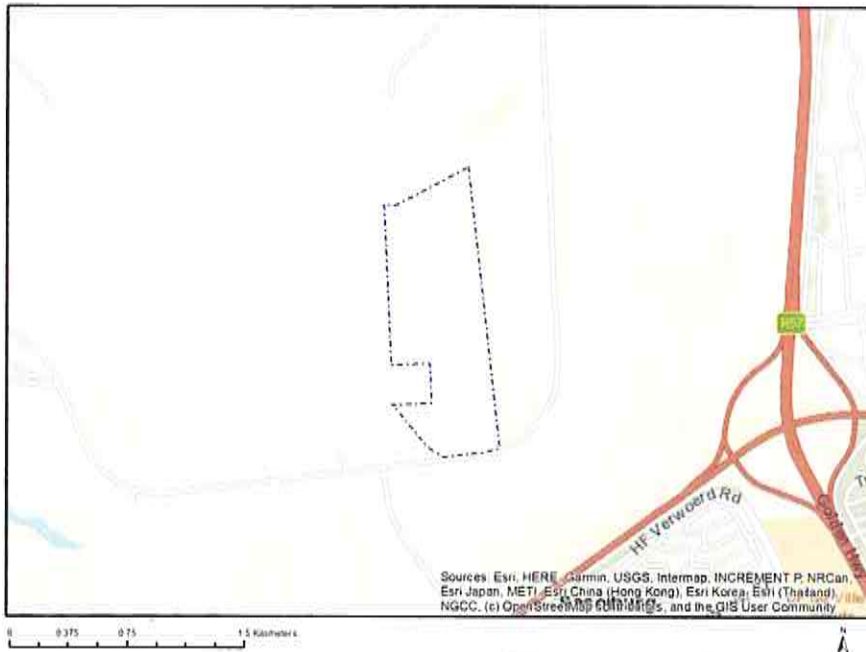
Proposed Project Location	3
Orientation map 1: General location	3
Map of proposed site and relevant area(s).....	4
Cadastral details of the proposed site	4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area	4
Environmental Management Frameworks relevant to the application	5
Environmental screening results and assessment outcomes	5
Relevant development incentives, restrictions, exclusions or prohibitions.....	5
Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones.....	6
Proposed Development Area Environmental Sensitivity	6
Specialist assessments identified.....	7
Results of the environmental sensitivity of the proposed area	9
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY	9
MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY.....	10
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY	11
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY	12
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MAP OF RELATIVE DEFENCE THEME SENSITIVITY.....	14
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MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY	16
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY	17

Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	WONDERWATER	180	0	26°46'14.43S	27°47'59.83E	Farm
2	WONDERFONTEIN	350	0	26°46'25.71S	27°48'35.22E	Farm
3	ROSEBERRY PLAIN	250	25	26°46'25.22S	27°48'27.24E	Farm Portion
4	WONDERWATER	180	1	26°46'25.81S	27°48'9.64E	Farm Portion
5	WONDERFONTEIN	350	0	26°45'50.08S	27°47'20.6E	Farm Portion

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/753	Solar PV	Approved	16.6

¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

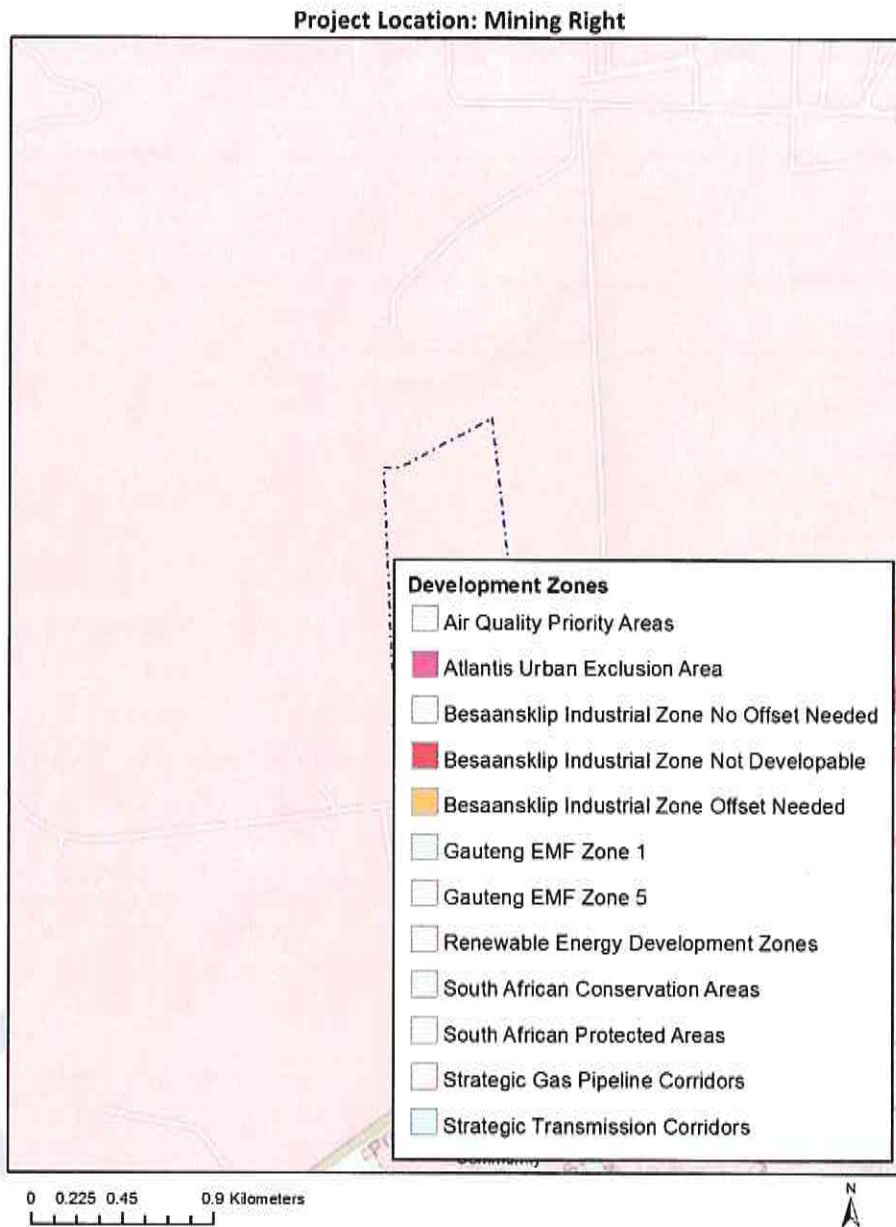
Mining | Mining Right.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Air Quality-Vaal Triangle Airshed Priority Area	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Final_VTAPA_AQMP_20090408_-15_April_2009.pdf
Strategic Gas Pipeline Corridors-Phase 3: Richards Bay to Gauteng	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones



Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

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
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme				X

Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

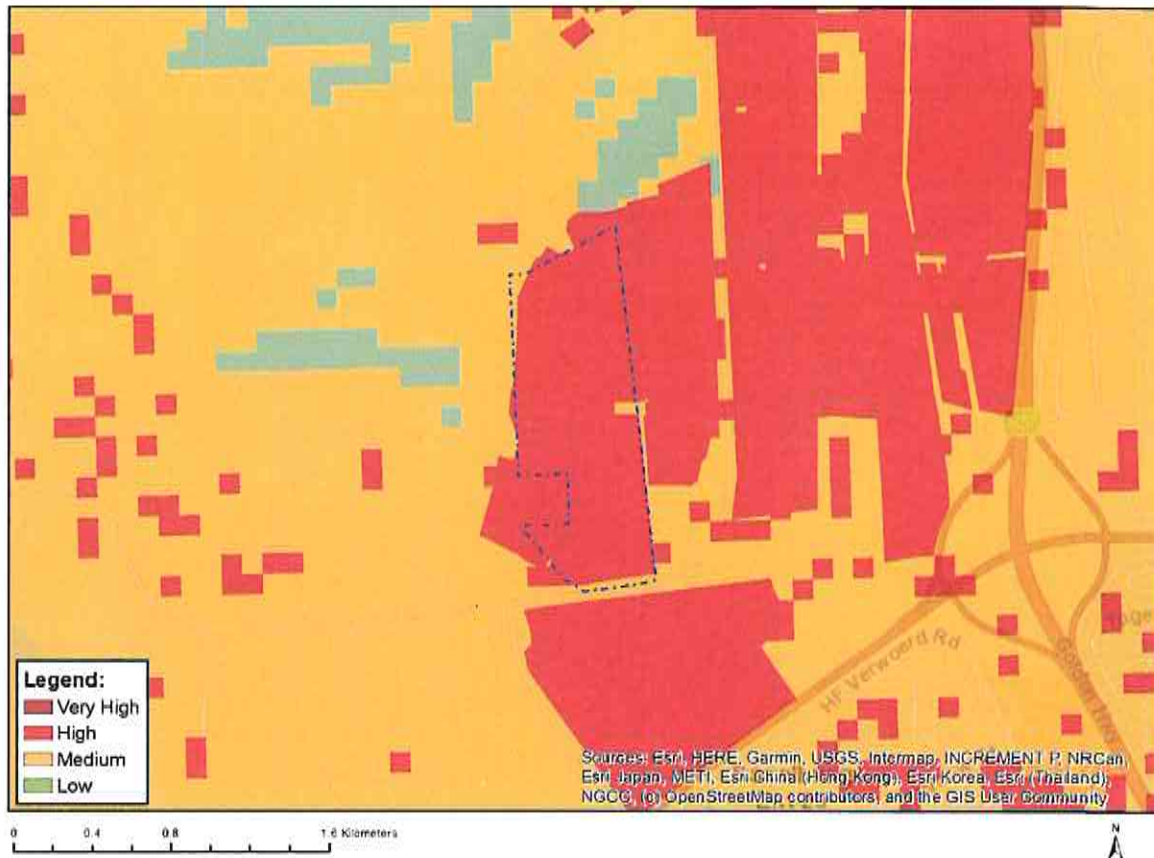
N o	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Agriculture Assessment Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Terrestrial Biodiversity Assessment Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Aquatic Biodiversity Assessment Protocols.pdf
7	Hydrology	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols

	Assessment	/Gazetted General Requirement Assessment Protocols.pdf
8	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Noise Impacts Assessment Protocol.pdf
9	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
10	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
11	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
12	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
13	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
14	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
15	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
16	Seismicity Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
17	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Plant Species Assessment Protocols.pdf
18	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Animal Species Assessment Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

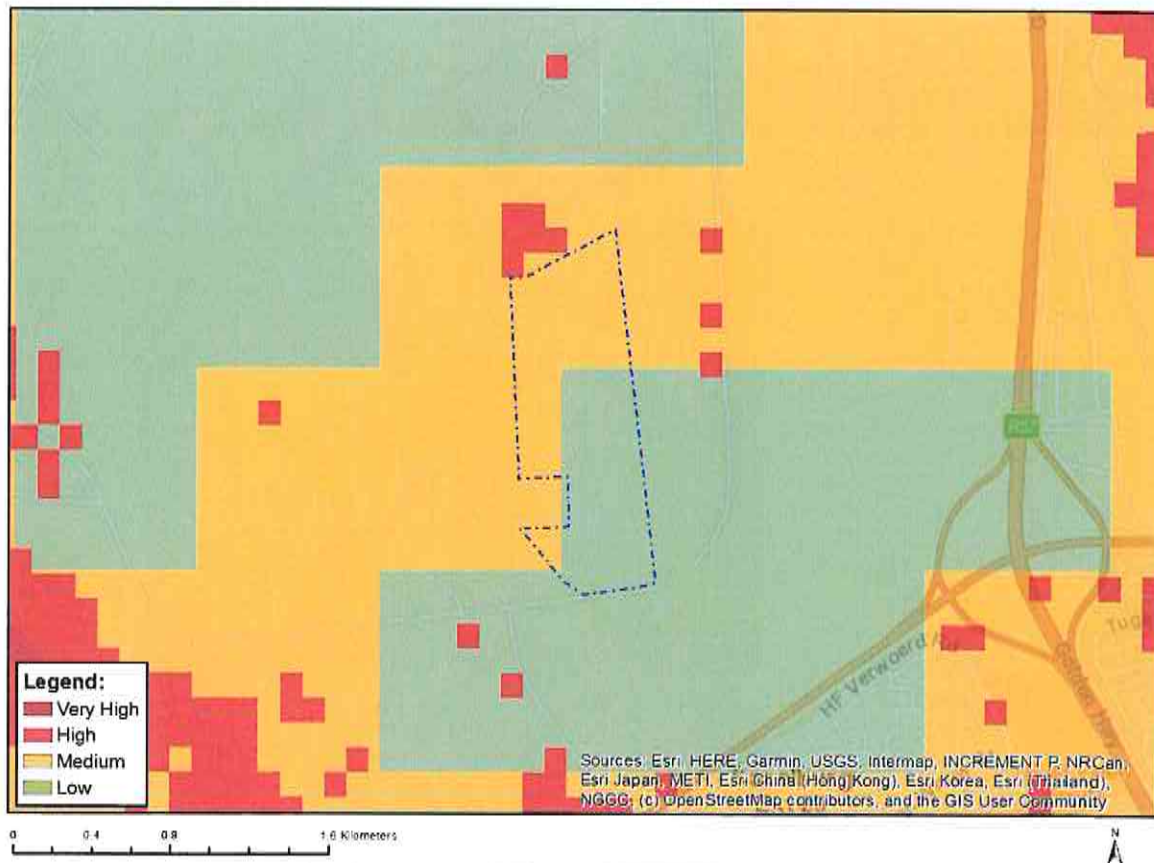


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Tyto capensis
Low	Subject to confirmation
Medium	Mammalia-Crocidura maquassiensis

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

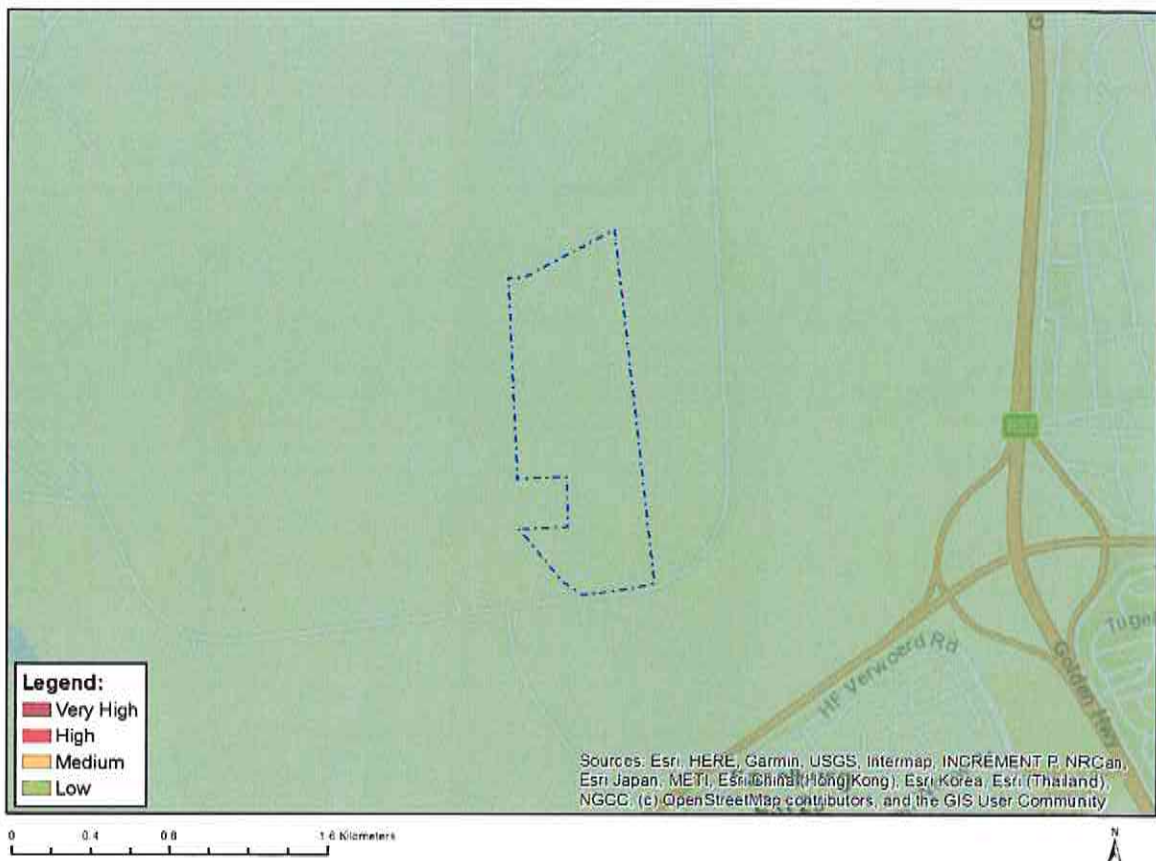


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

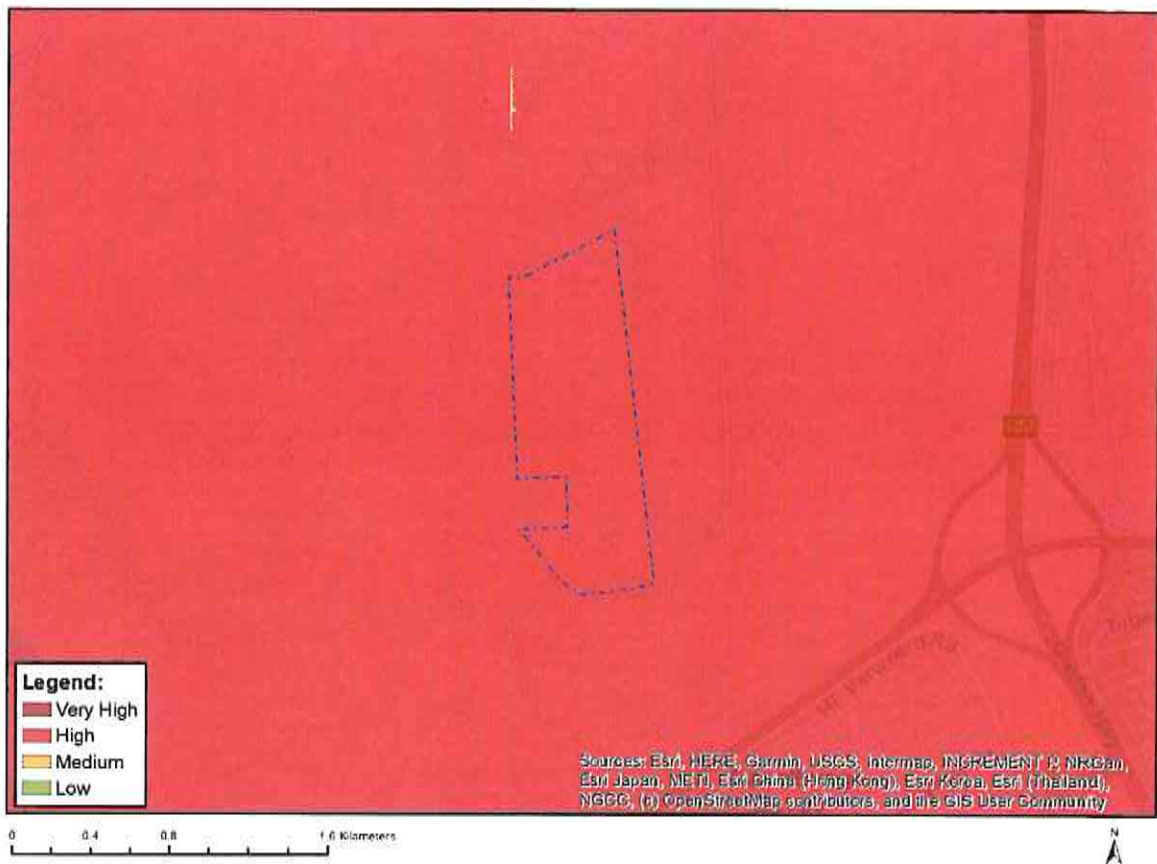


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

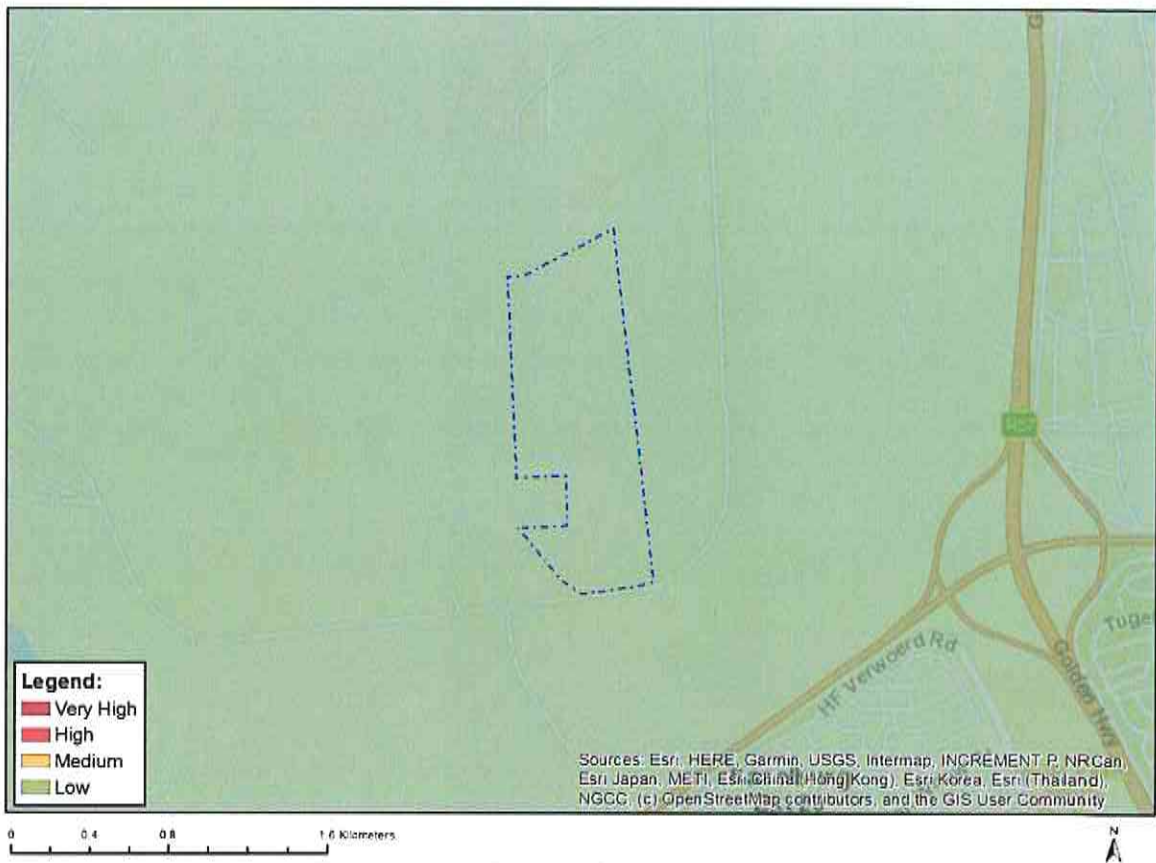


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

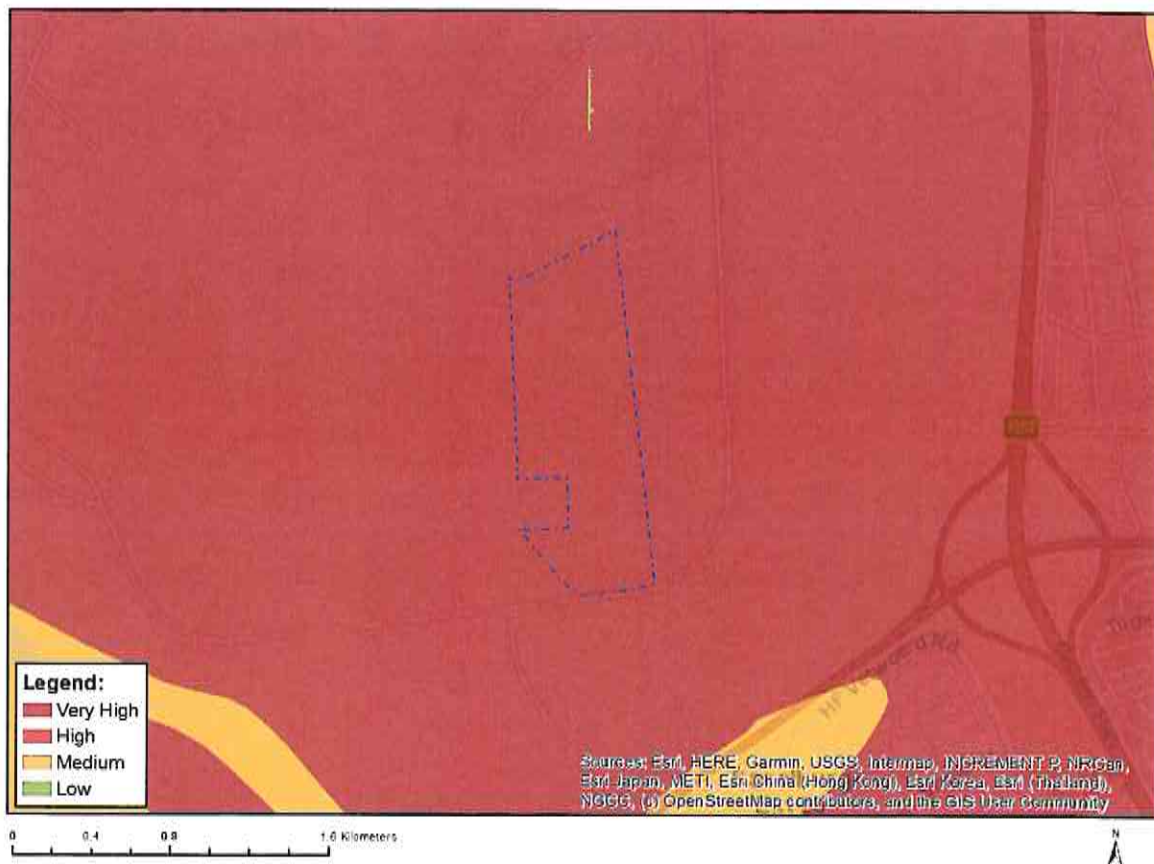


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

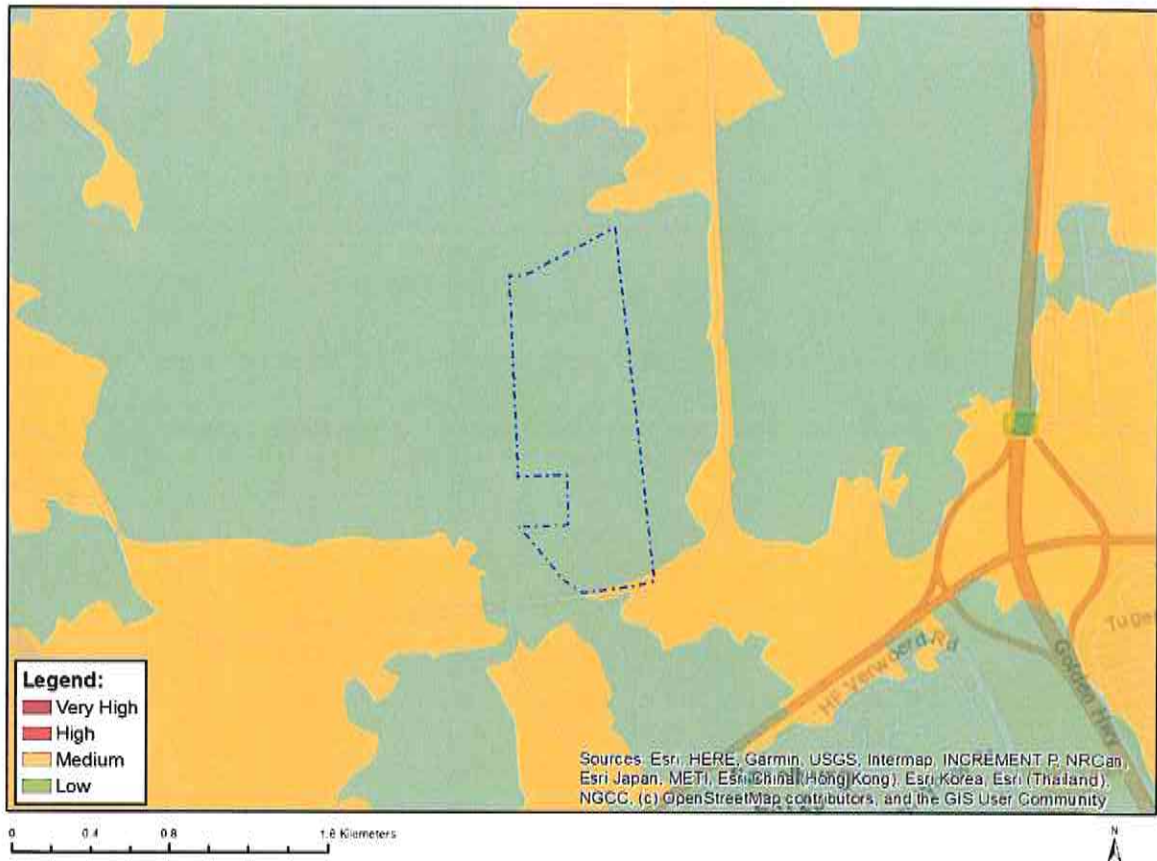


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



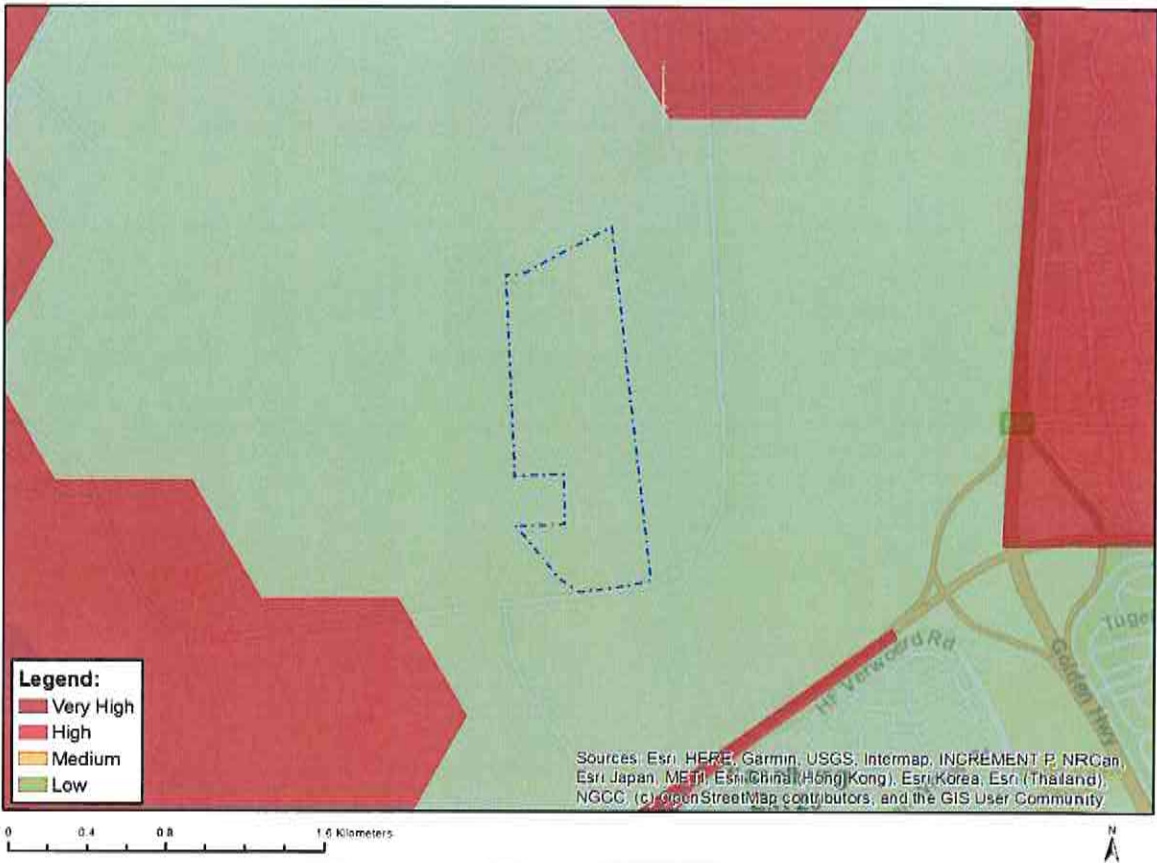
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 1261

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

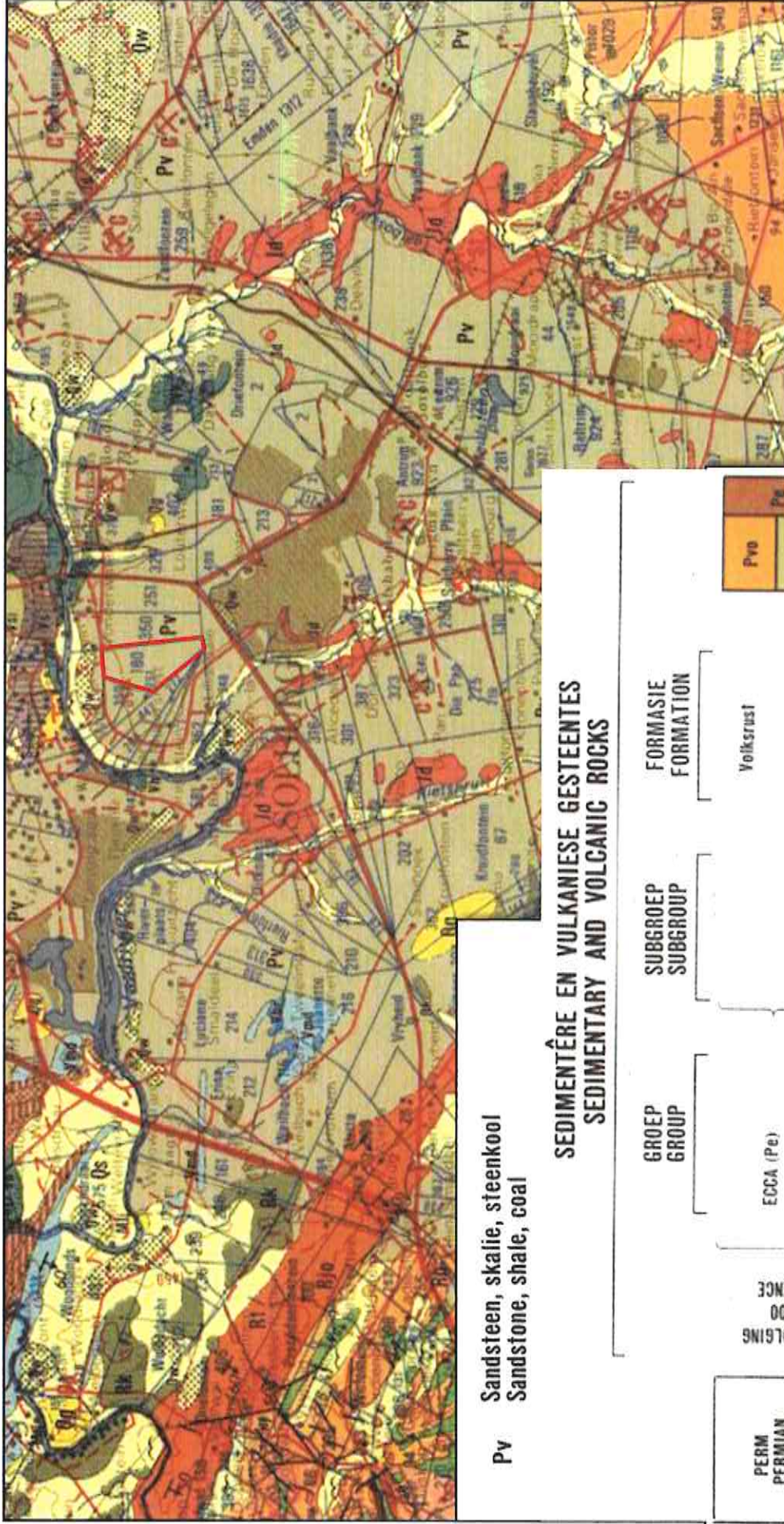


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

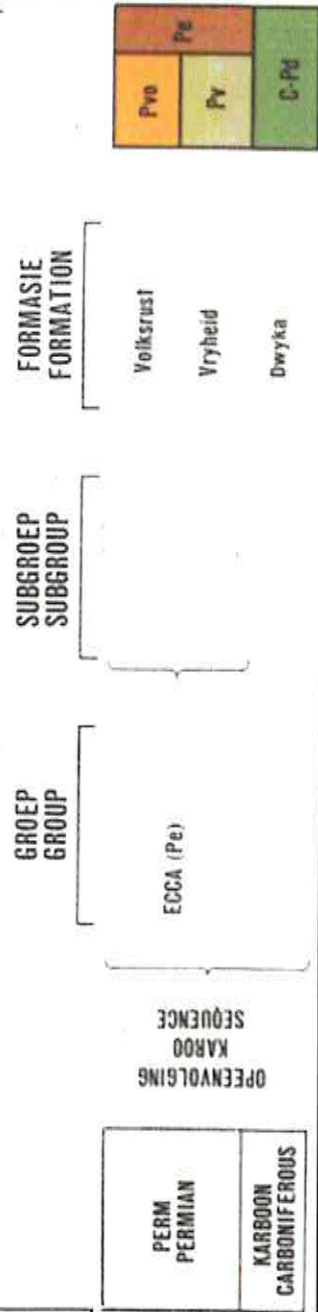
Sensitivity	Feature(s)
Low	Low Sensitivity

EXTRACTION OF GEOLOGICAL MAP - ANNEXURE 4



Pv Sandsteen, skalie, steenkool
Sandstone, shale, coal

**SEDIMENTÊRE EN VULKANIESE GESTEENTES
SEDIMENTARY AND VOLCANIC ROCKS**



PHOTOS OF TEST PITS DONE UNDER THE PROSPECTING RIGHT - ANNEXURE 5

