

August 18,
2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT
and
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

NAME OF APPLICANT: **N J VAN ZYL**
TEL NO: **083 433 7107**
FAX NO: -
POSTAL ADDRESS: **P O Box 1062, Schweizer-Reneke, 2781**
PHYSICAL ADDRESS: -
FILE REFERENCE NUMBER SAMRAD: **NW 30/5/1/3/2/ 11231 MP**



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

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

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

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

2. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context.
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
 - (i) identify and motivate a preferred site, activity and technology alternative.
 - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
 - (iii) identify residual risks that need to be managed and monitored.

APPENDIX 1: BASIC ASSESSMENT PROCESS

PART A

3. SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

a) DETAILS OF -

(i) Details of the EAP how prepared the report.

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

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

(ii) Expertise of the EAP

i. The qualifications of the EAP

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

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

ii. Summary of the EAP's past experience

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

ANNEXURE 1 – CV & Qualifications of EAP

Environmental Assessment
Practitioners Association
of South Africa



Registration No. 2020/2909

Herewith certifies that

Hester (Esna) Magdalena
Erasmus

is registered as an

Environmental Assessment Practitioner

*Registered in accordance with the prescribed criteria of Regulation 15. (1)
of the Section 24H Registration Authority Regulations
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the
National Environmental Management Act (NEMA), Act No. 107 of 1998, as
amended).*

Effective: 01 March 2022

Expires: 28 February 2023

Chairperson

Registrar

SAQA



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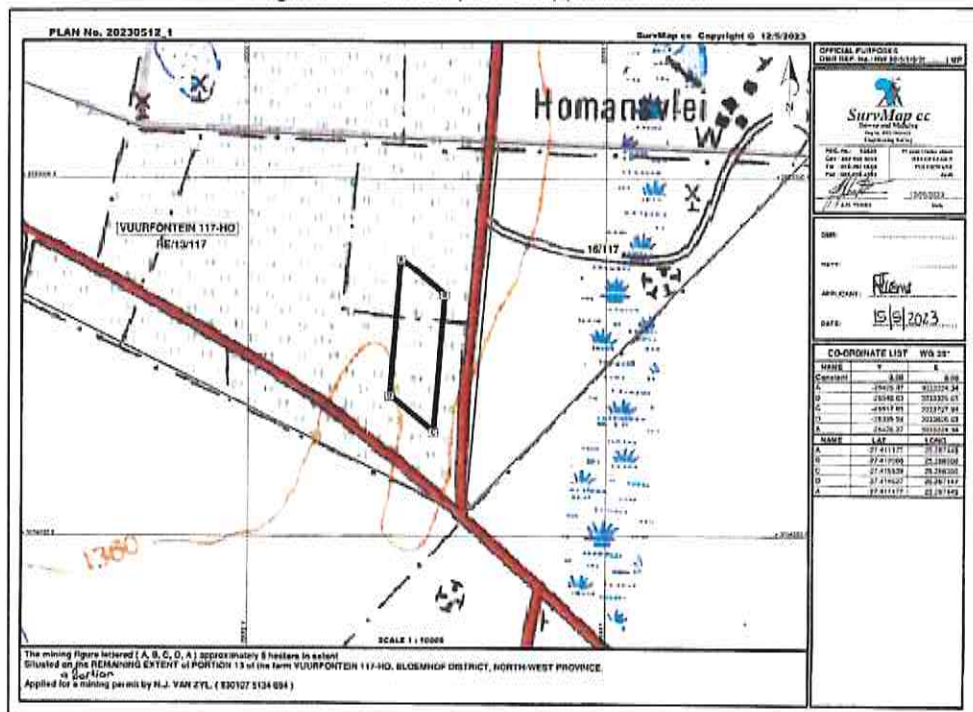
b) LOCATION OF THE OVERALL ACTIVITY

Table 1: Property Description

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

(i) 21 digit Surveyor General Code	T0HO0000000011700013		
(ii) Farm Name:	VUURFONTEIN 117 HO ➤ a portion of Remaining Extent of Portion 13		
(iii) Coordinates - Co-ordinates List WG 27°	NAME	LAT	LONG
	A	-27.411177	25.287449
	B	-27.412088	25.288688
	C	-27.415539	25.288386
	D	-27.414627	25.287147
	A	-27.411177	25.287449
Application area (Ha)	5 hectares		
Magisterial district:	The area is situated 26 km south of Schweizer-Reneke within the district of Bloemhof which is a maize, soya bean, cattle farming town situated on the R42 running between Bloemhof and Schweizer-Reneke and P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road) in the North- West Province of South Africa. The town lies in an important alluvial diamond-prospecting area, and it is the main town of the Lekwa-Teemane Local Municipality, which further falls under the Dr Ruth Segomotsi Mompati District Municipality.		
Distance and direction from nearest town	± 26 km south of Schweizer-Reneke.		
Minerals applied for	Diamonds Alluvial (DA)		

Figure 1 – Sketch plan of application area



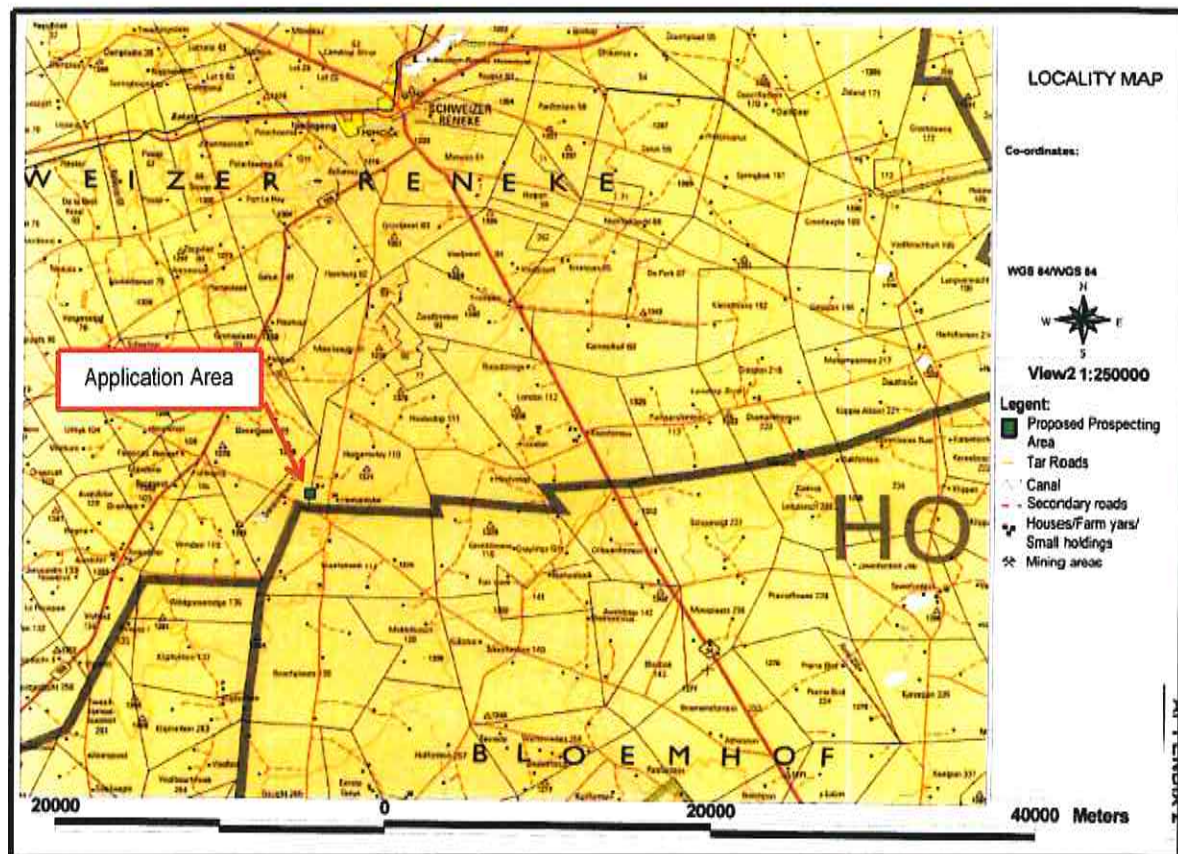
c) LOCALITY MAP

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

The area is situated 26 km south of Schweizer-Reneke within the district of Bloemhof which is a maize, soya bean, cattle farming town situated on the R42 running between Bloemhof and Schweizer-Reneke and P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road) in the North- West Province of South Africa. The town lies in an important alluvial diamond-prospecting area, and it is the main town of the Lekwa-Teemane Local Municipality, which further falls under the Dr Ruth Segomotsi Mompati District Municipality. The town lies in an important alluvial diamond-prospecting area and it is the main town of the Lekwa Teemane Local Municipality which further falls under the Dr Ruth Segomotsi Mompati District Municipality (Course: https://en.wikipedia.org/wiki/Lekwa_Teemane). See **Figure 2**, as well as **Annexure 2 - Map 1(a) - Locality Map** indication where the applied area is situated within the district of Bloemhof North West Province.

Annexure 2: Map 1(a) – Locality Map

Figure 2 - Locality Map

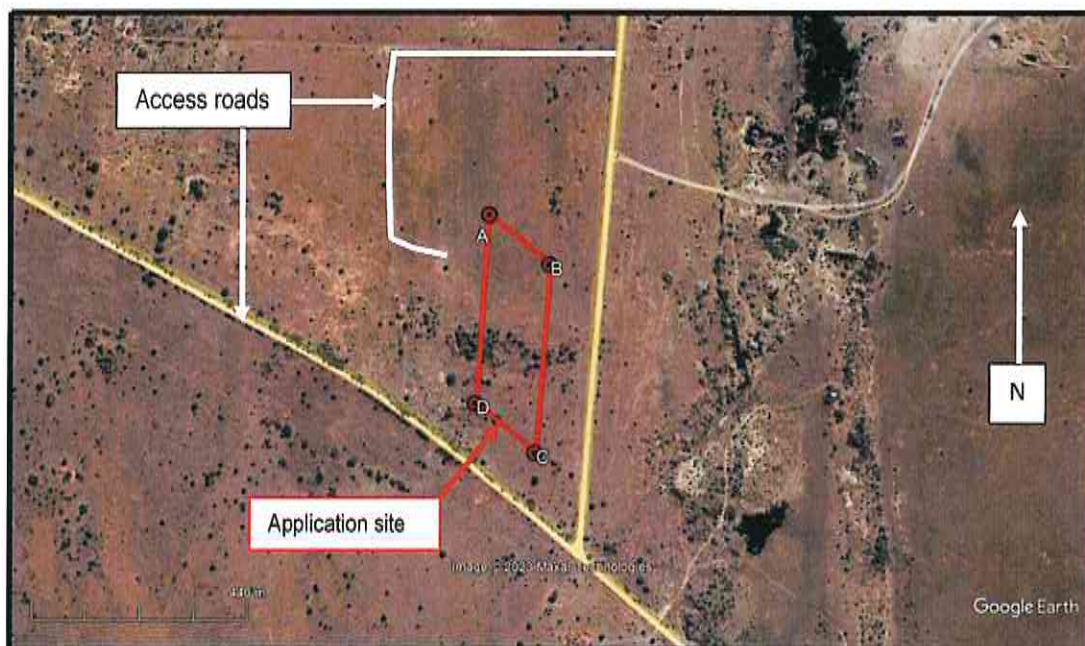


d) DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

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

This will be a very small project with low impacts (only 5 ha). The application area is situated over an area that is **disturbed by agriculture land uses (grazing by cattle)**. The proposed application area is situated \pm 26 km south of Schweizer-Reneke, as can be seen on the **Figure 3** – below for images of proposed site. There is no infrastructure over the application site. It is part of a bigger farm portion - of the rest of the farm VUURFONTEIN 117 HO (over a portion of the remaining Extent of Portion 13). Access to the application area is gained via existing farm roads. The area is situated within the district of Bloemhof which is a maize, soya bean, cattle farming town situated on the R42 running between Bloemhof and Schweizer-Reneke and P86.1 gravel road and the (Schweizer-Reneke/Witgatboom) gravel road (servitude road) in the North- West Province of South Africa.

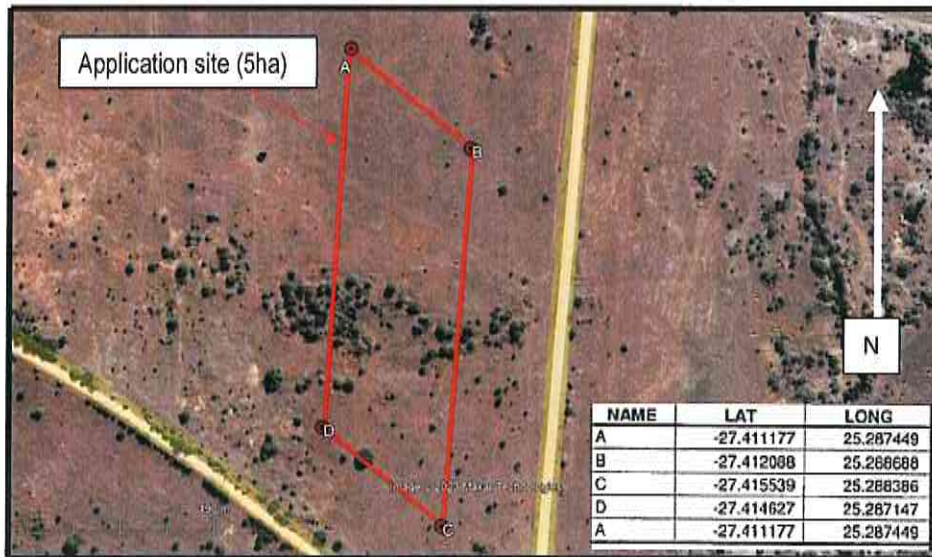
Figure 3 – Access to the application area



The above area will be mined through opencast excavations where the topsoil will be stripped separately and stockpiled. The gravel is then removed with a 30 ton excavator and placed next to the excavation. A Front -end Loader takes the gravel to the 14 feet washing pan which is fed at a rate of 6m³ an hour, 48m³ a day and 4800m³ a month. All the rough are first placed back into the bottom of the excavation, hereafter the puddle out of the pan is pumped directly back into the open excavation. After the puddle dried off, the topsoil is put back on top again. The excavations will be 60m in length 10m wide and \pm 2,5 meters deep on average. Four (4) excavations will be opened at a time.

The total estimated reserve of gravel is 50'000m³ taken at a production rate of 4800m³ a month it will take 24 months to work the estimated reserve of \pm 50 000m³. The production rate is taken at 4800m³/month. The gravel which is relatively shallow (2,5 metre) and the low production rate of the applicant make these 5 hectares to be worked sustainable over a period of two years.

Annexure 2 : Map (b 1 & b2) – Infrastructure Plan



(i) Listed and specified activities

Table 2: Listed and specified activities

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

NAME OF ACTIVITY	Aerial extent of the ActivityHa or m ²	LISTED ACTIVITY	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION
Listing 1 – Activity 21: Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No.28 of 2002), a well as any other applicable activity as contained in this Listing Notice or in Kisting Notice 3 of 2014, required to exercise the mining permit.	5 ha	X	GNR 327	
Listing 1 – Activity 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	0.24 ha	X	GNR 327	
NWM: WA Category A – Listing 15 Residue stockpiles deposits The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit, in terms of the MPRDA (Act No. 28 of 2002).	0.2 ha	X	GN R633	

(ii) Description of the activities to be undertaken

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

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

The mining activities under the mining permit will all be invasive activities, from site preparation till closer phase.

❖ **DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:**

Activities	Description of phases
The Mineral	N J VAN ZYL intends to mine for <u>Diamonds (Alluvial) (DA)</u> situated on the farm VUURFONTEIN 117 HO (over a portion of the Remaining Extent of Portion 13), Bloemhof district and 5 hectares in total. See Figure 2 for location of application area. The alluvial diamond gravel will be mined over the whole of the application area.
The extend	The gravel is on average 2.5 meter thick with a topsoil layer which varies between 1000 and 1500 millimeters. The area that was identified and demarcated is shown on the Figure 1 - Sketch plan. The gravel reserve on these 5 hectares is estimated at 50'000m ³ or ± 56'650 tons and the total material to be moved is 50'000m ³ .
Mining method	The above area will be mined through opencast excavations where the topsoil will be stripped separately and stockpiled. The gravel is then removed with a 30-ton excavator and placed next to the excavation. A Front -end Loader takes the gravel to the 14 feet washing pan which is fed at a rate of 10m ³ an hour, 48m ³ a day and 4800m ³ a month. All the rough are first placed back into the bottom of the excavation, hereafter the puddle out of the pan is pumped directly back into the open excavation. After the puddle dried off, the topsoil is put back on top again. The excavations will be 60m in length 10m wide and ±2,5 meters deep on average. Four excavations will be opened at any given time. The total estimated reserve of gravel is 50'000m ³ taken at a production rate of 48'00m ³ a month it will take 24 months to work the estimated reserve of ±50'000m ³ . The production rate is taken at 4'800m ³ /month. The gravel which is relatively shallow (2,5 meter) and the low production rate of the applicant make this 5 hectare to be worked sustainable over a period of two years.
The grade	The grade of this gravel is estimated at 0.3 carat per 100 ton of gravel and \$650 a carat, which can give 16,31 carats of diamonds sold at \$650@R15,5,5/\$. The small operation can last for 24 months and can be profitable.

e) POLICY AND LEGISLATIVE CONTEXT

(In terms of NEMA – EIA Regulations No. 206 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (3)(e)(ii))

Table 3: Policy & Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) Submitted for Environmental Authorizations in terms of the National Environmental Management Act, 1998 and the National Environmental Management Waste Act, 2008 in respect of Listed Activities that has been triggered by applications in terms of the Minerals and Petroleum Resources Development Act, 2002 (As	Activity 21, Listing 1, Activity 27, Listing 1.	Mining Right application submitted and EA application with DMR
National Environmental Management Act, 1998 (Act 107 of 1998); Environmental Impact Assessment Regulations, 2014 (G38282 – R982-985) EA Authorization and EIA/EMP. Submit documents that will describe the impacts and sustainable mitigation thereof.	Regulation 21 Section 23	Scoping Report in process following by EIA/EMP
Compliance to Act and Regulations during course of activities. Show impacts and mitigation thereof. National Water Act, 1998 (Act 36 of 1998) Application for Water abstraction for mining use	Section 21 (a)	Application for water use license with DWS, will follow.
South African National Heritage Resources Act (Act 25 of 1999) (SAHRA) Compliance to Act and Regulations during course of activities. Ensure that no graves or heritage site will be disturbed.	Section 38	SAHRA was notified process will be followed. Compilation of HIA over the application area in order to identify possible archaeological and paleontological sites or occurrences.
Conservation of Agricultural Resources Act No 43 of 1983 (CARA) Compliance to Act and Regulations during course of activities. Stabilization of soil after rehab to be sustainable with no erosion. Eradication of declared weeds	Section 29	Regulation will be applicable during construction and operational phases of 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.

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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 mining and mining operations.
National Environmental Management: Air Quality Act (Act 39 of 2004)			
National Environmental Management: Protected Areas Act (Act 57 of 2003)			
National Environmental Management: Waste Act (Act 59 of 2008)		Category A, Listing 15	Application lodged simultaneously with EA.
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

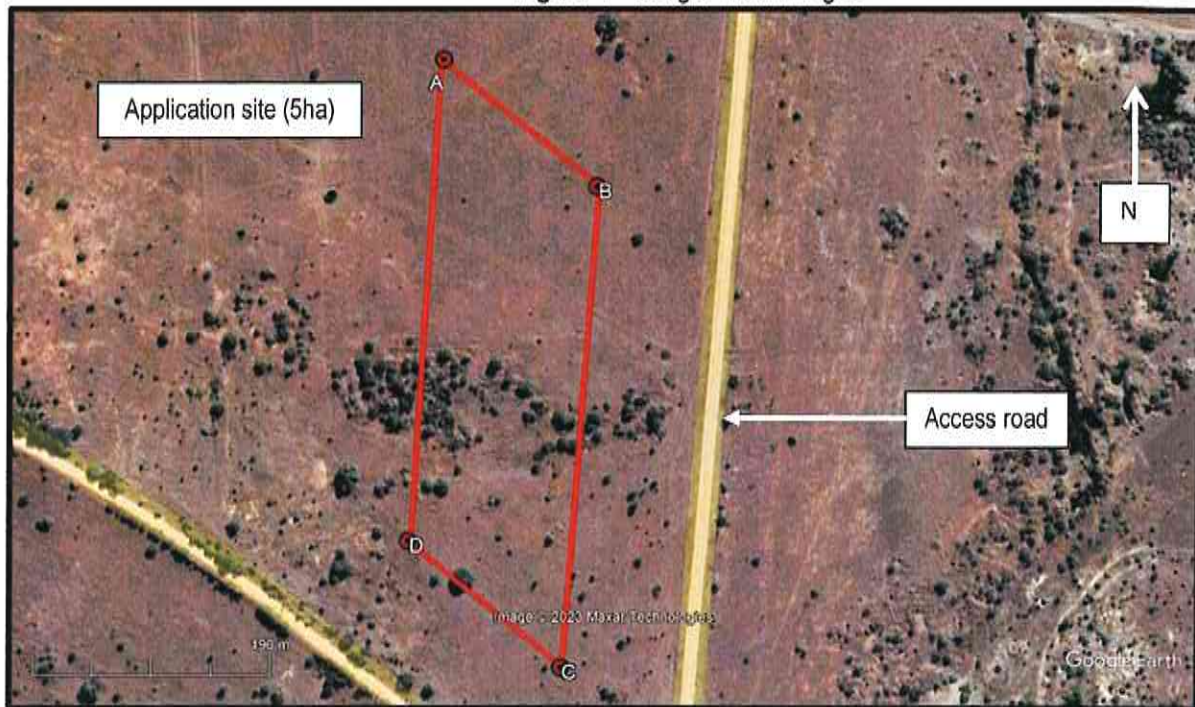
In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(f)

The farm portions over which the application was applied for is currently used as **agriculture (grazing for cattle)**. There is no infrastructure on this 5 ha site except for a farm road also utilized by the land owner (Mr. L.G. Mostert). There are historically disturbance/mining areas on and in the surrounding area.

As mentioned, there are no infrastructure on this area, beside for the farm road. Access to the farm is gained by the R42 and existing P86-1 gravel road. See **Figure 4** for extraction of Google Earth Images for more detail. It is envisaging that the **whole site (5 ha) will in time (2 years) be disturbed** but that as mining progress it will simultaneously be rehabilitated.

The area will be mined and rehabilitated. **The mining focus site (5 ha) will be clearly demarcated.** The area applied for is over the demarcated portion only. After mining the land will be used for grazing for cattle (agricultural) again.

Figure 4 - Google Earth Images



g) MOTIVATION FOR THE OVERALL PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE

The applicant envisaged that Diamonds (Alluvial) DA to be present on this property as the adjacent property was also mined successful, therefore the application for a mining permit. The mining of gravel is very site specific, and N J VAN ZYL have years of experience in identifying the right gravel required.

h) FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES WITHIN THE SITE

(i) Details of the development footprint alternatives considered

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

Alternative is not applicable. The current land is withdrawn from agricultural use and earmarked for mining. The option to explore the possibility for mining is already in itself an alternative land use. The applicant, **J. N. VAN ZYL** is not interested in any other alternative land use over this land aside for the mining of diamond bearing gravel (Alluvial Diamonds (DA)), or any other activity, 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 is no alternative for the property as the application is for this 5 hectare area only. The Mining Permit application is for this specific area as indicated on the sketch plan (**Annexure 2: Map (b 1 & b2) – Infrastructure Plan**) with no alternatives. And the whole of the application area will systematically be mined eventually. There are no alternative sites as the whole of the application area was identified as being favourable to bear Alluvial Diamonds (DA).

(b) the type of activity to be undertaken

The type of activity is for mining and processing of alluvial diamond bearing gravel in line with the submitted Mining Plan. The type of activity does not have an alternative. Alluvial Diamonds (DA) mining normally uses the opencast mining method to access the mineral.

The application area will be mined through opencast excavations where the topsoil will be stripped separately and stockpiled. The gravel is then removed with a 30 ton excavator and placed next to the excavation. A Front-end Loader takes the gravel to the 10 feet washing pan which is fed at a rate of 6m³ an hour, 48m³ a day and 4'800 m³ a month. All the rough are first placed back into the bottom of the excavation, hereafter the puddle out of the pan is pumped directly back into the open excavation. After the puddle dried off, the topsoil is put back on top again. The excavations will be 60m in length 10m wide and ± 2,5 meters deep on average. Four excavations will be opened at a time. The gravel which is relatively shallow (2,5 meter) and the low production rate of the applicant make these 5 hectares to be worked sustainable over a period of two years.

There are no alternatives to the processing of the mineral as this is the conventional way it is done. No other technology exists for this diamond mining operation. As this is only mining trenching operation it will be the basic opencast method with associated machinery.

(c) the design or layout of the activity

The layout of the activity will and can only be on the application area as per sketch plan (**Annexure 2: 1(b 1 & b2) – Infrastructure Plan**) as submitted with the application. And the whole of the application area (5 ha) will systematically be mined eventually. 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 as the whole of the application area will be mined to determine where the possible Alluvial Diamonds (DA) run. They will perhaps have a temporary office building and the gravel to be processed next to the open excavations. There will also be temporary chemical toilets on the site for ablution facilities. There will not be services to machinery done on site and in case of emergency it will be done over a PVC lining. This operation will be a basic small scale mining layout, with minimal temporary infrastructure and just the necessary equipment.

Equipment to be used includes:

- * 1 x Frond end loader or 1 x Excavator.
- * 1 x Tipper truck
- * 1 x 10 feet washing pan

* 1x Power plant
Pipes and water pump.

(d) the technology to be used in the activity

The technology used in the activity will be as described in the Mining Plan and the best options will be determined by the applicant, which will be trenching. The technology used with regards to the processing of the Alluvial Diamonds (DA) is putting it through a washing plant. The washing plant will be set up next to the current open excavation and will only be moved once the excavation is closed. The technology used in the activity will as be described in the Mining Plan and the best options will be determined by the applicant. They will basically be using excavators to open the trenches (0,2 ha at any given time) and a front-end loader to move the material to be processed through the washing pan.

(e) the operational aspects of the activity, and

The operational aspect is only the mining for Alluvial Diamonds (DA) on this specific area, making use of trenching (60m length x 10 m wide x 2,5m depth). Operations will be done through systematically trenches that will be made with a back-actor of the whole application area. Where trenches were completed, the excavation will be backfilling (rough material, puddle and overburden material) before the next excavation will be opened and the topsoil will be removed and spread over the closed up excavation, thus creating a rollover effect. The importance will be to mine the whole of the area not leaving any patches, but rather mine the reserve systematically so that proper concurrent rehabilitation can take place.

(f) the option of not implementing the activity

This option might only be possible if the applicant decides to abandon the project. If this application is not implemented the current landowners will just continue with existing agricultural activities which is probable grazing for cattle. Thus, not exploiting the mineral reserve and somebody else can apply.

(ii) Details of the Public Participation Process Followed

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

The process as described by NEMA for Environmental Authorization was followed. See **Table 4 & 5** below for the identification of Interested and Affected Parties to be consulted with. **The landowner (L.G. Mostert)** 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 VUURFONTEIN 117 HO over (a portion of the Remaining Extent of Portion 13) farm. With this site notice all passers-by are requested to submit any written comments to be forwarded to the consultant (still awaiting response). An **advertisement** was placed in the **Stellalander Newspaper of 12 July 2023**. See proof of consultation under **Annexure 3**.

Annexure 3 – Proof of consultation.

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

IDENTIFICATION CRITERIA	Mark with an X where applicable		ACTIONS
	YES	NO	
Will the landowner be specifically consulted?	X		Yes, see consultation letter
Will the lawful occupier on the property other than the Landowner be consulted?	X		Yes, see letter form land owner (L G Mosterd)
Will a tribal authority or host community that may be affected be consulted?		X	N/A
Will recipients of land claims in respect of the area be consulted?	X		E-mail was sent to Mr. K. Mothupi, no reply was received.
Will the landowners or lawful occupiers of neighbouring properties be identified?	X		The landowner and neighbours were all consulted in person.
Will the local municipality be consulted?	X		Lekwa-Teemane Local Municipality was consulted in writing.
Will the Authority responsible for power lines within 100 meters of the area be consulted?		X	There are no power lines within 100m from application area.
Will the Authorities responsible for public roads or railway lines within 100 meters of the area applied for be consulted?		X	There are no public roads within 100 m that will be affected.
Will the Authorities responsible for any other infrastructure within 100 meters the area applied for be consulted? (Specify)		X	There is no surface infrastructure that will be affected; the application area is within a cultivated maize crop land.
Will the Provincial Department responsible for the environment be consulted?	X		Draft BAR was sent to DEDECT
Will all of the parties identified above be provided with a description of the proposed mining/mining operation as referred above?	X		All consultation letters included the full property description and summary of intended activities.
Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed mining project?	X		All consulted letter invited all I&AP's to send through any comment or objections.
Other, Specify			

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

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

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

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

See Annexure 3 for full detail on public participation.

Table 6: Summary of Identified I&AP's

Interested and Affected Parties	Date sent and/or Comments	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s	X		
Mr. L.G. Mostert (Landowner) Grensplaas Landgoed Edms (Bpk) P.O. Box 94, Schweizer-Reneke, 2780 Cell: 071 888 6802 E-mail: wikus@wasp-sa.co.za	20 July 2023 21 July 2023	Consultation letter send Signed consultation letter received, no objection	
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent	X		
Mr. K. Viljoen (Neighbour) P.O. Box 1011, Schweizer-Reneke, 2780 Cell: 083 411 0078, E-mail: keith@wasp-sa.co.za	20 July 2023 21 July 2023	Consultation letter send Signed consultation letter received, no objection	
Mr. P.C. Pretorius (Neighbour) P.O. Box 396, Schweizer-Reneke, 2780 Cell: 083 285 2459, E-mail: ultrasadmin@pretoriuspc.co.za	20 July 2023 21 July 2023	Consultation letter send Signed consultation letter received, no objection	
Municipal councillor			
Municipality	X		
Lekwa Teemane Local Municipality Municipal Manager: Mr. T. Mbonani Tel: 053 441 2206 E-mail: contact@lekwa-teemane.co.za	20 July 2023	Consultation letter send to Mr. Mbonani	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA.			
Eskom			
Communities			
N/A			
Dept. Land Affairs	X		

Traditional Leaders				
N/A				
Dept. Rural, Environment and Agricultural	X			
CumaSkosana Agricentre Building, Cnr James Moroka & Stadium Road, Mimabatho, 2735, E-mail: oskosana@nwpg.gov.za		18 August 2023	BAR/EMPr sent with Fastway couriers for comments	
Dept. Water and Sanitation	X			
Lerato Mkhooantle 28 Central Road, Beaconsfield, Kimberley, 8300 Tel: 053 830 8800, E-mail: Mkhooantle@dws.gov.za		18 August 2023	BAR/EMPr sent with Courier Guy couriers for comments	
Dept. Agriculture, Forestry and Fisheries	X			
Maurice Vuyega Louis le Grange Building, Cnr Peter Mokaba & Wolmarans street, 3 rd Floor, Office no 318, Potchefstroom, 2520 Tel: 018-389 5156, E-mail: MauriceV@daff.gov.za		18 August 2023	BAR/EMPr sent with Fastway couriers for comments	
Other Competent Authorities				
SAHRIS				
OTHER AFFECTED PARTIES				
INTERESTED PARTIES				

Notice published in the Stellalander Newspaper of 12 July 2023.

August 18,
2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP

cattle and mining can be seen. Access to the mining permit application area will be from the R42 running between Wolmaransstad and Bloemhof and the P 86-1 gravel road. Also see **Annexure 2: Map 1(b1) & 1(b2) for Infrastructure Plan and Google satellite image of the application area.**

Some indication of the **original vegetation type** could be found on the **5 hectares**. Though the years the site have been disturbed by agricultural activities (grazing for cattle) and historic prospecting activities. **This is a “brownfields site”.**

See photo table of pre-authorization environment:

PHOTO



As part of the Environmental Authorization application and basic application criteria a Screening Report need to be generated through the web-based programme of DEDACT's (Department of Economic Development, Environment, Conservation and Tourism's) which is used as basis for an indication of potential sensitive area. Although this Screening report is generated on a very broad scale it must be taken into consideration and the application area is classified according to sensitivity themes. The screening tool has classified the footprint area of this application area, although only mining, and the outcome is listed in **Table 6** below. The full report is attached as **Annexure 4**.

ANNEXURE 4: NEMA Screening Report

According to the DEDACT's (Department of Economic Development, Environment, Conservation and Tourism's) screening tool the footprint of this application area, although only small-scale mining (5 ha disturbed over 24 months), are classified (by background reference to the whole mining right application area (5 ha) as per summary table below. See **Table 7** for a summary of results of screening report for the mining right application area.

Table 7: Summary of Screening Report findings

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			

No specialist studies were done at this stage at the area applied for is over very small area and with only natural grasses and very few shrubs of tree. It has been used for grazing by the landowner and have not trigger any sensitive areas.

F. Climate:

Summer and autumn rainfall and very dry winters. MAP from about 300 mm in the southwest to about 500 mm in the northeast. Frost frequents in winter. Mean monthly maximum and minimum temperatures for Kimberley 37.5°C and -4.1°C for January and July, respectively. Corresponding values for Vaalharts-Agr 37.4°C and -3.9°C, respectively.

G. Geology:

Andesitic lavas of the Allanridge Formation in the north and west and fine-grained sediments of the Karoo Supergroup in the south and east. **Deep (0.6–1.2 m) sandy to loamy soils of the Mispah, Glerosa soil form** (Ae and Ah land types) on slightly undulating sandy plains. **References** Bezuidenhout (1994, 1995), Smit (2000). This type of geology in the Bloemhof district normally has good prospects for alluvial diamond bearing gravel. The geology of the region is made up of andesitic lavas and tuffs dating to the Allanridge Formation of the Ventersdorp Supergroup. All the different fluvial terrace deposits are covered by Rooikoppie gravels, which represent mobile, multi-cycle deflation and gravitational deposits and/or elevated (inverted) fluvial deposits and preserved and recycled repeatedly from one successive land surface to the next. This type of geology in the Bloemhof district normally substantiates alluvial diamond gravel. Alluvial prospecting historically and on

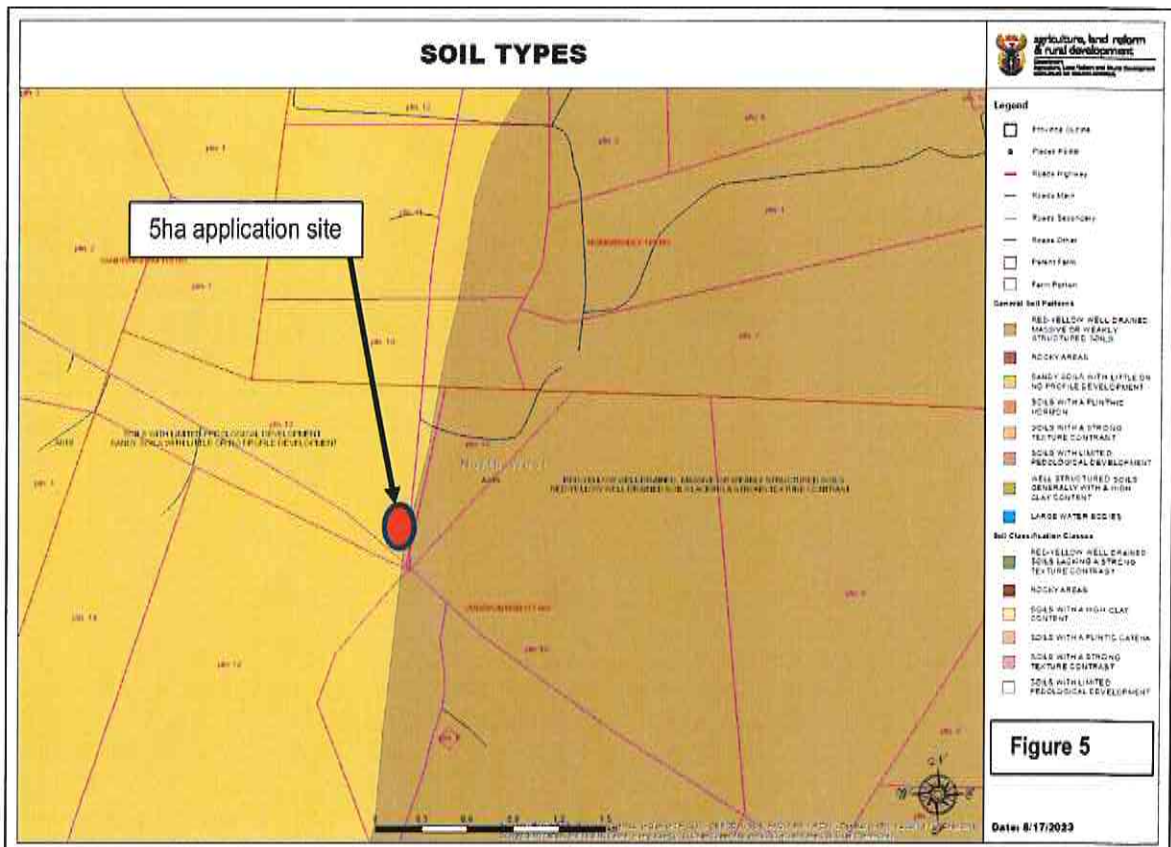
adjacent farms in this area did show the potential of alluvial gravel. See Geological map attached as **Annexure 5**.

ANNEXURE 5: Geological Maps

H. Soil:

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

- ✓ See **Soil types of maps for Vuurfontein** below on next page.
- ✓ Description: **Red soils (Mispah, Glenrosa)** with high base status.
- ✓ **Land capability** for this area is low to moderate for agriculture.
- ✓ The farm is mainly utilized for **grazing purposes**.
- ✓ Historically mining activities had taken place and have been rehabilitated. Soil surface have been impacted but is still being used for grazing purposes.



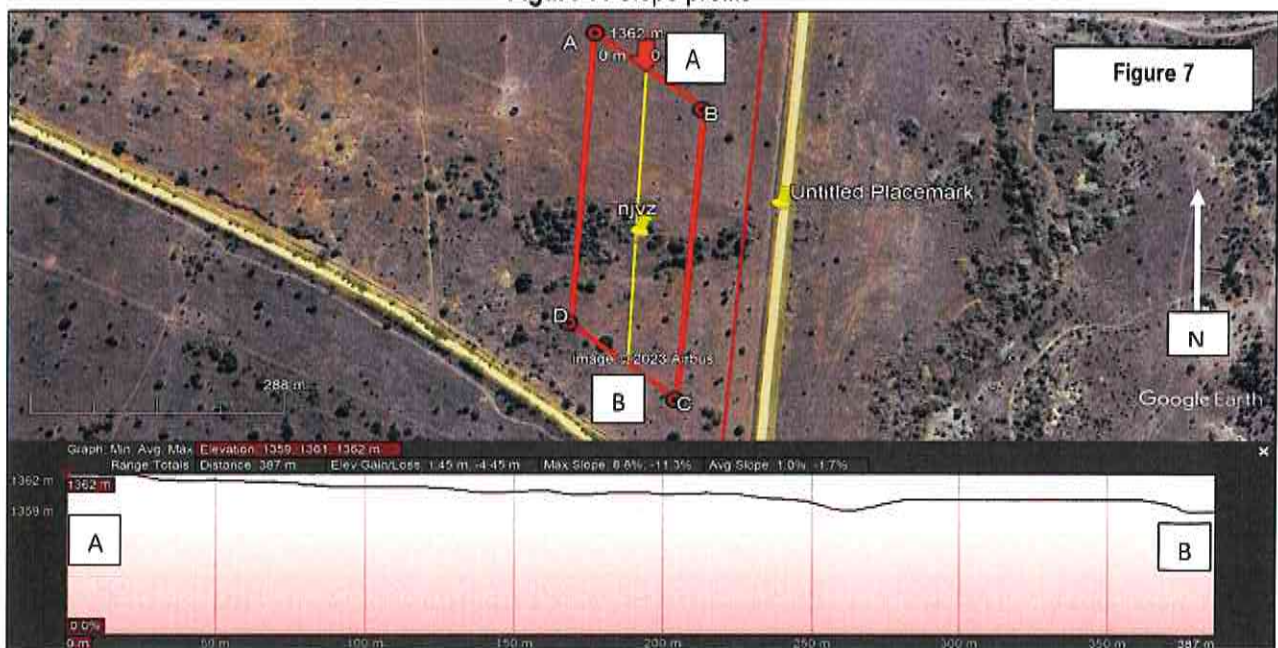
Soil erosion: Water erosion susceptibility could be described as for most of the surface area as **moderate to high**.



I. Topography:

The site has one terrain type, which is characterized as “Plains with pans” (Terrain Morphological Map of S.A. 1983), covered with grassland. **The average slope is 1 %** that can be described as flat (see slope profile). The average elevation is between 1359-1362 m meters above sea level (masl) over most of the mining right permit application area (See **Figure 7** below).

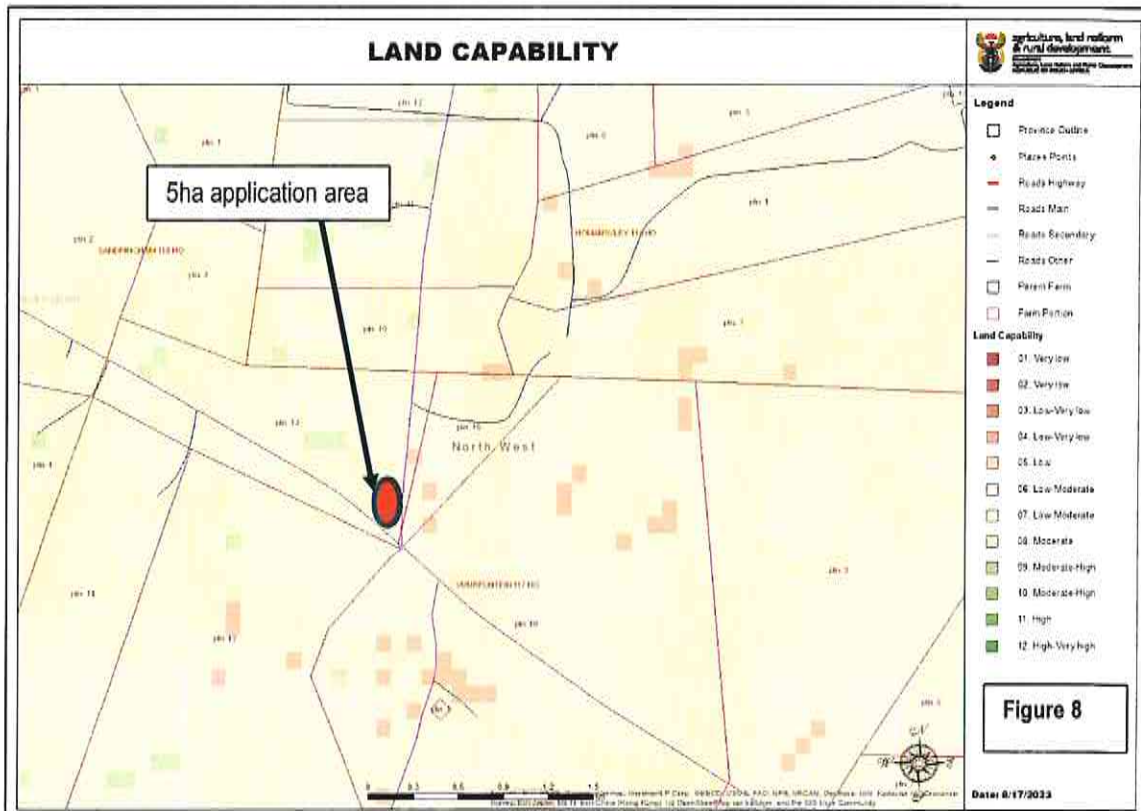
Figure 7: Slope profile



J. Land Use

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

Land capability: According to the Natural Agricultural Resources Atlas of South Africa the **land capability could be described as low regarding agriculture**. See **Figure 8** below with reference to mining permit application area.



This area consists of natural vegetation (grazing for cattle) and historical disturbed prospecting areas (rehabilitated and disturbed). **The focus area of mining activities will be mainly on the grazing areas for cattle.**

According to the screening of environmental sensitivity of the proposed site it is indicated that **Agricultural Theme** was classified as being **MEDIUM** sensitivity. The mining activities will disturb **only 5 ha in total over 24 months** and should be regarded as a **"brownfields site"** as the site has been disturbed by agriculture activities (grazing for cattle) and historic prospecting activities. No cultivation is taking place. Only grazing by cattle. Rehabilitation of the 5-ha site will return the site to some grazing capability for cattle. **Most of the farm will continue with agricultural activity (low potential arable land) and is in no way hindered by the proposed activity and the environmental sensitivity for the 5 ha should be low.**

Current land use on the application area is grazing over natural veld. This is privately owned land. See **Annexure 2: Map 1 C** for more detail.

K. Vegetation (Flora) and Floristics:

The majority of the application area falls over veld type: [SVk 4] Kimberley Thornveld. VT 16 Kalahari Thornveld and Shrub Bushveld (50%) (Acocks 1953). LR 32 Kimberley Thorn Bushveld (74%) (Low & Rebelo 1996). Distribution: North-West, Free State and Northern Cape Provinces: Most of the Kimberley, Hartswater, Bloemhof and Hoopstad Districts as well as substantial parts of the Warrenton, Christiana, Taung, Boshof and to some extent the Barkly West Districts. Also includes pediment areas in the Herbert and Jacobsdal Districts. Altitude 1 050–1 400 m. Plains often slightly irregular with well-developed tree layer with *Acacia erioloba*, *A. tortilis*, *A. karroo* and *Boscia albitrunca* and well-developed shrub layer with occasional dense stands of *Tarchonanthus camphoratus* and *A. mellifera*. Grass layer open with much uncovered soil.

VEGMAP (2006) further classify this area as part of the [SVk 4] Kimberley Thornveld over most of the application area. See **Figure 8** below. A surface delineated in yellow borders indicate surface areas already disturbed by historic mining activities but rehabilitated and being changed by mining activities. (See **Annexure 2**, Map 1 (b) 2) indicating the areas which are being referred to. Below is a summary of the plant species that may occur over the surrounding undisturbed areas, which in turn can be a source for regrowth of natural species once mining, have totally ceased over this area.

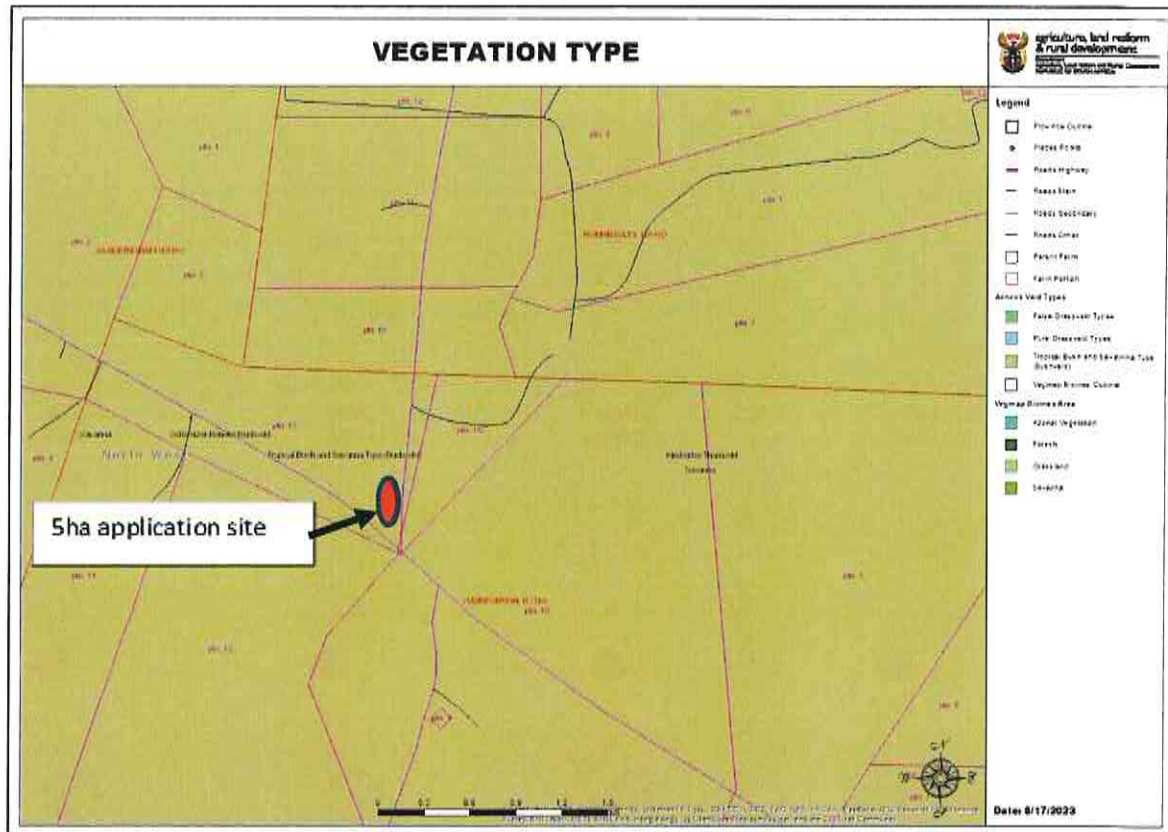
Important Taxa: Tall Tree: *Acacia erioloba* (d). Small Trees: *Acacia karroo* (d), *A. mellifera* subsp. *definens* (d), *A. tortilis* subsp. *heteracantha* (d), *Rhus lancea*. Tall Shrubs: *Tarchonanthus camphoratus* (d), *Diospyros pallens*, *Ehretia rigida* subsp. *rigida*, *Euclea crispa* subsp. *ovata*, *Grewia flava*, *Lycium arenicola*, *L. hirsutum*, *Rhus tridactyla*. Low Shrubs: *Acacia hebeclada* subsp. *hebeclada* (d), *Anthospermum rigidum* subsp. *pumilum*, *Helichrysum zeyheri*, *Hermannia comosa*, *Lycium pillifolium*, *Melolobium microphyllum*, *Pavonia burchellii*, *Peliostomum leucorrhizum*, *Plinthus sericeus*, *Wahlenbergia nodosa*. Succulent Shrubs: *Aloe hereroensis* var. *hereroensis*, *Lycium cinereum*. Graminoids: *Eragrostis lehmanniana* (d), *Aristida canescens*, *A. congesta*, *A. mollissima* subsp. *argentea*, *Cymbopogon pospischilii*, *Digitaria argyrograpta*, *D. eriantha* subsp. *eriantha*, *Enneapogon cenchroides*, *E. scoparius*, *Eragrostis rigidior*, *Heteropogon contortus*, *Themeda triandra*. Herbs: *Barleria macrostegia*, *Dicoma schinzii*, *Harpagophytum procumbens* subsp. *procumbens*, *Helichrysum cerastioides*, *Hembaetia odorata*, *Hibiscus marlothianus*, *Jamesbrittenia aurantiaca*, *Lippia scaberrima*, *Osteospermum muricatum*, *Vahlia capensis* subsp. *vulgaris*. Succulent Herbs: *Aloe grandidentata*, *Piaranthus decipiens*.

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

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

Some indication of the **original vegetation type** could be found on the **5 hectares**. Though the years the site have been disturbed by agricultural activities (grazing for cattle) and historic prospecting activities. **This is a "brownfields site"**.

Figure 8: VEGMAP classification: [SVk 4] Kimberley Thornveld



Screening of environmental sensitivity of the proposed site (See Annexure 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 **small-scale mining (5 ha disturbed over 2 years)**, are classified (by background reference to the whole mining permit application area as per summary table below.

According to the **screening of environmental sensitivity of the proposed mining permit (5ha)** it is indicated that **Terrestrial Biodiversity Theme** was classified as being VERY HIGH. Also, the whole of the area is being regarded as to have a LOW environmental sensitivity regarding plant species and medium regarding animals. Most of the site has been disturbed by **agricultural activities (grazing for cattle)**. The site itself do not represent anymore the **undisturbed [SVk 4] Kimberley Thornveld**. The mining permit site should be regarded as a "**brownfields site**" as the site has been disturbed by agriculture activities. During the site investigation no animals were found on site. The **Animal Species Theme** is regarded as of MEDIUM sensitivity. The **site has been disturbed by agricultural activities 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 MEDIUM sensitivity. It is however not foreseen that there will be any such sites of the application area that the landowner may not be aware of any findings, and they would have come across item if there were any. **The mining activity will be only alluvial gravel 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.

According to the screening of ***environmental sensitivity*** of the proposed site it is indicated that ***Agricultural Theme*** was classified as being MEDIUM sensitivity. The mining sites will disturb **only 5 ha in total over 2 years** and should be regarded as a “**brownfields site**” as the site has been disturbed by agriculture activities (Grazing for cattle). See table of photos. Rehabilitation of the 5-ha site will return the site to some cultivation capability again. **Most of the farm continues with agricultural activity) and is in no way hindered by the proposed activity and the environmental sensitivity for the 5 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 LOW sensitivity. **Giving the fact that most of the mining permit application area is regarded as of LOW environmental sensitivity and the fact that the remaining area have been impacted by agricultural activities (grazing for cattle) and historical mining activities, the site is actually “Brownfields site”.**

See Summary: See results of screening report for the farm VUURFONTEIN 117 HO (over a portion of the remaining Extent of Portion 13) within the mining permit application area of 5 ha in total as shown in Table 7.

L. Fauna:

The study area is being known for the agriculture regarding the production of Cattle. The primary activity on Vuurfontein 117 HO is agriculture and livestock grazing, with the mining activities secondary. The long-term presence of humans and human activities influences the presence of faunal species. Usually, small mammals remain in an area such as Vuurfontein. The larger mammals associated with this landscape, like kudu, can occasionally be observed but will move on immediately when human activities occur. Small burrowing mammals, as well as small mammals, occur in the area. Regarding reptiles, there are no area-specific checklists, but it is known that some snakes are still found. The avifauna comprises some widespread species which is typically associated with this eco-tone of pan habitats.

(1) Birds

The Virtual Museum-Bird archive indicates the listing of 14 bird species within in the 2725AD QDSs. The Black Stork, listed as a Vulnerable specie. One species that is listed as Least Concern under the IUCN, 2018 and two other species not threatened was also observed, see: https://vmus.edu.org.za/vm_locus_map.php?vm=MammalMAP&locus=2725AD and see list under Annexure 6.

(2) Mammals

According to IUCN, approximately **22 mammal species** have a distribution that includes the project area. *Felis nigripes* (Black footed cat), are classified as Vulnerable, with the other being “Least concern” or “Near Threatened”. Roan Antelope is Endangered (2016). The likelihood of the existence of *Felis nigripes* and other predator species is, however, low, due to the nearby settlements, and the continuous agricultural and mining activities, https://vmus.edu.org.za/vm_locus_map.php?vm=MammalMAP&locus=2725AD and see list under Annexure 6.

(3) Amphibians and Reptiles

Amphibians and reptiles are well represented in sub-Saharan Africa. However, distribution patterns in southern Africa are uneven in terms of species distribution and population numbers (du Preez and Carruthers, 2009). The three main factors determining species distribution are climate, centers of origin, and range restrictions. The eastern coast of South Africa has the highest amphibian diversity and endemism while reptile diversity is generally highest in the northeastern extremes of South Africa and declines to the south and west (Alexander and Marais, 2010).

a. Amphibians

Amphibians are important in wetland systems, particularly where fish are excluded or are of minor importance. In these habitats' frogs are dominant predators of invertebrates. Frog abundance and diversity are a poignant reflection of aquatic ecosystems' general biological health. According to IUCN, 5 amphibian species have a distribution that includes the project area, all classified as Least Concern. Historical records confirm that ten (5) amphibian species are likely to occur within the project area, all of which are considered Least Concern, see list under **Annexure 6**.

b. Reptiles

The Virtual Museum – Reptile Map relevant to 2725AD indicates that 12 reptile species have been observed in the quadrant. All of these are listed as Least Concern species and 1 vulnerable, Cape sand snake, https://vmus.adu.org.za/vm_locus_map.php?vm=ReptileMAP&locus=2725AD and see list under **Annexure 6**.

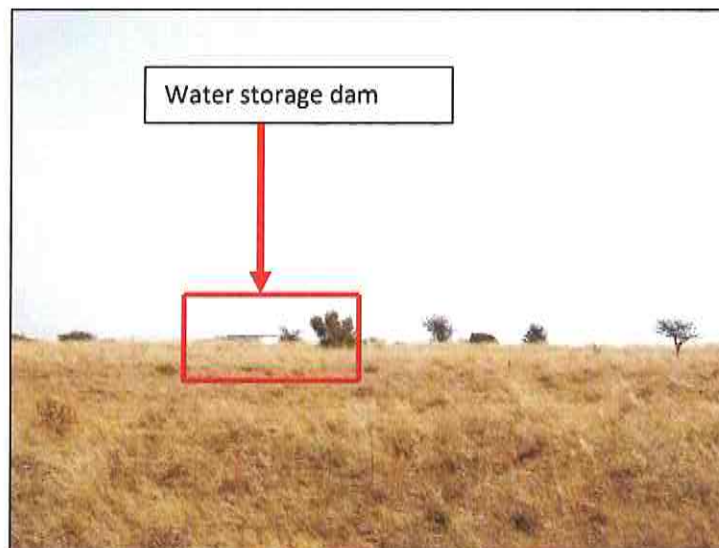
ANNEXURE 6: List of Fauna

M. Surface Water:

This application area falls within the water management area of the **Lower Vaal (10) and secondary catchment area C91 and tertiary drainage region C91A (Surface area 360 km²)**. It is not expected that this 5-ha mining permit site will have any effect on the surface run-off in the drainage catchment area (C91A).

N. Ground Water:

The applicant intends TO USE WATER from a BOREHOLE/S. Water uses will be 2'000 liters a day for the primary processing in the bulk sampling phase. The applicant indicated that he can also transport water from his adjacent farm from a borehole. Potable water will be supplied by tanker for workers.



O. 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, which will be shielded by natural plant cover and trees. Areas where testing is completed must be backfilled and re-vegetated as soon as possible for the natural vegetation to establish a cover layer to retain the loose soil fractions.

P. 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 **SMALL extent of this mining activities over the next 24 months is limited to only 5ha**, the sound will get lost and no residence on neighboring farms will be adversely affected (**located 1,22 km to 0,94 km from border of application site**). The 0,94 m site is located near an existing mining operation on the neighbours farm. See **Annexure 2: Map/sat image below**. The impact may be greater with regards to wild animals, but they tend to move away toward areas less influenced by noise disturbance (See Figure 9 below).

Figure 9: Location for neighbouring residence

**Q. Sites of Archaeological and Cultural Interest:**

There are no known sites of archaeological interest on the mine site. Most of the surface area is already disturbed by agricultural and historical mining activities. **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.** The landowner Mr Mostert have also confirmed that there are no known sites over this application area. **All excavator operators must be sensitized as to identify and report any occurrence of such grave sites or artefacts.**

Palaeontology Theme was further classified as being MEDIUM sensitivity. It is however not foreseen that there will be any such sites of the application area that the landowner (Mr Mostert) is aware of any findings, and they would have come across item if there were any. **The mining activity will be only alluvial gravel 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.

R. Sensitive Landscapes:

Disturbed by agricultural activities (grazing for cattle) see **Annexure 2: Map/Plan 1 b1** the site was indicated as being a cultivated site also an historical and previous prospecting/mining activities.

S. Visual Aspects:

This mining activities will be visible to the landowner. The site will not be visible from any major tourist route (R34) between Bloemhof and Schweizer-Reneke.

T. Socio-Economics:

The proposed activity will employ 7 people (manager included). Various social amenities are available close to the operation. These include schools, hospitals, clinics, churches, recreation facilities as well as a Police Station at Schweizer-Reneke, which is located ± 26 km north of the proposed operation.

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

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

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

It should be noted that a comprehensive Environmental Management Program (EMPr) will be developed and implemented to regulate and minimize the direct, indirect and cumulative impacts during the construction and operational phases. The potential environmental impacts identified, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 8** on next page.

Table 8: Impact significance identification matrix for Vuurfontein 117 HO

PHASE	Components	ABIOTIC										BIOTIC				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	
Construction	Activity, Product or Service																	
	Construction of new houses and																	
	Establishment and preparation, vegetation clearance, topsoil removal and stockpiling of proper access roads (logpile cutting), final topsoil clearing, topsoil removal & stockpiling near to first construction within the main lot area																	
	Establishment of fenced feed or substrate storage bins, chemical bins.																	
	Provision of storage bins for (possibly) precast, rebar, and process water (for spraying).																	
Operational	Provision of water storage/chemical bins (for water & chemical activities)																	
	Fencing-off adjoining site as required in terms of the MSA. Erosion control (grid), etc.																	
	Vegetation clearance (topsoil removal & stockpiling) & stockpiling within the main lot area (0.1% of surface area disturbed at any given time)																	
	Mechanically remove vegetation with an excavator and stockpile separately from topsoil dump. Remove ground with excavator and backfill on site of topsoil with topsoil.																	
	Final clearing of site/branches																	
Decommissioning and closure	Topsoil stockpiles placed on topsoil dump.																	
	Establishment of vegetation cover																	
	Removal of all topsoil & sandstone of all permanent structures (Section 4 of the MPRDQ)																	
	Installation of all access roads, compacted areas, etc.																	

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

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

Introduction:

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

IMPACT ASSESSMENT

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

ACTIVITIES:

- Access Roads (Existing farm roads to be upgraded)
- Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings (containers)
- Mining equipment (conveyor, drum screen, washing pan, generator)
- Stockpiles
- Overburden dumps
- Opencast trenches (as part of bulk sampling)
- Tailings (porrel dam within open excavations)

Environmental Impact Assessment Summary:

- Environment likely to be affected by the mining operation. (See Annexure 2: Map 1(a) for location)**

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

- **Environment likely to be affected by the alternative land use.**
Mining is not a new land use over this area in general. **The site that is earmarked for mining represents 5ha of the bigger farm area.** And it is further not foreseen that mining activities would disturb an area of more than 0.2ha at any given time. The rest of the terrain would continue to be used for agriculture purposes (grazing by cattle) 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	Explanation of probability
Very low	<20% sure of particular fact or likelihood of impact occurring.
Low	20 to 39% sure of particular fact or likelihood of impact occurring.
Moderate	40 to 59% sure of particular fact or likelihood of impact occurring.
High	60 to 79% sure of particular fact or likelihood of impact occurring.
Very high	80 to 99% sure of particular fact or likelihood of impact occurring.
Definite	100% sure of particular fact or likelihood of impact occurring.

Explanation of extent of impact

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

Explanation of duration of impact

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

Explanation of impact significance

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

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

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

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

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

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

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

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

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

Refer to the results of consultation contained in **Table 6** for the issues that were raised by I&AP's and stakeholders during the review period of the Consultation phase of the BAR/EMPr report, as well as the response to those issues made by the Environmental Assessment Practitioner.

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

Table 9: 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	Geology (deposits will be destroyed during the opencast mining operation. During operation which will be for the next 2 years, the mineral resource (Alluvial Diamonds) will be extracted from mineral deposits. Waste rock material/overburden material is disposed-off/ backfilled in existing excavations as part of the mining process.				
Extent	Site				Activity causing the impact
Duration	Permanent				An opencast mining method will be used to extract mineral deposits. Therefore, the original geology will be destroyed.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X		

ASPECT	IMPACTS				CUMULATIVE IMPACTS
2. TOPOGRAPHY					
Nature of the impact	<p>* Change in landform: * The mining site is situated on level plains some relief.</p> <p>* Disturbance of the surface drainage: The mining of the mineral deposits will result in the creation of excavations (60m x 10 m x ± 2,5 m), that act as depressions in the environment that captures run-off. Mining activities will be concentrated as indicated on Annexure 2: Map 1(b) on the application area (approximately 2,5 m depth). Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site.</p>				
Extent	Site				Activity causing the impact
Duration	Very long to Permanent				Creation of excavations
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
3. SOIL					
Nature of the impact	The surface area is characterized by various soil depths as the area was disturbed before. Any construction of infrastructure should be preceded by the removal of all available topsoil where available.				
Extent	Site				Activity causing the impact
Duration	Long				In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.
Probability	High				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X		

3. SOIL	IMPACTS	CUMULATIVE IMPACTS								
Nature of the impact	The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the access roads, stockpiles /tailings dumps, cause compaction of soil. All mining activities will be concentrated on the identified mining focus area where mineral deposits could be found. At the same time a certain surface area is therefore alienated. The active mining surface area (alienated) would be restricted within the ±0.2 ha at any given time (in relation to area of application of the mining permit of 5 ha) for the next 2 years.									
Extent	Site	Activity causing the impact								
Duration	Long	Site preparation for additional mining sites and the construction, operation of listed infrastructure.								
Probability	High									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure		X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3. SOIL										
Nature of the impact	Soil erosion: Because 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 due to lack of vegetation cover. Water control structures may fail, or severe rainstorms may cause excessive run-off. Surface compaction due to activities taking place.								
Probability	Very low									
Significance	Low									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X	X
Phase 1	Phase 2		Phase 3	Closure						
	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3. SOIL										
Nature of the impact	Potential of soil contamination.	None.								
Extent	Site	Activity causing the impact								
Duration	Long	Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.								
Probability	Moderate									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X	X
Phase 1	Phase 2		Phase 3	Closure						
	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS								
3. SOIL										
Nature of the impact	Loss of soil structure	None								
Extent	Site	Activity causing the impact								
Duration	Long	In the process of removing topsoil the soil layers are mixed and the structure may be disturbed.								
Probability	High									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X	
Phase 1	Phase 2		Phase 3	Closure						
	X	X								

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
3.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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
4.LAND									
Nature of the impact	Temporary loss of land capability to support grazing. The small area (5 ha) where the active mining activities occur (excavations, tailings dumps, stock piles, mining equipment) etc. will thus be temporary alienated, until the area is rehabilitated. All excavations would be rehabilitated as part of the mining process during which excavations are backfilled. The rest of the application area will still be used by the landowner as agricultural grazing 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 destroyed.							
Probability	Definite								
Significance	Moderate								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X	X						

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
5. LAND USE									
Nature of the impact	The rehabilitation of the historically disturbed areas will have a positive impact on land use. This is a new mining operation on an old, disturbed area and therefore will lose its land use to support grazing on a certain portion of the 5 ha during the next 2 years. Only a small portion of land (0.2 ha at a time) would be affected by the mining operation relation to the total mining right application area of 5 ha. All excavations would be rehabilitated as part of the mining process during which excavations are sloped.								
Extent	Site	Activity causing the impact							
Duration	Long to permanent	Site preparation for mining and the construction, operation of listed infrastructure							
Probability	Definite								
Significance	Moderate								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS							
6.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	Long	The site preparation for new sites, construction of listed infrastructure will cause destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and invasion of exotics could further spread. The vegetation needs to be cleared to remove the topsoil.							
Probability	Definite								
Significance	High								
Phase responsible for the impact	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Phase 1</td> <td style="width: 25%;">Phase 2</td> <td style="width: 25%;">Phase 3</td> <td style="width: 25%;">Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td></td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X							

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

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

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

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

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

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

ASPECT	IMPACTS	CUMULATIVE IMPACTS			
8. SURFACE WATER					
Nature of the impact	Change in surface water quality. Spillages from vehicles and surface water run-off that is not adequately diverted away from the active 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, mining sections could become silted-up.				
Extent	Local	Activity causing the impact			
Duration	Short	"Dirty / Clean" water systems at facilities like the overburden dumps, roads, 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	Phase 1		Phase 2	Phase 3	Closure
			X	X	

ASPECT	IMPACTS	CUMULATIVE IMPACTS			
8. SURFACE WATER					
Nature of the impact	Change in surface water quantity. Notwithstanding the above-mentioned facts, it is not expected that mining operations will have any effect on the boundaries or the general water flow of the catchment. Standing water in trenches could as the result of rain/ surface run-off ending up in shallow depressions. Water for the dust suppression might be used from the borehole.				
Extent	Site	Activity causing the impact			
Duration	Long	It is an operational objective to contain or divert all surface run-offs from the active mining excavations area mainly due to pollution (sediment) potential. This will reduce the run-off quantity, although small in comparison with the drainage area in total.			
Probability	High				
Significance	High				
Phase responsible for the impact	Phase 1		Phase 2	Phase 3	Closure
			X	X	

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

9. GROUND WATER										
Nature of the impact	Even though abstraction is likely to have a minimal effect on the surrounding groundwater users, this is a new use, and groundwater levels are expected to continue current trends. Groundwater will be abstracted for potable water, process water supply and dust suppression. The volume of water needed is small (2000 Lit/hr) in comparison to other water use and will have a small impact on the surrounding aquifer.									
Extent	Site	Activity causing the impact								
Duration	Long	Opencast mining operation.								
Probability	Low									
Significance	High									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure		X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
	X	X	X							

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 plant (screen & crushing plant) and on gravel/dirt/farm roads. The crushing of the gravel is a wet process and therefore minimum dust is generated.									
Extent	Site	Activity causing the impact								
Duration	Long	Initial construction work regarding infrastructure (roads) that involves earth moving equipment. Dust could be generated as indicated during mining.								
Probability	Moderate									
Significance	Moderate									
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure		X	X	X	
Phase 1	Phase 2	Phase 3	Closure							
	X	X	X							

ASPECT	IMPACTS	CUMULATIVE IMPACTS				
11. NOISE POLLUTION						
Nature of the impact	Noise will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation to the plant (screen & crushing plants). 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.					
Extent	Local	Activity causing the impact				
Duration	Long	Earth moving equipment and vehicles (trucks).				
Probability	Definite					
Significance	Moderate					
Phase responsible for the impact	<table border="1" style="width: 100%;"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> </table>	Phase 1	Phase 2	Phase 3	Closure	
Phase 1	Phase 2	Phase 3	Closure			

August 18, 2023	N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) – NW30/5/1/3/2/ 11231 MP
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Phase responsible for the impact		X	X	X	
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ASPECT	IMPACTS				CUMULATIVE IMPACTS
12. ARCHAEOLOGICAL AND CULTURAL SITES					
Nature of the impact	The terrain is not archaeologically vulnerable as it was disturbed before (agriculture & mining activities). It is unlikely that the proposed development will result in any significant archaeological impact at the site.				
Extent	Site				Activity causing the impact
Duration	Permanent				
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X			

ASPECT	IMPACTS				CUMULATIVE IMPACTS
13. SENSITIVE LANDSCAPE					
Nature of the impact	No sensitive landscape on site				
Extent	Site				Activity causing the impact
Duration	Short				
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
14. VISUAL					
Nature of the impact	Mining will be partly visible to the neighbours living there.				
Extent	Site				Activity causing the impact
Duration	Long				Mining operation.
Probability	Definite				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
15. SOCIO ECONOMICS					
Nature of the impact	Increase in Socio – economic activity at local level. The project would ensure that approximately 6 workers would + 1 manager be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependants in the Wolmaransstad area. Once all mining operations have ceased it would have a negative impact.				The increase in socio-economic activity will add to the current growth and development in Bloemhof area 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	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

August 18, 2023	N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) – NW30/5/1/3/2/ 11231 MP
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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 5 ha that will not be available for agricultural activities at any given time for 2 years.	The economic benefits in terms of investment and the delivery of services in the North West province will get an additional benefit from the project.
Extent	Regional	Activity causing the impact
Duration	Very Long	
Probability	High	
Significance	Moderate	
Phase responsible for the impact	Phase 1	Phase 2
		Phase 3
		Closure
		X

ASPECT	IMPACTS	CUMULATIVE IMPACTS
16. INTERESTED & AFFECTED PARTIES		
Nature of the impact	Impact of activities on I&AP's Temporary loss of utilization of the mining focus areas for agricultural purposes (grazing). The long-term benefits far out-weight the current benefits from the current use. Loss of cattle due to falling of animals in mine workings if not fenced. 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	Long	
Probability	High	
Significance	High	
Phase responsible for the impact	Phase 1	Phase 2
		Phase 3
		Closure
		X

(ix) Outcome of site section matrix

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

Motivation where no alternative sites were considered.

Alternative is not applicable. The current land use is agricultural and is being utilized as grazing for cattle by N J VAN ZYL. The option to explore the possibility for mining is already in itself an alternative land use. The applicant, N J VAN ZYL, is not interested in any other alternative land use over this land aside of mining alluvial gravel or any other activity on the designate 5 ha, or method use other than mining for the minerals in the conversional way, which is the most cost effective. Please note that no additional infrastructure will be established, and therefore no alternatives for the location of infrastructure were identified.

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

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The application area applied for is only 5 hectares thus the development location is limited to this area and the area where the mineral deposits occur.

(xi) Concluding statement indicating the preferred alternatives

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As mentioned previously as this is a mining permit application the whole of the application area will eventually be mined and rehabilitated in order to work out the mineral in a optimal manner.

i) FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY WILL IMPOSE ON THE PREFERRED SITE (IN RESPECT OF THE FINAL SITE LAYOUT PLAN) THROUGH THE LIFE OF THE ACTIVITY

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See Table 10 below:

Table 10: Technical & Management Action Plans

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> No mitigation exists except to backfill the excavations with the rock waste material and fine tailings. As mining progressed and the excavation has been backfilled, a certain amount of overburden material and topsoil would be placed on these areas. This will not restore the geology but will mitigate the impact. Planned, systematic and thorough mining of the mineral resource (alluvial gravel deposits) should take place. Optimal utilization of the mineral resource should take place within the boundaries of the mining terrain. Strip, remove and store soil and overburden as far as practical in an orderly fashion and replace as far as possible on back-filled areas, in the reverse order once decision have been taken that no further mining would take place in a particular section, or which might still be traversed by vehicles and disturbed in the process. Cognisance should be taken of the fact that mining 	
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 trenches should be backfilled with waste tailings material and eventually overburden material, covered with a shallow layer of topsoil (if available). Access to all active mining excavation areas should be controlled. The active mining 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) and rehabilitated tailings dumps and overburden dumps in order to prevent the loss of growth medium on top of the dumps. <p>Mining would be done according to a definite MWP (only disturbing an area that is necessary). As part of the MWP the handling of tailings material, overburden material, construction of dumps and back-filling of trenches should also form part of it. Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. As soon as a section of the 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 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.	

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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 excavations or construction of infrastructure should be preceded by the removal of all available topsoil. The surface of any new areas to be disturbed must be kept to a minimum. All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.</p> <p>Access roads, etc.: The clearing of soil surface areas would be restricted to what is necessary for the construction of infrastructure. Wherever possible all topsoil should be removed and stockpiled for rehabilitation purposes. Overburden material should also be stockpiled separately if practically possible. Topsoil and overburden material should be transported to an area earmarked for rehabilitation.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
<p>The topsoil removed in the site preparation process should be replaced during the rehabilitation exercise. Alleviation of compaction of soils would be done during rehabilitation of the terrain, including roads. No soil erosion must be visible and no potential for soil erosion must be present at closure. No soil contamination must be visible or known before closure can be given. 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. The soil must be fertile enough to sustain vegetation.</p>	

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 mining plan) 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: To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.</p> <p>Re-vegetation of exposed soil surfaces (man-made surfaces on tailings dumps, overburden dumps, disturb surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No soil erosion must be visible and no potential for soil erosion must be present at closure.	

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Environmental Component	Soil (Soil contamination)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Potential for soil contamination: Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time to enhance the natural occurring soil microbial activity). No servicing of vehicles must occur except on a steel floor 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.	

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N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
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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. 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</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. 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	
To rehabilitate the excavation area back to pre-mining capability.	

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>No mitigation exists except to replace the vegetation by reseeding of grasses and natural growth. 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>No mitigation exists except to replace the vegetation by reseeding of grasses. Habitat change, loss of species, spread of alien and invasive species: No mitigation exists except to replace the vegetation by reseeding and planting trees. Bulk sampling should be done in a well-planned manner (according to a mining plan) and in the process ensuring that activities are only restricted to surface areas really required. Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants. An invasive and alien control programme must be drafted and implemented by the mine. Ensure that all roads (utilized by mine vehicles) are daily sprayed with water to control dust.</p>	

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Site inspections to ensure the spraying are done.

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.

No invasive and alien species must be present after closure. A post-closure control program must also be implemented.

No excessive dust must be present during the normal growth season after closure

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.

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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.</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.	

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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	
<p>Reduction of groundwater quantity, lowering of groundwater level: Water level in the borehole that are used for mining activities should be recorded monthly.</p> <p>Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Air Quality
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Dust: The 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).</p> <p>Daily spraying of roads with water. Inspection should be done on a daily basis.</p> <p>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Dust count must be the same as before mining. Rehabilitation of the mining site would ensure that no dust is generated from exposed surfaces.	

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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.</p> <p>Inspection of vehicles and machinery to ensure silencers are fitted.</p> <p>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>All grave yards need to be avoided.</p> <p>Preservation of any site will require that the area is properly demarcated with at least a 20m buffer zone placed around any graveyard to avoid potential damage during mining activities.</p> <p>It will be necessary to ensure that the whole graveyard is accessible to the relatives of the deceased.</p> <p>However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered.</p>	
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	
No action required. No sensitive landscape on site.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

Environmental Component	Visual Aspects
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Visual impact would be addressed by means of.</p> <ul style="list-style-type: none"> * 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. <p>Concurrent rehabilitation should be done simultaneously as mining activities progress.</p>	
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.	

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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 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 Eskom power line (10 m distance should be kept) (Permission of Inspector of Mines should be obtained.)	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Not to be an economic, social or environmental liability to the local community or the state now or in the future. The company will ensure that the interest of all interested and affected parties will be considered.	

J) ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

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

Table 11: Identified Potentially Significant Impacts & Risks

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
Excavations for diamond (Alluvial)	1.1 Removal of the alluvial gravel up to 2.5m. Disturbance of 0,2 hectares over a period of 2 years at any given time.	Geology & soil	Operational	High -	The bulk of the material mined will be sold. The impact will be mitigated by sloping the sides and stabilizing the soil to prevent erosion	Low +
	1.2 Change in landform. The entire mining area will be lowered by 2,5 m and normal surface drainage will be disturbed at this specific point.	Topography	Operational and closure	Moderate -	All pits/trenches will be backfilled. The sides will be sloped and topsoil and vegetated. A surface water cut-off trench should be put in place around the active mining site in order to prevent surface run-off water on the mining site. Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape.	Moderate +
	1.3 Stripping of all available topsoil and stockpiled.	Soil	Construction and Operational	Low -	Any area on the mining area where disturbance will take place the top soil must be removed and stockpiled for rehabilitation purposes in a demarcated area (surrounding the pit area to act as a surface run-off control measure and safety berm.)	Low +
	1.4 Soil erosion: Because certain surface areas would become devoid of any vegetation cover and compacted this would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes	Soil	Construction	Low-	To take preventive steps against erosion, implement and maintain cut-off trenches and or berms around the mining area to prevent water entering that can cause erosion. Concurrent rehabilitation and re-vegetation of mined areas must happen as soon as the particular area is mined out. Rehabilitated areas must be inspected and managed in such a way that any signs of erosion can be mitigated immediately.	Low +
	1.5 Land capability and land use. Loss of land to support cultivation/ grazing.	Land capability & Land use	Operational and closure	Low-	As this is only a very small area of 5 hectares, the impact is not so big. As the excavation will be backfilled and vegetated the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declares weeds.	
	1.6 Generation of dust by excavating and vehicle movement	Air quality	Operational	Low -	The mining method will serve as mitigation measure because it will limit dust to the active mining area, where the excavator and trucks operating. Daily spraying of the roads with water when required.	

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k) SUMMARY OF SPECIALIST REPORTS.

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

Table 12: Specialist Reports

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
None required.	Information given is sufficient for 5 ha.		

I) ENVIRONMENTAL IMPACT STATEMENT

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

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

The **small scale alluvial gravel mining operation** is going to have an impact on the environment. The main impact relates to topography, geology, soil, vegetation, and land use and land capability. The gravel resource will be mined over a **period of 2 years** or possible more. **The existing land-use is agriculture (grazing for cattle) on site.** This is a small operation (5 ha) and for the next 2 years only a small portion of the farm will be temporarily alienated.

The conservation of topsoil is of utmost importance and therefore to ensure a sustainable land use again on the 5ha, **all the topsoil need to be removed prior to mining** of the underlying gravel (up to 2.5 m depth). This will be used again as growth medium during the rehabilitation phase of the excavations. Topsoil will be stored in berm walls on the border of the excavations to divert any surface run-off during a rainfall event. Other environmental impacts relate to the day to day operation that could easily be managed, such as dust and noise.

(ii) Final Site Map

Attach as **Annexure 2: Map 1 (b).**

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

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

Although this is a small alluvial diamond mining operation it would also add to the increased economic activity within the farming and exiting mining community around Wolmaransstad. **Jobs for 7 permanent (including manager)** labour will be created.

Negative impacts on the area are expected to be temporary and can be mitigated to a large extent if the recommendations of the EMP are adhered to e.g. rehabilitation. No concerns have been raised as yet by any I & AP. The specific occurrence of the alluvial gravel (DA) deposit dictates the selection of the specific mining site.

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m) PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR

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

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

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

n) ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

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

None

o) DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.

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

None

p) REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

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

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

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

(ii) Conditions that must be included in the authorisation.

None

q) PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

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

2 Years.

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r) UNDERTAKING

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

UNDERTAKING

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

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

Signed at Klerksdorp on this day 11th August 2023.



Signature of EAP

s) FINANCIAL PROVISION

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

The total application area is 5 hectares but only 0.24 hectares will be disturbed by opencast excavations.

The excavations will be 60m in length by 10m wide and ± 2.5 meters deep on average.

Four (4) excavations will be opened at any given time.

Thus, the disturbance (by trenches) will be $10 \times 60\text{m} (\times 2.5\text{m deep}) = 600\text{m}^2$ ($0.06 \text{ ha} \times 4$) = 0.24 ha.

Plant area and general surface rehabilitation will be 0.2 ha.

The DMRE 2022 quantum calculation table and rates was used to determine the environmental liability. Based on these figures thus a total of R 114,039.68 will be needed for rehabilitation guarantees. See quantum attached as **Annexure 7**.

ANNEXURE 7: Quantum Calculation

(i) Explain how the aforesaid amount was derived.

This will be a small operation where only 0.24 hectares will be disturbed at any stage by mining operation and including at after care and maintenance. The amount was determined through the quantum tables provided by DMR and based on the size of the disturbance which are foreseen.

Construction phase clearing of vegetation cover and stripping of topsoil over plant area and first excavations.

Operational phase excavation of trenches for recovering of diamond bearing gravel.

Trenches four (4) trenches per a given time of $60\text{m} \times 10 \text{ m} (\times 2.5\text{m deep}) = 600\text{m}^2 \times 4 = 2'400\text{m}^2$
= 0.24 ha

Plant area and general surface disturbance will be restricted to 0.2 ha.

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

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

t) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

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

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

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

The whole farm is owned by L.G. Mostert which is the landowners. No other person will be directly affected by this activity.

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

This activity will have no impact on archaeological structures.

u) OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT.

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

NONE

APPENDIX 4: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

PART B

1. ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

a) DETAILS OF –

a) Details of the EAP

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

Ms. Esna Erasmus

Tel No.: 018-468 5355

Fax No.: 018 011 3760

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

ANNEXURE 1 – CV & Qualifications of EAP

b) DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

❖ DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:

The mining activities under the mining permit will all be invasive activities, from site preparation till closer phase.

❖ DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

Activities	Description of phases
The Mineral	N J VAN ZYL intends to mine for Diamonds (Alluvial) (DA) situated on the farm VUURFONTEIN 117 HO (over a portion of the Remaining Extent of Portion 13), Bloemhof district and 5 hectares in total. See Figure 2 for location of application area. The alluvial diamond gravel will be mined over the whole of the application area.
The extend	The gravel is on average 2.5 meter thick with a topsoil layer which varies between 1000 and 1500 millimeters. The area that was identified and demarcated is shown on the Figure 1 - Sketch plan . The gravel reserve on these 5 hectares is estimated at 50'000m ³ or ± 56'650 tons and the total material to be moved is 50'000m ³ .
Mining method	The above area will be mined through opencast excavations where the topsoil will be stripped separately and stockpiled. The gravel is then removed with a 30-ton excavator and placed next to the excavation. A Front -end Loader takes the gravel to the 14 feet washing pan which is fed at a rate of 10m ³ an hour, 48m ³ a day and 4800m ³ a month. All the rough are first placed back into the bottom of the excavation, hereafter the puddle out of the pan is pumped directly back into the open excavation. After the puddle dried off, the topsoil is put back on top again. The excavations will be 60m in length 10m wide and ±2,5 meters deep on average. Four excavations will be opened at any given time.

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	The total estimated reserve of gravel is 50'000m ³ taken at a production rate of 48'00m ³ a month it will take 24 months to work the estimated reserve of ±50'000m ³ . The production rate is taken at 4'800m ³ /month. The gravel which is relatively shallow (2,5 meter) and the low production rate of the applicant make these 5 hectares to be worked sustainable over a period of two years.
The grade	The grade of this gravel is estimated at 0.3 carat per 100 ton of gravel and \$650 a carat, which can give 16,31 carats of diamonds sold at \$650@R15,5,5/\$. The small operation can last for 24 months and can be profitable.

c) COMPOSITE MAP

See Annexure 2: Map 1 (C).

d) DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

(i) Determination of closure objectives

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

As this area was disturbed before there is not top soil available on all the areas but on the non-disturbed area all available top soil will be stripped and stockpiled.

N J VAN ZYL will ensure that the Operation/Sites are:

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

N J VAN ZYL will furthermore:

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

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

Only a small amount of water will be required which will be used for processing of the diamond gravel in the washing pan. 2000 litres a day will be used for washing pan.

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

Water will be obtained from an existing borehole on the from and will temporarily water conversion be done for mining use, once this permit is issued.

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b) Impacts to be mitigated in their respective phases.

Table 13: Measures to rehabilitate the environment affected by the undertaking of any listed activity.

ACTIVITIES	PHASE	SIZE AND SCALE of disturbance	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
1. Excavations	Operational	4800 m ² a month and 0.2 hectares at any stage	Concurrent rehabilitation by sloping the sides of the excavation to be stable/sustainable and covered with topsoil and vegetate.	The pit will be backfilled with puddle for stability and providing a base for the replacement of topsoil.	As part of concurrent rehabilitation.
2. Gravel Stockpile area	Operational	0.2 hectares at any stage	Keep this area as small as possible within the demarcated area. Prevent spillages of fuels by machines	Immediate cleaning of spillages	Concurrent with mining
3. Washing of gravel	Operational		Keep this area as small as possible. Prevent spillages of fuels by equipment.	Immediate cleaning of spillages	Concurrent with the mining
Total disturbed surface area:		0.4 ha surface area			

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e) IMPACT MANAGEMENT OUTCOMES

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
Excavations for alluvial gravel	1.1 Removal of the gravel up to 2.5 m	Geology & soil	Operational	The bulk of the material removed will be back-filled. The impact will be mitigated by sloping the sides of the excavation and stabilizing the soil to prevent soil erosion.	Stable slopes that can sustain erosion without excessive erosion.
	1.2 Change in landform. The entire mining area will be lowered by 1 m and normal surface drainage will be disturbed at this specific point. The pit will be backfilled	Topography	Operational and closure	The side of pit will be sloped and the soil stabilized to prevent erosion. A surface water cut-off trench should be put in place around the active mining site in order to prevent surface water on the mining site. Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape.	Gentle stable slopes.
	1.3 Stripping of all available topsoil and stockpiled	Soil	Construction and operational	The top soil must be removed before any disturbance take place. The top soil must be removed and stockpiled in a demarcated area for rehabilitation purposes.	Enough topsoil for rehabilitation to ensure sustainable vegetation.
	1.4 Soil erosion due to the fact that certain surface areas would become devoid of any vegetation cover and compacted. This would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes.	Soil	Construction and operational	To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the mining area to prevent water entering that can cause excessive erosion.	No excessive erosion that cannot be stabilized.
	1.5. Loss of Land capability & land use.	Land capability & land use	Operational and closure	As this is only a very small area of 5 hectares, the impact is low. As the sites will be sloped and vegetated, the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declared weeds.	Sustainable rehabilitated area.
	1.6 Generation of dust by excavating and vehicle movement	Air quality	Operational	The generation of dust will only be localized at the mining site. Daily spraying of roads with water	No excessive dust that can be harmful to the environment and humans.

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f) IMPACT MANAGEMENT ACTIONS

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Excavations for alluvial gravel	1.1 Removal of the gravel up to 2,5 m	The bulk of the material removed will be washed and the puddle back to the excavation. The impact will be mitigated by backfilling the excavation and stabilizing the soil to prevent soil erosion.		
	1.2 Change in landform. The entire mining area will be lowered by 2,5 m and normal surface drainage will be disturbed at this specific point. The pit will be backfilled	The pit will be backfilled, and the soil stabilized to prevent erosion. A surface water cut-off trench should be put in place around the active mining site in order to prevent surface water on the mining site. Rehabilitation of the new rehabilitated landscape in such a way that it would blend in with the surrounding landscape.		
	1.3 Stripping of all available topsoil and stockpiled	The top soil must be removed before any disturbance take place. The top soil must be removed and stockpile in a demarcated area for rehabilitation purposes		
	1.4 Soil erosion due to the fact that certain surface areas would become devoid of any vegetation cover and compacted. This would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes.	To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the mining area to prevent water entering that can cause excessive erosion.		
	1.5 Loss of Land capability & land use	As this is only a very small area of 5 hectares, the impact is low. As the sides will be sloped and vegetated, the rehabilitated area must be treated as sensitive when grazed as overgrazing can trigger erosion and infiltration of declared weeds.		
	1.6 Generation of dust by excavating and vehicle movement	The generation of dust will only be localized at the mining site. Daily spraying of roads with water		

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g) METHOD OF MONITORING THE IMPLEMENTATION OF IMPACT MANAGEMENT ACTIONS

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

Monitoring by daily checks by manager.

h) FREQUENCY OF MONITORING THE IMPLEMENTATION OF IMPACT MANAGEMENT ACTIONS

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

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

i) INDICATION OF PERSON RESPONSIBLE FOR IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS.

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

The applicant

j) TIME PERIODS WITHIN WHICH ACTIONS MUST BE IMPLEMENTED.

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

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

k) MECHANISMS FOR MONITORING COMPLIANCE WITH THE IMPACT MANAGEMENT ACTIONS.

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

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

l) PROGRAM FOR REPORTING ON COMPLIANCE

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

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

m) ENVIRONMENTAL AWARENESS PLAN

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

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

Mr. NJ van Zyl will contract DERA Environmental Consultants to inform the employees after the EMP was approved. The following guidelines will be used:

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

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

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

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

n) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

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

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

APPENDIX 5: CLOSURE PLAN

PART C

1. CLOSURE PLAN

a) Details of-

(i) Details of the EAP

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

Ms. Esna Erasmus

Tel No.: 018-468 5355

Fax No.: 018 011 3760

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

ANNEXURE 1 – CV & Qualifications of EAP

(ii) Expertise of the EAP

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

b) Describe the closure objectives.

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

N J VAN ZYL will ensure that the Operation/Sites are:

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

N J VAN ZYL will furthermore:

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

c) Mechanisms for monitoring compliance with and performance assessment against the closure plan and reporting thereon.

Compliance of closure objectives will be done as part of concurrent activities, as rehabilitation will not be left till closure but will be incorporated into day-to-day activities, to complete rehabilitation over area where prospecting activities were completed and to get re-vegetation over such area as quickly as possible. This will also help to pick up on any areas where further rehabilitation work is needed to make it self-sufficient again. The mechanisms that will be used for monitoring will be as listed in the table below and will be reported on annually through the Audit and Performances Assessment Report to be submitted to DMRE.

Action	Frequency	Method	Period
1. Monitoring of perimeter fence	Monthly and following any heavy rainfall.	Vehicle patrol. Record	Until closure
2. Monitoring of re-vegetation Mined out and rehabilitated areas Leveled and Rehabilitated Dumps Old roads Covered over waste pits. Rehabilitation plots	Every 6 months	Foot inspection Initiate set up of test pits. Get consultants in if necessary.	Until closure
3. Monitoring of erosion on: ✓ Roads ✓ Rehabilitated mined out areas. ✓ Dumps ✓ Pumps and pipelines ✓ Any other areas	Every 6 months and following any heavy rainfall	Visual inspection Walk over rehab areas. Drive along roads. Check pipelines and pumps. Photographic records.	Until closure
4. Monitoring of alien plants over the whole site.	On-going until under control - then every 6 months.	Visual inspection on foot patrol. Map presence of invasive plants. Plan removal, remove and document area covered on monthly basis.	On-going until closure
5. Monitoring of all Rehabilitation Areas. Check compliance with gradients	Every 6 months.	Survey- map new rehabilitated areas. Plot on map and calculate area treated, Get rehab consultants in if necessary.	Until closure.
6. Monitoring of stability of water storage pit.	Monthly and summarize every 6 months	Follow specifications in mandatory code of practice for puddle dams	Until closure
7. Monitoring of disposal of metal scrap, old oil, oil filters, old oil drums, oily cloths, batteries, fluorescent tubes, tires and contaminated soil (Hazardous	Monthly and summarize every 6 months.	Record each load sent off the site. Give used oils to Oilkol Ensure safe disposal certificates are obtained from suppliers if the material is given back to them.	Until closure.

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8. Monitoring of maintenance of general waste disposal	All loads of waste to be recorded and quantity extrapolated. Covering of waste pit - Monthly.	Running total of loads of waste taken Record of waste taken to BLOEMHOF waste disposal site Keeping record of waste taken to disposal site	Until closure
9. Monitoring of condition efficiency of chemical toilets	Every six months	Visual inspection. Record condition.	Until closure
10. Monitoring of condition of bunded areas around diesel storages, refueling area, old oil tank.	Every six months.	Visual inspection	Until closure
11. Monitoring of water use.	Monthly	Record total water use, should there be an indication that there is a decline in water volumes.	Until closure

d) Measures to rehabilitate the environment affected by the undertaking of any listed activities.

As indicated under Part A of this document the area over which this application as lodged are characterized as being mainly under natural vegetation (grazing by cattle) and historical disturbed areas left by previous mining operators. The historical disturbed area left un-rehabilitated will be rehabilitated to a situation better than it is now to conform to a land use of grazing again. The historical disturbed areas will be reworked and sloped, thus making it available for grazing again.

a. Rehabilitation:

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

Rehabilitation of access roads

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

Rehabilitation of the surface mining site

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

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

The excavations surface area shall be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area.

After all the foreign matter has been removed from the mining sites, the side slopes and the excavations floor area will be sloped and levelled, and the previously stored topsoil replaced.

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

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

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal (controlled) surface drainage to continue. Implement water control systems to prevent erosion. Seed the area (see C. (below) for recommended seed mixture).

Visual impact would be addressed by means of.

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

Fertilising of Areas to be Rehabilitated.

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

Seeding of Grass Seed Mixture and planting of Woody Species

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

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

b. Demolition of infrastructure/buildings

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

c. Invasive and alien control programme

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

e) Information on any proposed avoidance, management and mitigation measures that will be taken.

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

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

f) Description of the manner in which to —

(i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation during closure.

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

- ensure that the physical and chemical stability of the rehabilitated site will be such that risk to the environment is not increased by naturally occurring forces to the extent that such increased risk cannot be contended with by the installed measures.
- subscribe to the optimal exploitation and utilization of South Africa's mineral resources (Alluvial Diamonds (DA)
- ensure that the prospecting site is closed efficiently and cost effectively.
- ensure that the operation is not abandoned but closed in accordance with the relevant requirements.
- ensure that as far as practically possible historical disturbed areas are sloped to blend in with natural surrounding areas.

- ensure that the interest of all interested and affected parties will be considered.
- ensure that the all-relevant legislation regarding mine closure will be adhered to, and all relevant application procedures followed.

(ii) remedy the cause of pollution or degradation and migration of pollutants during closure.

The main sources of pollution during closure are if stillages by petrochemicals where the mining machinery is busy backfilling and sloping the terrain for final closure. This can be avoided, where vehicles received regular services and that when vehicles are stopped it is always over a drip tray. There will not be any other sources of pollution, as all trenches and pits would have been backfilled, most of the concurrent rehabilitated areas would have started to show a re-growth of natural vegetation. The side of the porreldam would have dried off and would have been sloped to encourage re-establishments of natural vegetation.

(iii) comply with any prescribed environmental management standards or practices; and

All rehabilitated areas should be backfilled with overburden and oversize stone, and area should be sloped to blend in with natural drainage lines of the area, whereafter topsoil should be spread over the entire rehabilitated areas. Re-vegetation should be encouraged, by loosening to soil surface, which will trap rainfall water and windblown seeds. All possible sites that can cause erosion should be monitored and remedying before precious topsoil is lost.

(iv) comply with any applicable provisions of the Act regarding closure

Thus, the main goal should be to establish a self-sustaining and stable vegetation cover to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued.

g) Time periods within which the measures contemplated in the closure plan must be implemented.

Monitoring and maintenance of all disturbed and rehabilitated area will stay in place until such time that a closure certificate is issued by DMRE.

h) The process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of closure.

If all areas as backfilled as mining progress and areas sloped to blend in with the natural contours of the surrounding topography after backfilling was completed. The areas should re-establish and become a stable environment. The only potential hazard which can occur, is if a heavy rainfall event occur before the soil have stabilized and vegetation has re-established. Then remediation of damage which may be caused should be done. There will be no other processes and closure action required.

i) Details of all public participation processes conducted in terms of regulation 41.

When the applicant intent to apply for closure all the landowner/tenant will be informed and given chance to raise issues/ concerns. The end land use will be agreed upon with the landowner and will the site be rehabilitated toward it. As confirmed the applicant have also undertake to rehabilitate the old historical disturbed areas as far as practically possible and at least to slope the area to be more aesthetically acceptable and be again available for as grazing land. The landowner will sign off that he is satisfied with completed rehabilitation and vegetation re-establishment.

j) Details of any financial provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts

The applicant will provide a financial guarantee to cover all liabilities while mining and to remedy the area till a closure certificate is issued. No post closure guarantee will be necessary as there will be no residual impact if concurrent rehabilitation and re-vegetation is done. This will be a small operation where only 0.24 hectares (of 5 ha) will be disturbed at any stage by prospecting operation and including at after care and maintenance. See quantum calculation attached under **Annexure 7**.

ANNEXURE 7: Quantum Calculation

2) UNDERTAKING

The Environmental Assessment Practitioner

I, H.M. Erasmus declare that –

General declaration:

- I act as the independent environmental practitioner in this application.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity.
- I will comply with the Act, regulations and all other applicable legislation.
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application.
- I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application.
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports

that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report.

- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not.
- all the particulars furnished by me in this form are true and correct.
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realize that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010.
- I have a vested interest in the proposed activity proceeding, such vested interest being:

The EAP herewith confirms:

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

[Handwritten Signature]

Signature of the environmental assessment practitioner

DERA Omgewingskonsultante (Pty) Ltd
Name of company

-END-

[Handwritten Signature]

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
Centraalaaan 32 Central Avenue, Flamwood, Klerksdorp
Appointed/Aangestel: 23 Oktober 2012
Reference/Verwysing: 9/1/8/2 Klerksdorp

CV & QUALIFICATIONS OF EAP: ANNEXURE 1

TECHNIKON PRETORIA



BACCALAUREUS TECHNOLOGIAE

LANDBOUBESTUUR

AGRICULTURAL MANAGEMENT

Toegeken aan

Awarded to

HESTER MAGDALENA CLAASE

95057691

1975-04-03

met ingang van

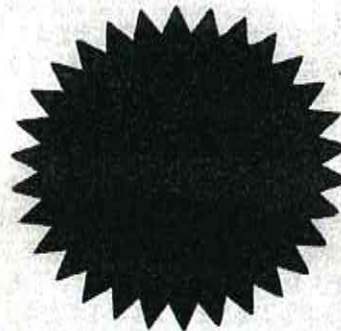
with effect from

2000-12-15

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector

E 6280



TECHNIKON PRETORIA



NASIONALE NATIONAL DIPLOMA

LANDBOU: HULPBRONBENUTTING

AGRICULTURE: RESOURCE UTILISATION

Toegeken aan

Awarded to

HESTER MAGDALENA CLAASE

95057691

1975-04-03

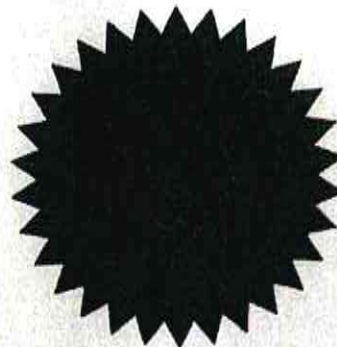
met ingang van

with effect from

1998-01-01

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector



No.
№ 30054

HM (Esna) ERASMUS

ENVIRONMENTAL PRACTITIONER



CONTACTS



esnae@dera.co.za



+27 83 4525917



LinkedIn

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



Klerksdorp, North-west
Province, South Africa

SKILLS

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

ABOUT ME

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

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

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

Evaluation of Environmental Management Reports

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

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

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

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

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

WORK EXPERIENCE

JAN 1998

SENIOR RESOURCE CONSERVATION INSPECTOR

JUN 2002

National Department of Agriculture – Potchefstroom, SA

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

Management of personnel and personnel related matters.

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

JUL 2002

SENIOR ENVIRONMENTAL OFFICER

FEB 2004

Department of Minerals and Energy – Klerksdorp, SA

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

Evaluation of EMPR's and EIA's.

Audit and compliance inspections of mining operations.

MAR 2004

ENVIRONMENTAL PRACTITIONER

PRESENT

DERA Environmental Consultants – Klerksdorp, SA

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

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

Risk assessment and applications for closure certificates.

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

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

Manages consultation between Departments and applicants.

EDUCATION



1993

HIGH SCHOOL DIPLOMA

Middelburg High School – Middelburg, Mpumalanga, SA

English	Afrikaans
Biology	History
Geography	Accounting

1998

NATIONAL DIPLOMA: AGRICULTURE: RESOURCE UTILISATION

Tshwane University of Technology – Pretoria, Tshwane, SA

Animal Production I	Computer Application I
Pasture Science I	Physical Science I
Agricultural Marketing II I, II and III	
Poultry Production II	Crop Production I, II
Agricultural Soil Science I	Agricultural Mechanization I
Agricultural Production Management III	
Agricultural Extension II	Large Stock Production II
Horticulture III	Agricultural Anatomy & Physiology I
Farm Planning I	Soil Conservation II

2000

BACCALAUREUS TECHNOLOGIAE: AGRICULTURAL MANAGEMENT

Tshwane University of Technology – Pretoria, Tshwane, SA

Financial Management IV	Strategic Management IV
Plant Production IV	Leadership Development II

2004

MATERS OF ENVIRONMENTAL SCIENCES IN ENVIRONMENTAL SCIENCES AND MANAGEMENT- uncompleted

North-West University – Potchefstroom, North West

Introduction to environmental management
Applied Environmental Management
Environmental Management
Theoretical Hydrology
Urban Ecology
Introduction to GIS
Applied GIS
Applied Hydrology
Environmental Analysis
Research Proposal – uncompleted
Final dissertation - uncompleted

SHORT COURSES



Computer training Dbase IV
Seminar in public speaking
Veld assessment course
Resource Identification and utilization course – September 1998
Introduction to GIS – June 2001
Persuasion skills
Wetlands identification
Wetlands Rehabilitation – August 2001
Management skills
Environmental Risk Assessment and Management – August 2005
Mining and the Environment – October 2003

E I A - EXPERIENCE



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

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

August 18,
2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP

MAPS' AND PLANS: ANNEXURE 2

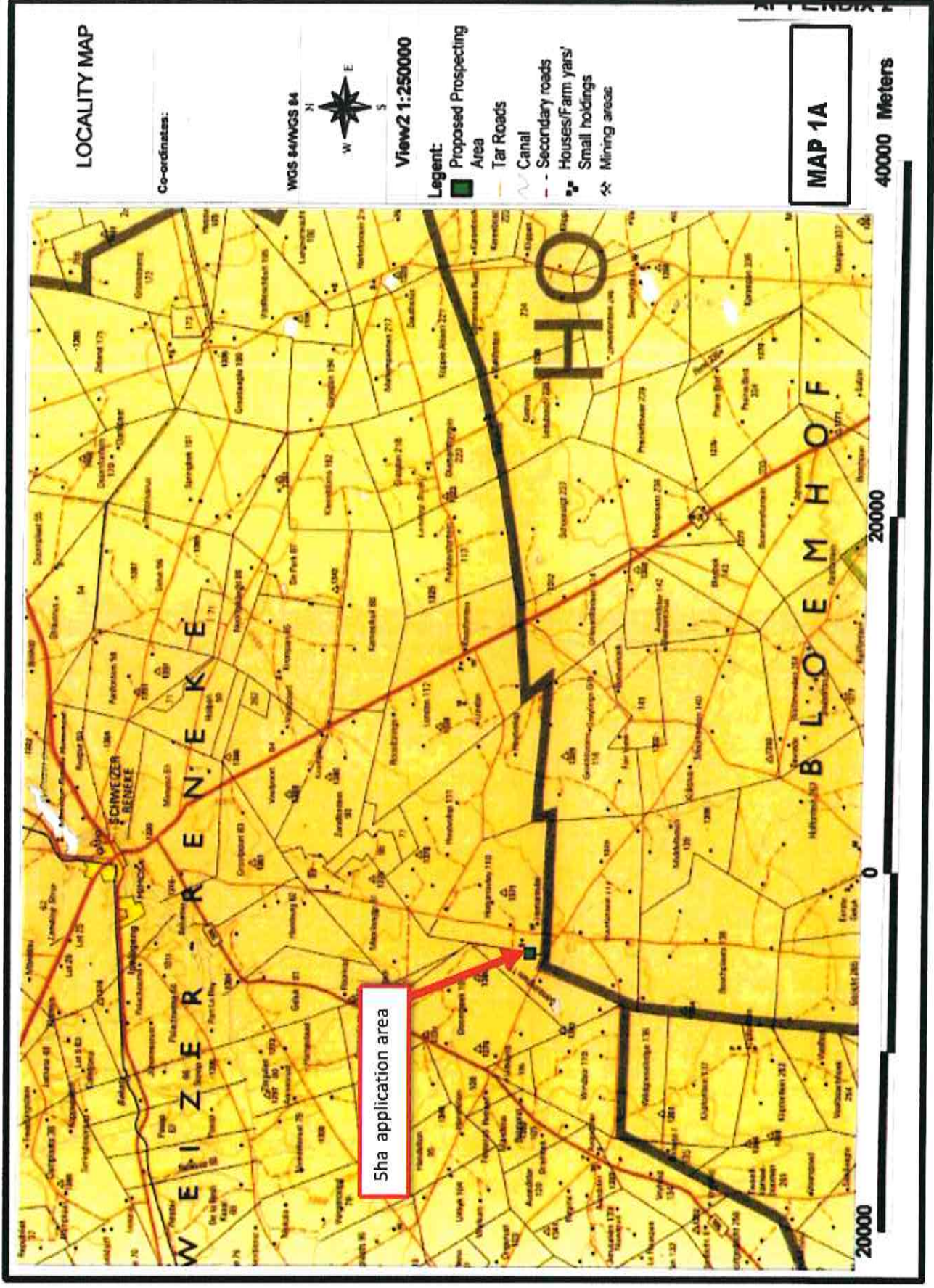
Map 1(a) - Locality Map

Map/Plan 1 (b1) – Surface Infrastructure Map/Plan

Map/Plan 1 (b2) – Surface Infrastructure Map/Plan

Map/Plan 1 (c) – Land use composite map

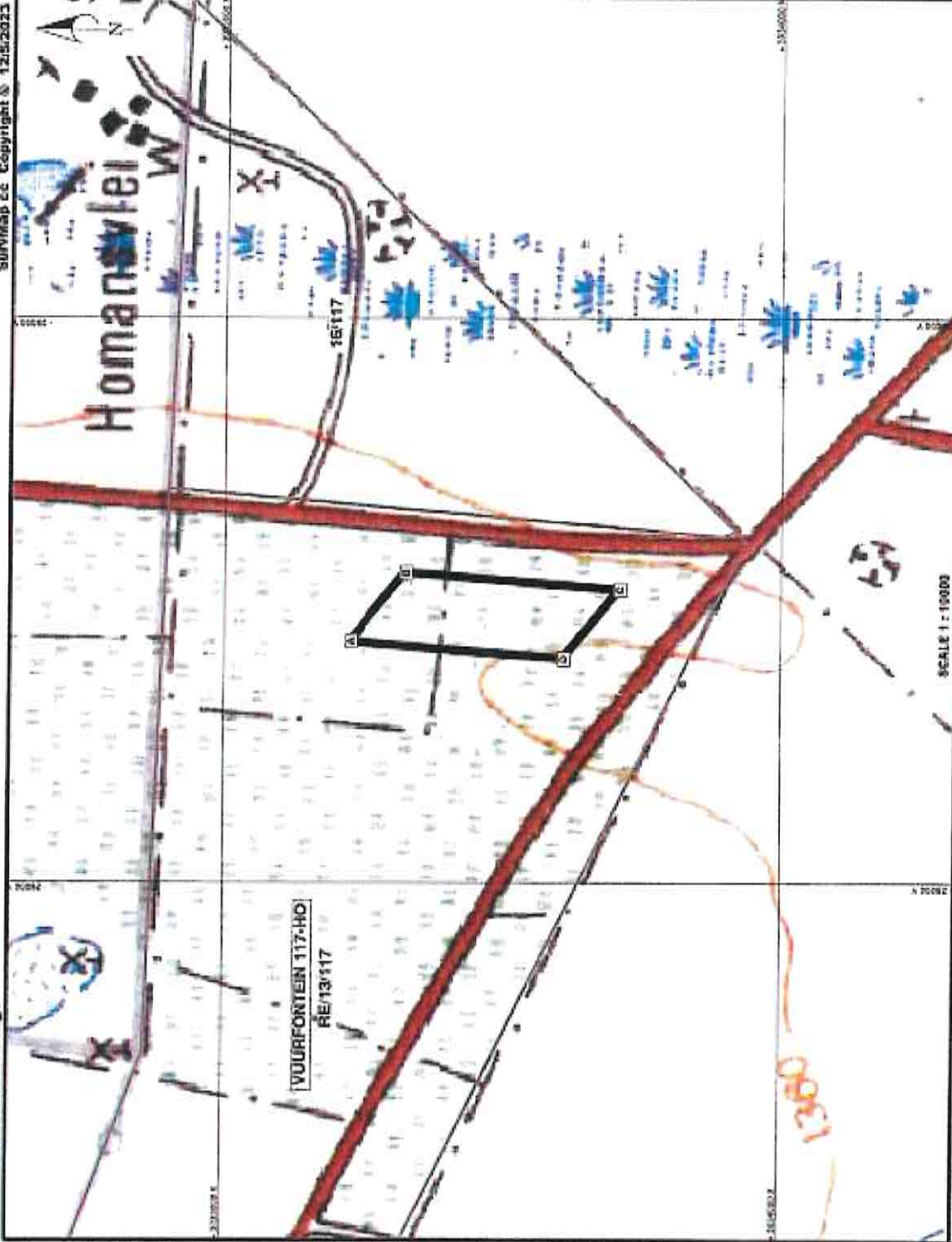
General location of Mining Permit application area (5 ha)



SURFACE INFRASTRUCTURE MAP/PLAN

PLAN No. 20230512_1

Survymap cc Copyright © 12/5/2023



The mining figure lettered (A, B, C, D, E) approximately 5 hectare in extent
 Situated on the REMAINING EXTENT of PORTION 13 of the farms VUURFONTEIN 117-HD, BILDEMOEF DISTRICT, NORTH-WEST PROVINCE.
 Applied for a mining permit by N.J. VAN ZYL, (830107 5134 034)

OFFICIAL PURPOSES
 DMR REF: No. 2023051205 AMP

Survymap cc
 Survey and Mapping
 P.O. Box 2023051205
 12052025

REG. No.: 2023
 Date: 2023/05/12
 No. of sheets: 01
 No. of sheets: 01

12052025

DATE: 15/05/2023

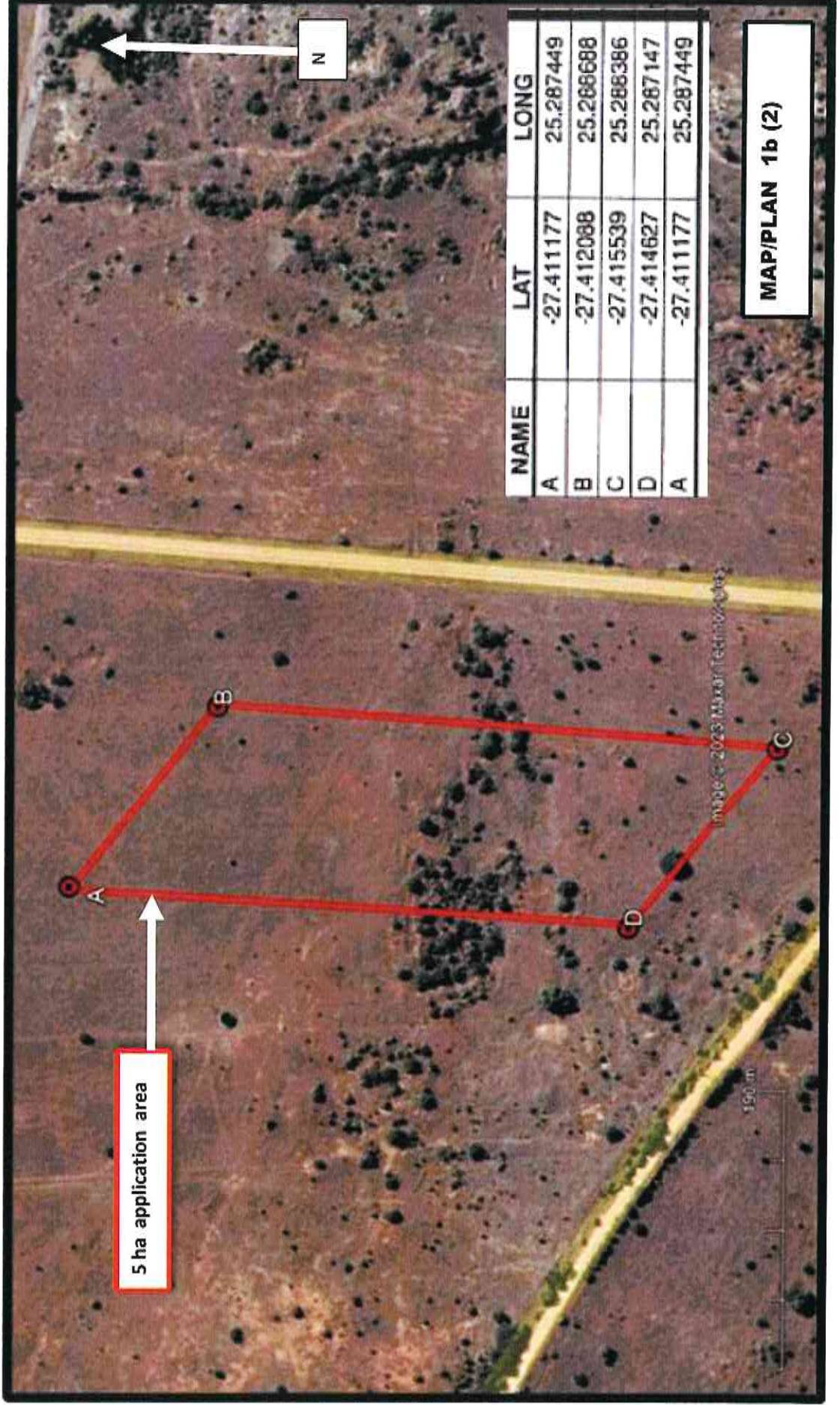
APPLICANT: N.J. VAN ZYL

CD-COORDINATE LIST WIG 25°

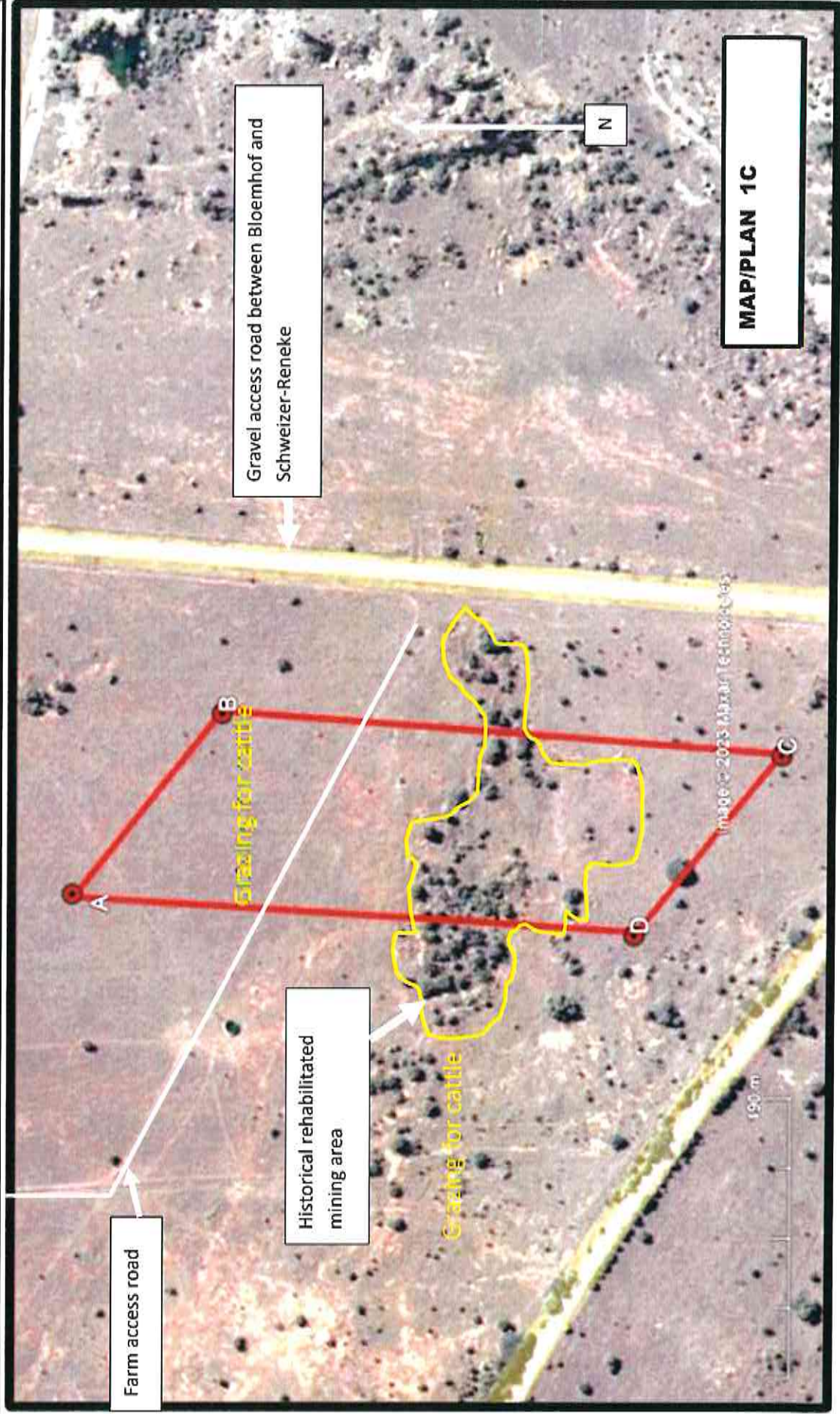
NAME	Y	X	WIG
Corner A	28420.37	2023254.34	0.60
B	28549.63	2023251.65	
C	28517.85	2023207.64	
D	28392.59	2023208.63	
A	28420.37	2023254.34	
NAME	LAT	LONG	
A	27°41'17.7"	25°28'44.0"	
B	27°41'58.6"	25°28'48.5"	
C	27°41'52.5"	25°28'48.5"	
D	27°41'45.7"	25°28'47.7"	
A	27°41'17.7"	25°28'44.0"	

MAP/PLAN 1b (1)

SURFACE INFRASTRUCTURE PLAN (Google satellite image)



LAND USE COMPOSITE MAP



MAP/PLAN 1C

August 18,
2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) --
NW30/5/1/3/2/ 11231 MP

PROOF OF CONSULTATION: ANNEXURE 3

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			
Landowners			
X			
Mr. L.G. Mostert (Landowner)	20 July 2023	Consultation letter send	
Grensplaas Landgoed Edras (Bpk)	21 July 2023	Signed consultation letter received, no objection	
P.O. Box 94, Schweizer-Reneke, 2780			
Cell: 071 888 6802 E-mail: wikus@wasp-sa.co.za			
Lawful occupiers of the land			
X			
Landowners or lawful occupiers on adjacent properties			
Mr. K. Vrijen (Neighbour)	20 July 2023	Consultation letter send	
P.O. Box 1011, Schweizer-Reneke, 2780	21 July 2023	Signed consultation letter received, no objection	
Cell: 083 411 0878 E-mail: kesh@wasp-sa.co.za			
Mr. P.C. Pretorius (Neighbour)	20 July 2023	Consultation letter send	
P.O. Box 396, Schweizer-Reneke, 2780	21 July 2023	Signed consultation letter received, no objection	
Cell: 083 285 2459 E-mail: vtrufadmin@prelionisc.co.za			
Municipal councillor			
X			
Municipality			
Lekwa Teemane Local Municipality	20 July 2023	Consultation letter send to Mr. Mbonani	
Municipal Manager: Mr. T. Mbonani			
Tel: 083 441 2206 E-mail: contact@lekwa-teemane.co.za			
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA.			
Eskom			
Communities			
N/A			
Dept. Land Affairs			
X			
KeabelisweMothupi	20 July 2023	Request for verification of land claims send to Ms. Mothupi	Acknowledgement received – 21 July 2023
Keabeliswe.mothupi@drdlr.gov.za	21 July 2023		Comments received – no land claims
2 Aug 2023			
Traditional Leaders			
N/A			
Dept. Rural, Environment and Agricultural Development			
X			
OumaSkosana	18 Aug 2023	BAR/EMIP sent with Fastway couriers for comments	
Agricentre Building, Cnr James Moroka& Stadium Road, Mmabatho, 2735			
e-mail: oskosana@mrog.gov.za			
Dept. Water and Sanitation			
X			

<p>Lerato Mokoanane 28 Central Road, Beaconsfield, Kimberley, 8300 Tel: 053 830 8800 e-mail: Mokoananel@dmw.gov.za</p>		18 Aug 2023	BARJEMPf sent with Courier Guy couriers for comments	
<p>Dept. Agriculture, Forestry and Fisheries</p>	X	18 Aug 2023	BARJEMPf sent with Fastway couriers for comments	
<p>Maurice Vuyega Louis le Grange Building, Cnr Peter Mokaba & Wolmarans street, 3rd Floor, Office no 318, Potchefstroom, 2520 Tel: 018-389 5156 e-mail: MauriceV@daf.gov.za Other: Competent Authorities</p>				
<p>SAHRIS</p>				
<p>OTHER AFFECTED PARTIES</p>				
<p>INTERESTED PARTIES</p>				

Public Notice – Stellalander 12 July 2023

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

DERA

20 July 2023

Environmental Consultants

To whom it may concern

CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING PERMIT IN TERMS SECTION 27(2) OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014 OVER: A PORTION OF THE REMAINING EXTENT OF PORTION 13 OF THE FARM VUURFONTEIN 117 HO, MAGISTERIAL DISTRICT OF BLOEMHOF.

You are herewith informed that **Mr. N.J. van Zyl** has submitted an application in terms of Section 27(2) of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and NEMA, EIA 2014, to the Regional Manager: Mineral Regulation, North West Region in respect of the mining of **Diamonds Alluvial** in the magisterial district of Wolmaransstad.

Mr. N.J. van Zyl is in the process of compiling the Basic Assessment Report (BAR), which needs to be submitted at the Regional Office of DMR. The BAR will be available on request 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.

Mr. N.J. van Zyl 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. NW30/5/1/3/2/11231MP**) 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
Esna Erasmus

DERA Environmental Consultants

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING PERMIT ON PORTION OF THE REMAINING EXTENT OF PORTION 13 OF THE FARM
: VUURFONTEIN 117 HO, MAGISTERIAL DISTRICT OF BLOEMHOF.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-468 6355
Fax: 018-011 3780
Mobile: 082-895 3516
E-mail: daane@dera.co.za & dera.office@dera.co.za

PERSONAL INFORMATION:

Title/Titel: MC Initials/Voorletters: LG MOSTERT First Name/Eerste naam: LOUWIKUS GERHARDUS MOSTERT
Surname/Van: MOSTERT
E-mail/E-pos: wikus@wasp-sa.co.za
Telephone/Telefoon: 0718886802 Fax/Faks: n.v.t.
Organisation (if applicable)/Organisasie (indien van toepassing): GRENSPLAAS LANDGOED EOMS (Rpk)
Capacity (member, etc.)/Kapasiteit (lid ens): Dirigteen en eienaar
Landowner/Grondeienaar/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas: GRONDEIGENAAR
Postal Address/ Posadres: POSBUS 94
Town/City/Dorp/Stad: SCHWEITZER-BENEKE Code/Kode: 3780

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?
EK IS DIE GRONDEIGENAAR EN MOET 'N DEEL KRY VAN DIE OPBRENGS.
2. Do you have any ground for objection towards the proposed project/Het u enige gronde vir beswaar ten opsigte van die bogenoemde projek?
Nee

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 21 day of /dag van Julie (month)/(maand) 2023

LOUWIKUS GERHARDUS MOSTERT

[Signature]
Signature/Handtekening

Name and Surname/ Company

Naam en Van/Maatskappy

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING PERMIT ON PORTION OF THE REMAINING EXTENT OF PORTION 13 OF THE FARM
: VUURFONTEIN 117 HO, MAGISTERIAL DISTRICT OF BLOEMHOF.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-468 5355
Fax: 018-011 3760
Mobile: 082 996 2516
E-mail: daane@dera.co.za & dera.office@dera.co.za

PERSONAL INFORMATION:

Title/Titel: Mr Initials/Voorletters: K First Name/Eerste naam: Keith
Surname/Van: Viljoen
E-mail/E-pos: keith@wasp-sa.co.za
Telephone/Telefoon: 083 411 0078 Fax/Faks: nvt
Organisation (if applicable)/Organisasie (indien van toepassing): nvt
Capacity (member, etc.)/Kapasiteit (lid ens): nvt
Landowner/Grondseigneur/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas:
Postal Address/ Posadres: Postbus 1011
Town/City/Dorp/Stad: Schweizer-Renke Code/Kode: 2750

COMMENT/OBJECTION:

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

Ek is die buurman

2. Do you have any ground for objection towards the proposed project/Het u enige gronde vir beswaar ten opsigte van die bogenoemde projek?

Nee

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: 21 day of /dag van: Julie (month)/(maand) 2023

Keith Viljoen
Name and Surname/ Company

[Signature]
Signature/Handtekening

Naam en Van/Vaatskappy

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS
PROPOSED MINING PERMIT ON PORTION OF THE REMAINING EXTENT OF PORTION 13 OF THE FARM
VUURFONTEN 117 HO, MAGISTERIAL DISTRICT OF BLOENHOF.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-488 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: daane@dera.co.za & dera.office@dera.co.za

PERSONAL INFORMATION:

Title/Titel: Mr Initials/Voorletters: PC First Name/Eerste naam: Paul Coetzer
Surname/Van: Pretorius
E-mail/E-pos: ~~daane@dera~~ ultra-admin@pretoriuspc.co.za
Telephone/Telefoon: 083 285 2459 Fax/Faks: nvt
Organisation (if applicable)/Organisasie (indien van toepassing):
Capacity (member, etc.)/Kapasiteit (lid ens):
Landowner/Grondseigneur/Neighbour/Buurman/ Interested and/or affected party on the farm/ op die plaas:
Postal Address/ Posadres: Posbus 396
Town/City/Dorp/Stad: Schweizer-Reneke Code/Kode: 2290

COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgename projek?
EK is die buurman.
2. Do you have any ground for objection towards the proposed project/Het u enige gronde vir beswaar ten opsigte van die bogenoemde projek?
Nee

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 21 day of /dag van Julie (month)/(maand) 2023

Paul Coetzer Pretorius

Name and Surname/ Company

Naam en Van/ Maatskappy


Signature/Handtekening

Gerda

From: Gerda <dera.office@dera.co.za>
Sent: Thursday, 20 July 2023 15:24
To: 'contact@lekwa-teemane.co.za'
Subject: Consultation form - Mining Permit - Vuurfontein 117 HO
Attachments: Consultation form - Mining Permit - Vuurfontein 117 HO.pdf

Good day Mr. Mbonani

Find herewith our consultation letter for a proposed new Mining Permit application in the district of Bloemhof.

It will be appreciated if you can complete and return the attached consultation letter to dera.office@dera.co.za

Kind regards.

p.p. Gerda Els

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 form - Mining Permit - Vuurfontein 117 HO

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.

.....

DERA

20 July 2023

Environmental Consultants

Lekwa-Teemane Local Municipality

Attention: Municipal Manager: Mr. T. Mbonani

E-mail: contact@lekwa-teemane.co.za

RE: CONSULTATION WITH INTERESTED & AFFECTED PARTIES

It is hereby confirmed that Mr. N.J. van Zyl has applied for a mining permit over a certain Portion of the Remaining Extent of Portion 13 of the farm Vuurfontein 117 HO, situated in the magisterial district of Bloemhof.

The Department of Mineral Resources has requested that the Lekwa-Teemane Local Municipality must be informed about the proposed mining permit application.

Please find attached the consultation letter with the information regarding the proposed mining permit 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

P.P. 

Esna Erasmus
DERA Environmental Consultants

.....

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

DERA

20 July 2023

Environmental Consultants

To whom it may concern

CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING PERMIT IN TERMS SECTION 27(2) OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014 OVER: A PORTION OF THE REMAINING EXTENT OF PORTION 13 OF THE FARM VUURFONTEIN 117 HO, MAGISTERIAL DISTRICT OF BLOEMHOF.

You are herewith informed that **Mr. N.J. van Zyl** has submitted an application in terms of Section 27(2) of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and NEMA, EIA 2014, to the Regional Manager: Mineral Regulation, North West Region in respect of the mining of **Diamonds Alluvial** in the magisterial district of Wolmaransstad.

Mr. N.J. van Zyl is in the process of compiling the Basic Assessment Report (BAR), which needs to be submitted at the Regional Office of DMR. The BAR will be available on request 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.

Mr. N.J. van Zyl 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. NW30/5/1/3/2/11231MP**) 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

Esna Erasmus
DERA Environmental Consultants

Gerda

From: Gerda <dera.office@dera.co.za>
Sent: Thursday, 20 July 2023 15:22
To: keabetswe.mothupi@dalrrd.gov.za
Subject: Request for verification of land claims - Vuurfontein 117 HO
Attachments: Request for verification of land claims - Vuurfontein 117 HO.pdf

Good day Kea

Please find herewith our request for verification of land claims on Remaining Portion of Portion 13 of the farm Vuurfontein 117 HO.

Kind regards.

p.p. Gerda Els

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:

Request for verification of land claims - Vuurfontein 117 HO

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.

.....
DERA

Environmental Consultants

20 July 2023

Department of Land Affairs & Rural Development

Attention: Keabetswe Mothupi

Re: Verification of Land Claims

We are Environmental Consultants situated in Klerksdorp and has applied on behalf of E. Smith for a mining permit application on the following farm in the Bloemhof district.

- Portion of Remaining Portion of Portion 13 of the farm Vuurfontein 117 HO, Lekwa-Teemane Local Municipality

Could you please be so kind to verify if there are any land claims over the farms as mentioned above?

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 his cell: 082 895 3516 for any further information.

Yours truly,

P.P. 

Esna Erasmus

.....

Dera 2

Van Zyl NJ Nal 11031MP

From: Gerda <dera.office@dera.co.za>
Sent: Monday, 24 July 2023 08:42
To: dera.office2@dera.co.za
Subject: FW: Acknowledgement Letter
Attachments: Vuurfontein 117 HO ptn 13.pdf

From: Mmakagiso Shuping [mailto:Mmakagiso.Shuping@dalrrd.gov.za]
Sent: Friday, 21 July 2023 15:26
To: dera.office@dera.co.za
Subject: Acknowledgement Letter

Good Day

Kindly find the attached.

Kind Regards
M.Shuping

Disclaimer

The information contained in this e-mail may be confidential, legally privileged and protected by law. Access by the intended recipient only is authorised. If you are not the intended recipient, kindly notify the sender immediately. Unauthorised use, copying or dissemination hereof is strictly prohibited. Save for bona fide departmental purposes, the Department of Agriculture, Land Reform and Rural Development does not accept responsibility for the contents or opinions expressed in this e-mail, nor does it warrant this communication to be free from errors, contamination, interference or interception.



OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame drive, West gallery, Megacity, MMABATHO
Tel: (018) 388 7000

Reference: R/7/24/07/2023
Enquires: M. Shuping
Tel: (018) 388-7147/7252

By email: dera.office@dera.co.za

Dear Sir/Madam

**LAND CLAIM ENQUIRY: REMAINING PORTION OF PORTION 13 OF THE FARM
VUURFONTEIN 117 HO.**

I acknowledge receipt of your letter dated the 20th of July 2023 regarding the above mentioned matter.

Kindly note that a formal response could be expected from our office within the next 14(fourteen) working days.

Should you however require any additional information, you can contact **Ms M. Shuping** at the above mentioned contact details.

Yours faithfully



**MR L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER
NORTH WEST PROVINCE
DATE: 21/07/2023**

Dera 2

From: Gerda <dera.office@dera.co.za>
Sent: Wednesday, 02 August 2023 11:12
To: dera.office2@dera.co.za
Subject: FW: Response Letter
Attachments: Vuurfontein 117 HO Portion 13.pdf

N.J. van Zyl - Nuwe Mynpermit

NW 112310P

p.p. Gerda Els

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

From: Mmakagiso Shuping [mailto:Mmakagiso.Shuping@dalrrd.gov.za]
Sent: Wednesday, 02 August 2023 10:43
To: dera.office@dera.co.za
Subject: Response Letter

Good Morning

Kindly find the attached letter.

Kind Regards
M.Shuping

Disclaimer

The information contained in this e-mail may be confidential, legally privileged and protected by law. Access by the intended recipient only is authorised. If you are not the intended recipient, kindly notify the sender immediately. Unauthorised use, copying or dissemination hereof is strictly prohibited. Save for bona fide departmental purposes, the Department of Agriculture, Land Reform and Rural Development does not accept responsibility for the contents or opinions expressed in this e-mail, nor does it warrant this communication to be free from errors, contamination, interference or interception.



OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST

Cnr James Moroka and Sekame Drive, West Gallery, Mega City, MMABATHO 2735

Tel: (018) 388 7000/7008

Enquiries: Kaone Molebiemang
Telephone: 053 927 4128

By e-mail: dera.office@dera.co.za

Dear Sir/Madam

**LAND CLAIM ENQUIRY – REMAINING PORTION OF PORTION 13 OF THE FARM
VUURFONTEIN 117 HO.**

We refer to your letter dated 20th of July 2023.

We confirm that as at the date of this letter, no land claim appears on our database in respect of the above mentioned farm. This includes the database for claims by 31 December 1998, and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.


Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have been lodged but not yet gazetted such as:

1. Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which may not match the current property description; and
2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against.

The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property.

If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do further search.

Yours faithfully


MR. L.J. BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
DATE: 01/08/2023



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 N.J. van Zyl
- **Ref. no:** NW30/5/1/3/2/11231MP
- **Property description:** The proposed mining area is over a Portion of the Remaining extent of Portion 13 of the farm Vuurfontein 117 HO, district of Bloemhof. The total extent of the prospecting area is 5 hectares. (21 SG digital code: T0HO0000000011700013).
- **Location:** The property is situated ±26km south of Schweizer-Reneke.
- **Project description:** The purpose of the application is to obtain the required authorisation from the Department to successfully: undertake opencast mining.
- **Process of BAR/EMPr is followed.**
- **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 Activity 21 (Listing Notice 1) GNR327 & and Activity 27 (Listing Notice 1) GNR 327
- **Minerals applied for:** Diamonds Alluvial.
- **Date submitted:** 15 May 2023
- **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 Basic Assessment Report (BAR/EMPr) and may contact Dera Environmental Consultants for any further information. 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 Tel: 018 468 5355
2572 Fax: 018 011 3760
 Cell: 082 895 3516
- **Date of advertisement:** Wednesday 12 July 2023

SITE 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 N.J. van Zyl
- **Ref. no:** NW30/5/1/3/2/11231MP
- **Property description:** The proposed mining area is over a Portion of the Remaining extent of Portion 13 of the farm Vuurfontein 117 HO, district of Bloemhof. The total extent of the prospecting area is 5 hectares. (21 SG digital code: T0HO0000000011700013).
- **Location:** The property is situated ±26km south of Schweizer-Reneke.
- **Project description:** The purpose of the application is to obtain the required authorisation from the Department to successfully: undertake opencast mining.
- **Process of BAR/EMPr is followed.**
- **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 Activity 21 (Listing Notice 1) GNR327 & and Activity 27 (Listing Notice 1) GNR 327
- **Minerals applied for:** Diamonds Alluvial.
- **Date submitted:** 15 May 2023
- **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 Basic Assessment Report (BAR/EMPr) and may contact Dera Environmental Consultants for any further information. 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 Tel: 018 468 5355
2572 Fax: 018 011 3760
 Cell: 082 895 3516
- **Date of advertisement:** Wednesday 12 July 2023

August 18,
2023

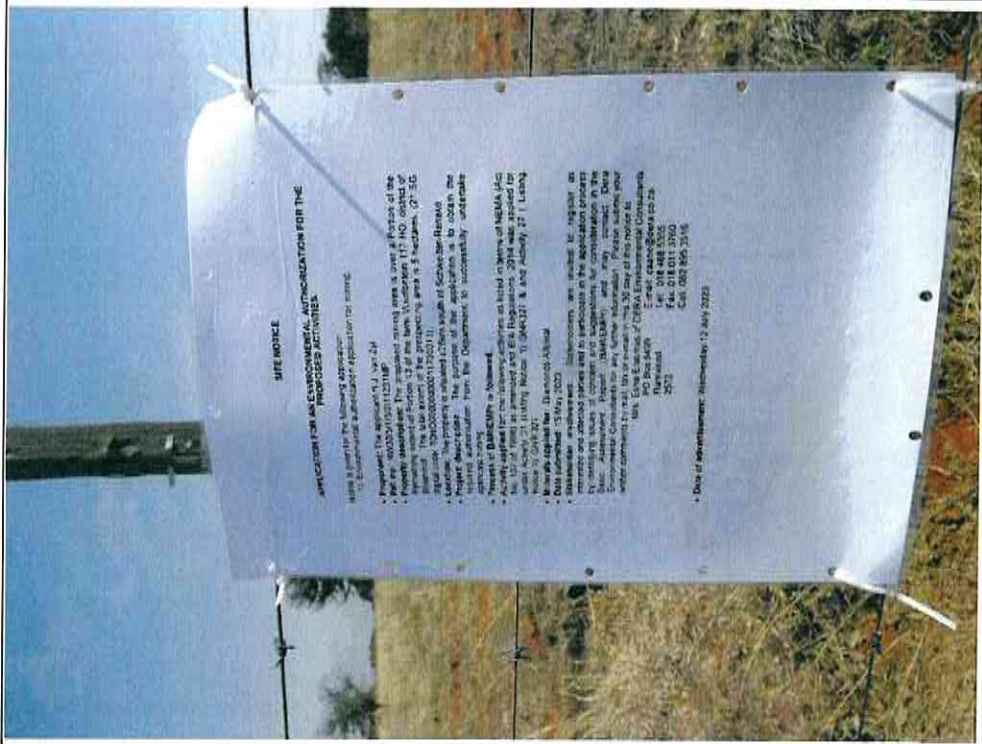
N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP

PLACEMENT OF ADVERT AT GATE:

Photo 1



Photo 2



Location: 27.414288°S

25.289535°E



P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Cell: 083 226 1593
E-mail: dera.office@dera.co.za

DERA

Environmental Consultants

18 August 2023

Department of Rural, Environment and Agricultural Development
Agricentre Building
Cnr James Moroka & Stadium Road
Mmabatho
2735

Attention: Ouma Skosana

RE: Basic Assessment Report (BAR) & EMPr

Reference Number: Reference Number: NW30/5/1/3/2/11231MP

It is hereby confirmed that N.J. van Zyl has applied for a mining permit over a Portion of the Remaining extent of Portion 13 of the farm Vuurfontein 117 HO, situated in the district of Bloemhof, North West Province.

The application was accepted by the Department of Mineral Resources and they have requested that the Department of Rural, Environment and Agricultural Development (North West Regional Office) must be consulted about the proposed mining permit. See attached the BAR/EMPr 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

.....

J. J. van Zyl - SAR & Enff - 11031101 - NW11231MP

To

Company Name:

Street Address: (no PO Boxes)

TO:

Department of Rural, Environment and Agricultural Development

Agricentre Building

Cnr Dr James Moroka Drive & Stadium Road

Office no. E36

Mmabatho

2735

Phone: 018 389 5095/5156

Attention: Ms. Ouma Skosar

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. Krüger

Signature: *E. Krüger*

Pickup
Lift & Peel

XA0005807872

Delivery
Lift & Peel

XA0005807872

XA0005807872


.....

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

Environmental Consultants

18 August 2023

Department of Water and Sanitation
28 Central Road
Beaconsfield
Kimberley
8300

Attention: Lerato Mokhoantle

RE: **Basic Assessment Report (BAR) & EMPr**

Reference Number: Reference Number: NW30/5/1/3/2/11231MP

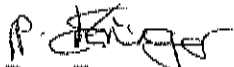
It is hereby confirmed that N.J. van Zyl has applied for a mining permit over a Portion of the Remaining extent of Portion 13 of the farm Vuurfontein 117 HO, situated in the district of Bloemhof, North West Province.

The Department of Mineral Resources have requested that the Department of Water & Sanitation (North West Regional Office) must be consulted about the proposed mining permit. See attached BAR/EMPr 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

.....



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PO BOX 532 Lanseria Fax: 086 643 3385
1748 After Hours
WhatsApp: 082 823 3254



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Contact name: **Gorda Eis** Contact number: **0832251593**
Company name:
Street address:
27 Lewis Street
Wilkoppies
City: **Klerksdorp** Country: **South Africa** Postal Code: **2571**
Special instructions:
collect before 16h00

Contact name: **Lerato Mokhoantle** Contact number: **0836558312**
Company name:
Department of Water and Sanitation
Street address:
2B Central Road
Beaconsfield
City: **Kimberley** Country: **South Africa** Postal Code: **8301**
Special instructions:

PARCEL NO	DESCRIPTION	WEIGHT	DIMENSIONS
1	Standard flyer	2.0 Kg	40,0 cm x 30,0 cm x 8,0 cm
By virtue of the client's signature hereto, the client acknowledges having read, understood, and agreed to be bound by the standard conditions of carriage of The Courier Guy (Pty) Ltd., which standard conditions are annexed hereto.			
LIABILITY COVER Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		(ONLY DECLARE VALUE IF YES) DECLARED VALUE R	

SERVICE LEVEL ECO	ROUTING CODE KIM-15
SERVICES REQUIRED	

CLIENT SIGNATURE (VERY IMPORTANT)	RECEIVED BY (THE COURIER GUY (Pty) Ltd.): DATE: TIME:
-----------------------------------	--

RECEIVERS SIGNATURE: PRINT SURNAME AND INITIALS:	DATE: TIME:
---	----------------



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

Environmental Consultants

18 August 2023

Department of Agriculture, Forestry and Fisheries
Louis le Grange Building
Cnr Peter Mokaba & Wolmarans street
3rd Floor, Office 318
Potchefstroom
2520

Attention: Maurice Vukeya

RE: **Basic Assessment Report BAR & EMPr**

Reference Number: NW30/5/1/3/2/11231MP

It is hereby confirmed that N.J. van Zyl has applied for a mining permit over a certain Portion of the Remaining extent of Portion 13 of the farm Vuurfontein 117 HO, situated in the district of Bloemhof, North West Province.

The Department of Mineral Resources has requested that the Department of Agriculture, Forestry and Fisheries (North West Regional Office) must be consulted about the proposed mining permit. See attached BAR/EMPr 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

.....

N. J. van Zyl - BAAL & ENFF - NW11231 MF

To

Company Name:

Street Address: (no PO Boxes)

To: Department of Agriculture, Forestry & Fisheries

Louis Le Grange Building (Court Building)

Cnr Peter Mokaba & Wolmarans Street

3rd Floor

Office nr 318

Potchefstroom

2520

Phone: 018 299 6739

Attention: Maurice Vukeya

Cell: 082 459 6479

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. Krüger

Signature:

E. Krüger

Pickup
Lift & Peel
XA0005807873

Delivery
Lift & Peel
XA0005807873

XA0005807873

August 18,
2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP

SCREENING REPORT: ANNEXURE 4

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

EIA Reference number:


Project name: Vuurfontein 117 HO

Project title: Mining Permit

Date screening report generated: 15/05/2023 10:36:00

Applicant: N J van Nyl

Compiler: DEBA Omgewingskonsultante (Pty) Ltd

Compiler signature: 

Application Category: Mining/Mining Permit

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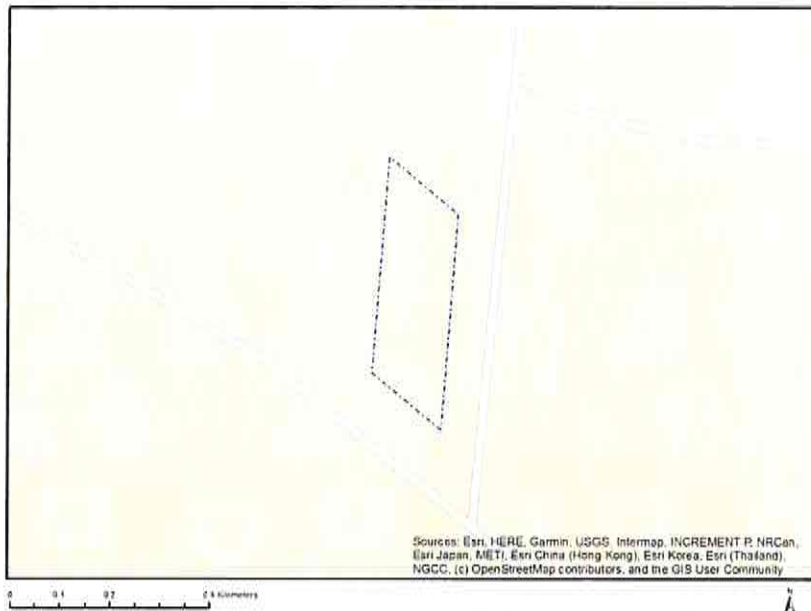
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Orientation map 1: General location	3
Map of proposed site and relevant area(s)	4
Cadastral details of the proposed site	4
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area	4
Environmental Management Frameworks relevant to the application	4
Environmental screening results and assessment outcomes	5
Relevant development incentives, restrictions, exclusions or prohibitions	5
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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	VUURFONTEIN	117	0	27°25'57.15S	25°18'22E	Farm
2	VUURFONTEIN	117	13	27°24'39.62S	25°16'58.54E	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 nearby wind or solar developments found.

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

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 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 Permit.**

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.

No intersection with any development zones found.

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 known impacts associated with the proposed development, 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.

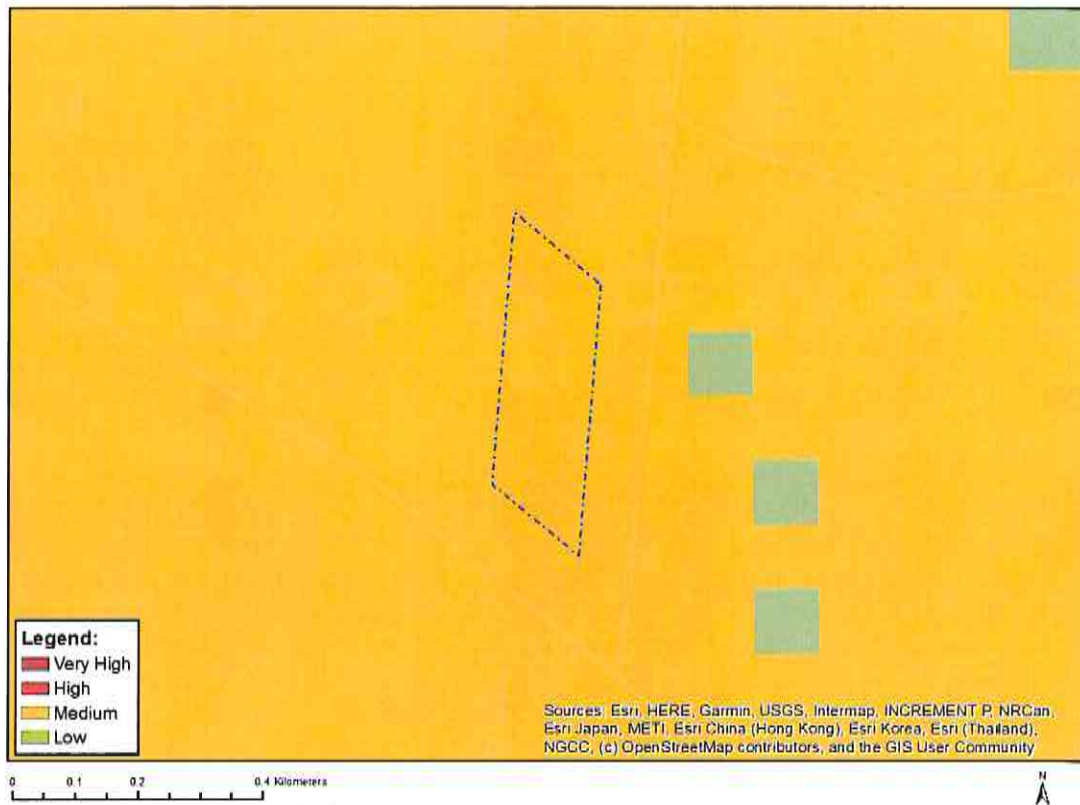
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Agriculture Assessment Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf

3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Terrestrial Biodiversity Assessment Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Aquatic Biodiversity Assessment Protocols.pdf
6	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
7	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Noise Impacts Assessment Protocol.pdf
8	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
9	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Plant Species Assessment Protocols.pdf
13	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

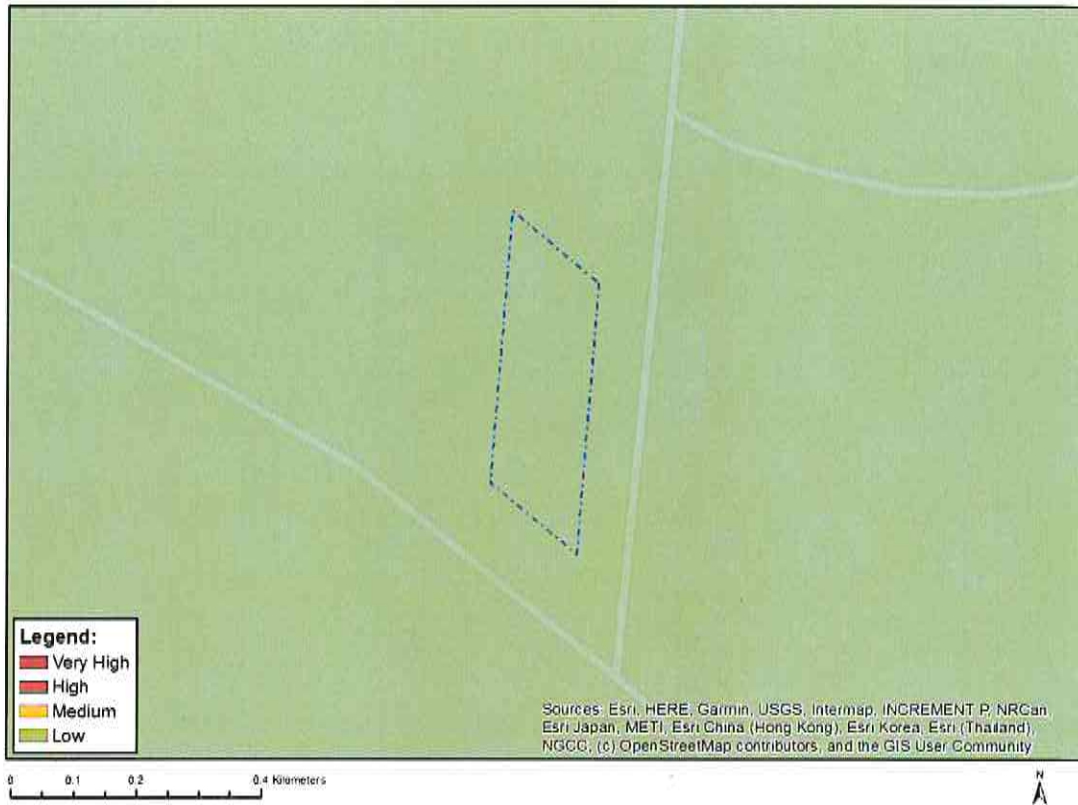


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



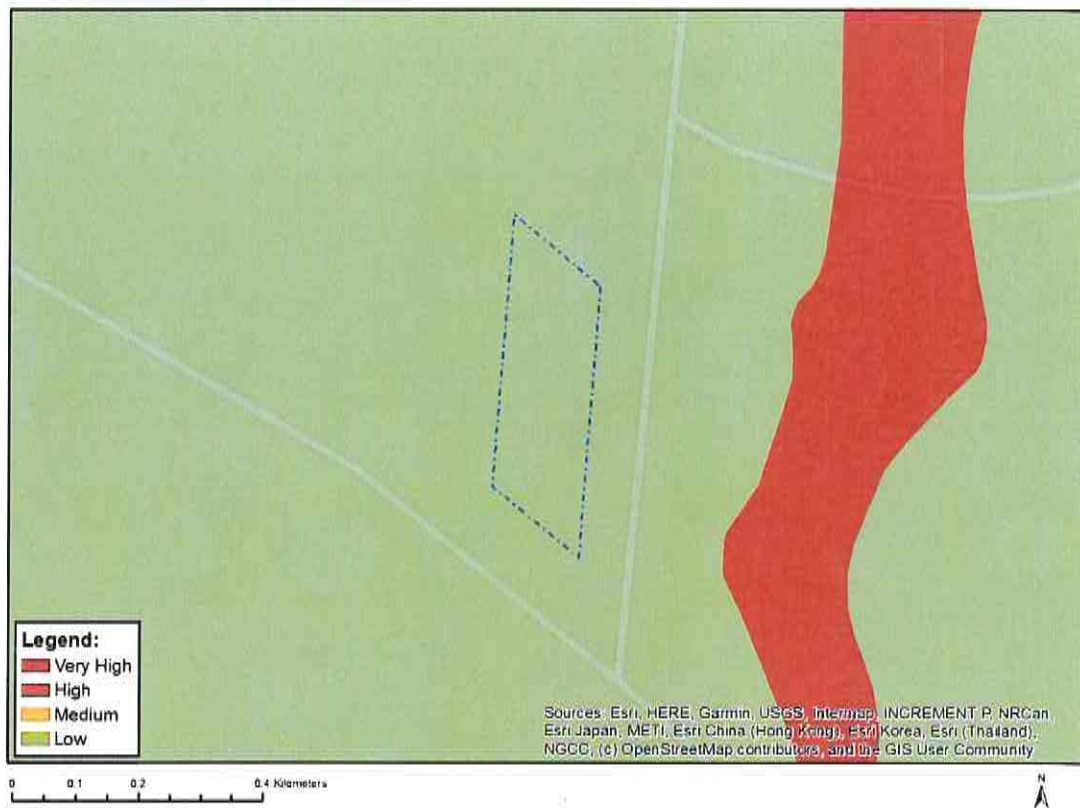
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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)
Low	Subject to confirmation

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

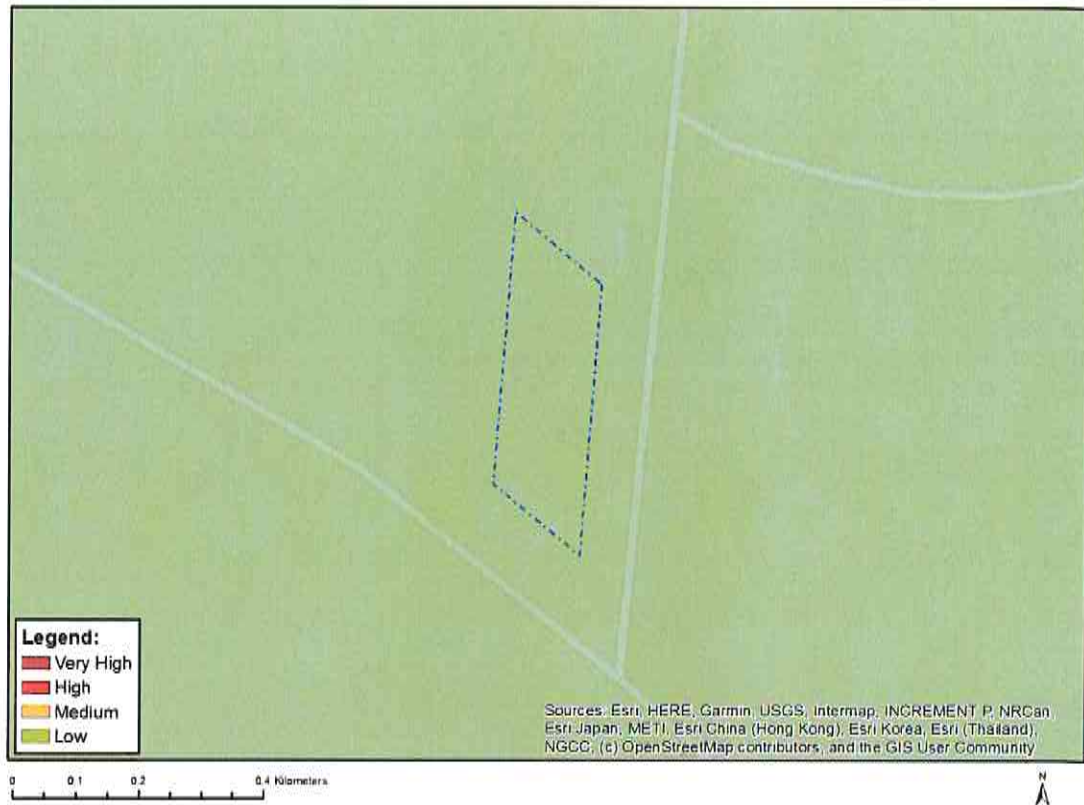


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

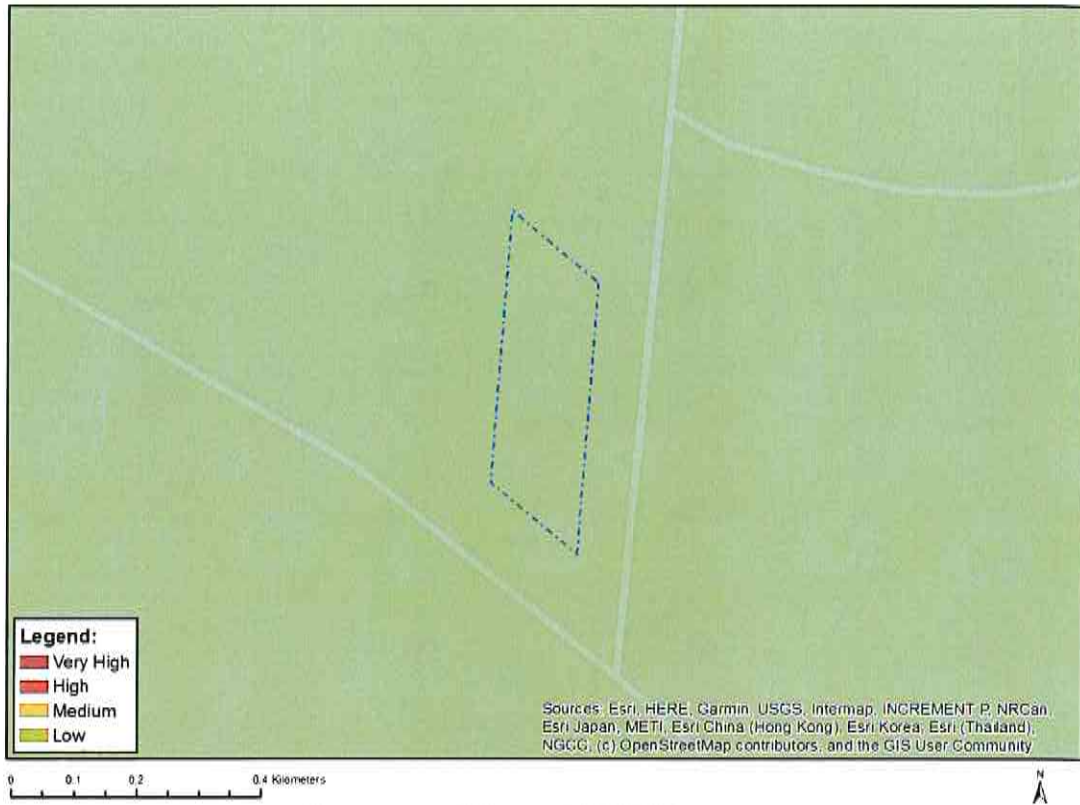


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

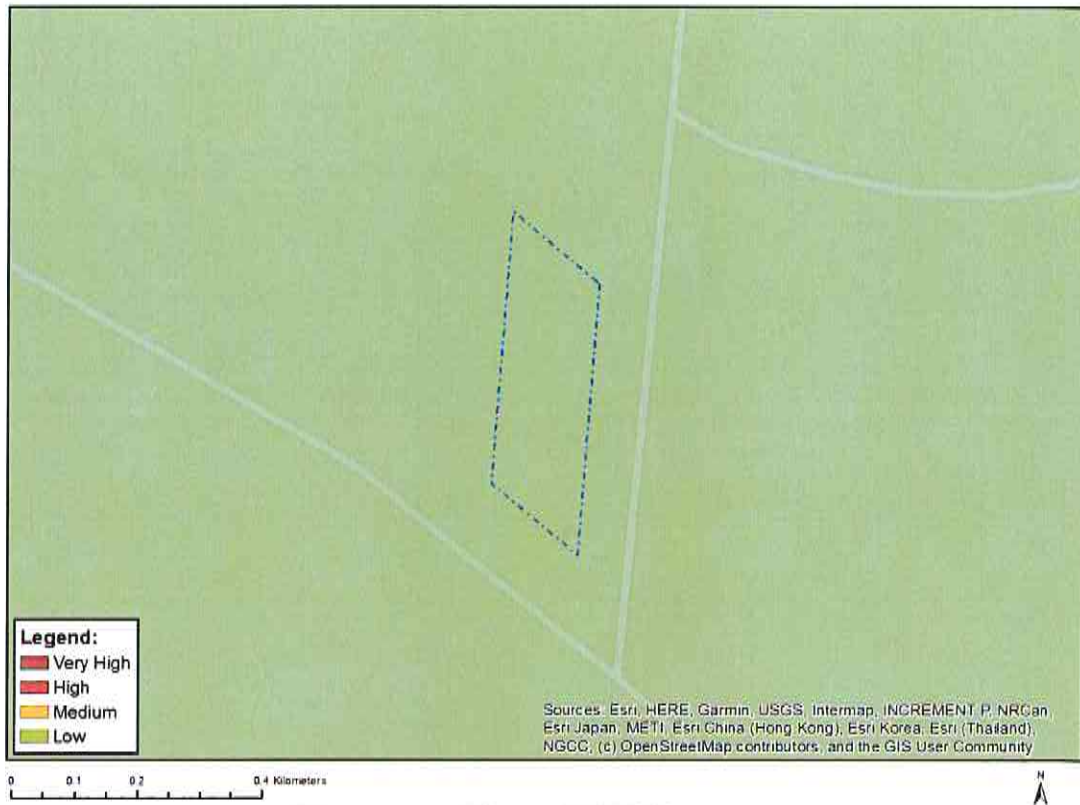


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

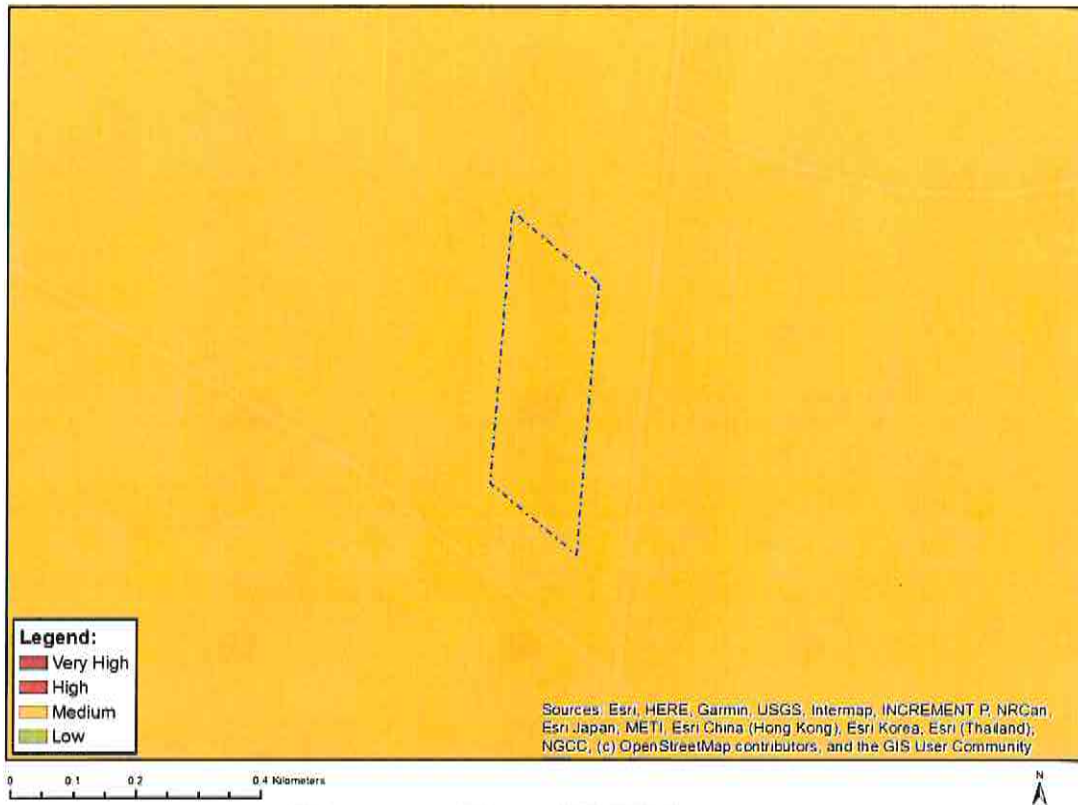


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

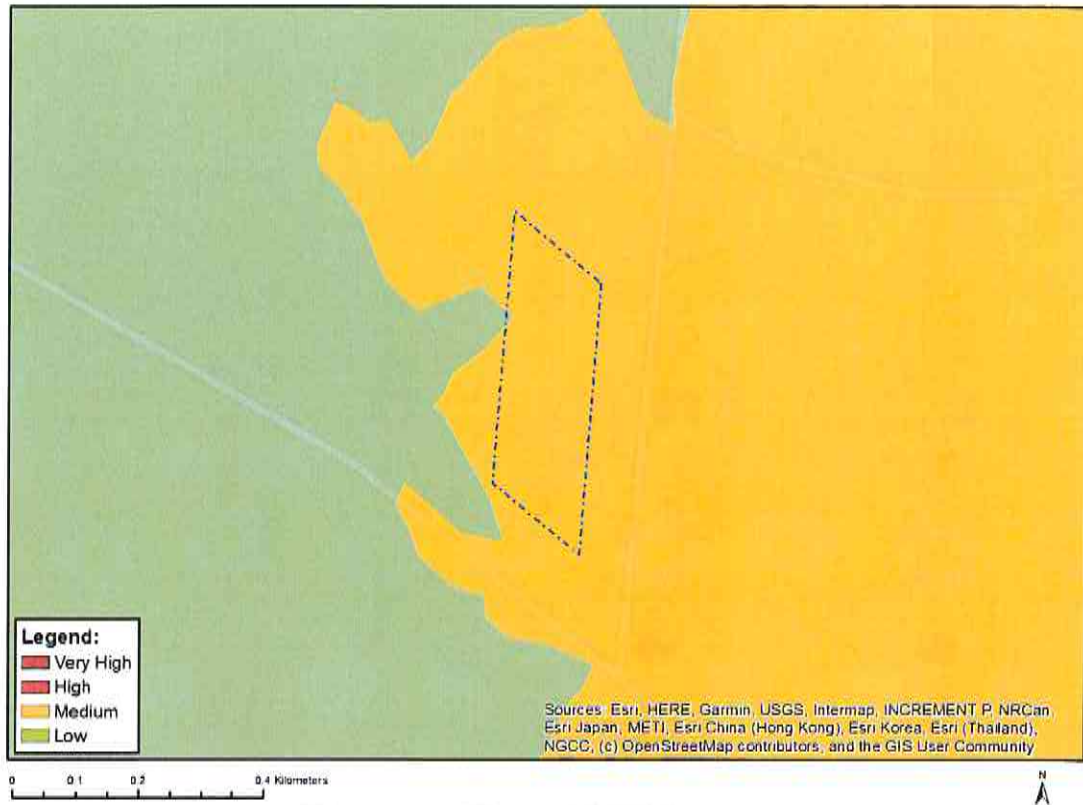


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity
Medium	Features with a Medium paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



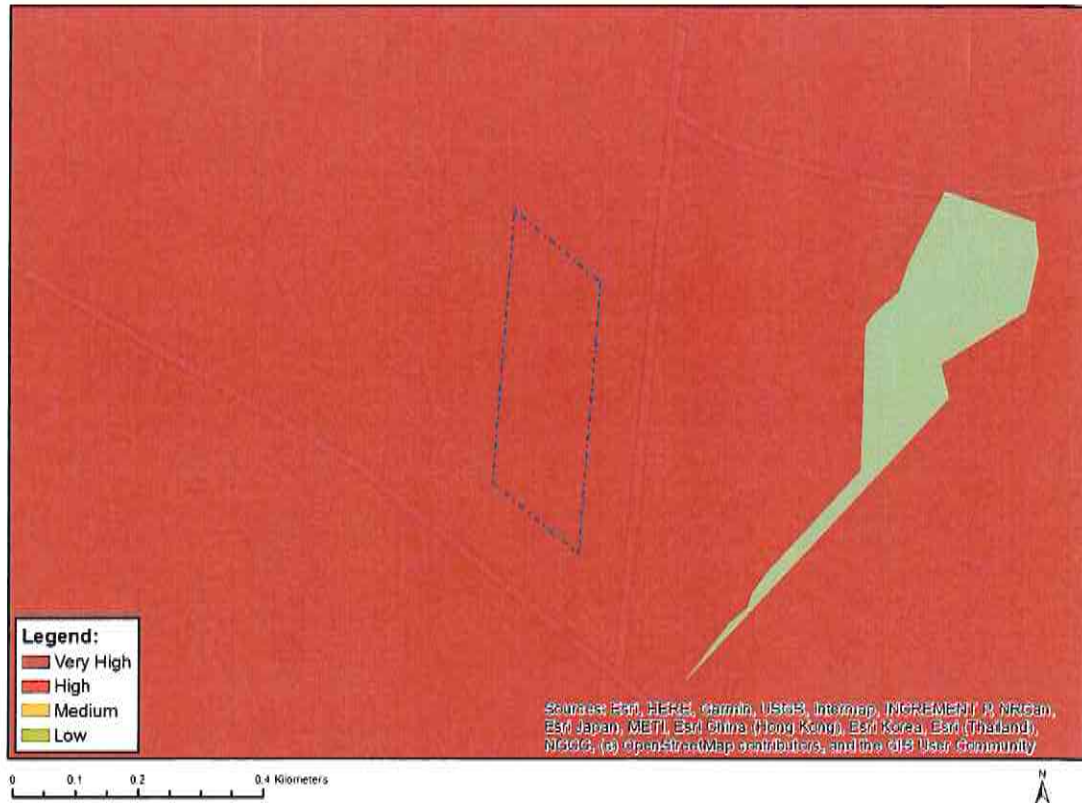
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their 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 257

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Critical biodiversity area 2
Very High	Protected Areas Expansion Strategy
Very High	Vulnerable ecosystem_Schweizer-Reneke Bushveld

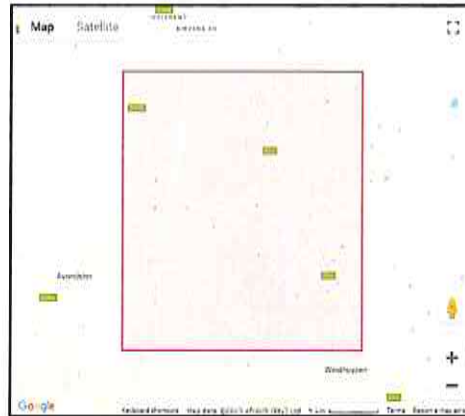
LIST OF MAMMALS: ANNEXURE 6



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MammalMAP – Virtual Museum of African Mammals
Summary information for locus 2725AD



22 species found for locus = 2725AD
Date filter: none
Records for 2725AD

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last recorded	Records link
1	115956		ORDER Rodentia	Unidentified Rodentia		1	3	2012-09-19	Records
2	211850	Bovidae	Antelopeia melanocephala	Zimpala	Least Concern	1	2	2012-07-05	Records
3	211820	Bovidae	Alcelaphus buselaphus	Hartebeest		1	3	2012-07-05	Records
4	212150	Bovidae	Arctocebus muriei	Springbok	Least Concern (2016)	1	2	2012-07-05	Records
5	212020	Bovidae	Connochaetes gressu	Black Whitebeest	Least Concern (2016)	1	2	2012-07-05	Records
6	212740	Bovidae	Dorcatragus pygargus philipi	Reinhorn	Least Concern (2016)	1	2	2012-07-05	Records
7	214850	Bovidae	Hippotragus equinus	Roose's reedbuck	Endangered (2016)	1	2	2012-07-05	Records
8	216270	Bovidae	Kobus lechwe	Lechwe	Near Threatened (2017)	1	1	2012-04-25	Records
9	216020	Bovidae	Oryx capensis	Gemsbok	Least Concern (2016)	1	2	2012-07-05	Records
10	213520	Bovidae	Redduncus capensis	Stembok	Least Concern (2016)	1	2	2012-04-09	Records
11	213700	Bovidae	Erythronus grinnia	Bush Duiker	Least Concern (2016)	1	1	2012-08-17	Records
12	212960	Bovidae	Syncaerus caffer	African Buffalo	Least Concern (2016)	1	2	2012-07-05	Records
13	212850	Bovidae	Taurotragus oryx	Common Eland	Least Concern (2016)	1	2	2012-07-05	Records
14	214120	Bovidae	Tragelaphus streptoceros	Greater Kudu	Least Concern (2016)	1	3	2012-08-16	Records
15	104600	Canidae	Canis mesomelas	Black-backed Jackal	Least Concern (2016)	1	1	2012-09-24	Records
16	181810	Felidae	Felis catus	Domestic Cat	Least Concern	1	1	2012-06-17	Records
17	182840	Felidae	Felis nigripes	Black-footed Cat	Vulnerable (2016)	1	2	2012-06-20	Records
18	211830	Giraffidae	Giraffa giraffa giraffa	South African Giraffe	Least Concern (2016)	1	2	2012-07-05	Records
19	196100	Herpestidae	Cynictia penicillata	Yellow Mongoose	Least Concern (2016)	1	2	2012-08-17	Records
20	184340	Herpestidae	Herpestes sanguineus	Slender Mongoose	Least Concern (2016)	1	1	2012-08-01	Records
21	181340	Mustelidae	Ensisia lemniscata	Ground Pangolin	Vulnerable (2016)	1	1	2012-08-17	Records
22	207690	Canidae	Macrotis leucotis	Common Warflog	Least Concern (2016)	1	1	2012-08-17	Records
Total						22	42	2012-07-05* 2012-07-05**	

* median date of last recorded cycle
** median date for all records identified to species or subspecies level

Red listing source:

Child H, Rouburgh, De Smit, Smit, Hammonds, Davies-Hunter et al., editors. 2016. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.



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BirdPix – Bird Pictures Archive

14 species found for locus = 2725AD
Date filter: none

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last recorded
1	460	Alcedinidae	Calendulauda sabota	Sabota Lark		1	1	2021-04-09
2	397	Acrididae	Alcedo cristata	Malachite Kingfisher		1	1	2021-04-09
3	55	Ardeidae	Ardea melanocephala	Black-headed Heron		1	1	2021-04-09
4	79	Columbidae	Columba nigra	Black Dove	Or-Est: LC; BLSA: VU	1	1	2019-05-04
5	402	Cuculidae	Halcyon albiventris	Brown Hooded Kingfisher		1	1	2021-04-09
6	410	Herodiasidae	Phycia pusillus	Little Bee-eater		1	1	2021-04-09
7	186	Phalacrocoracidae	Caracaras (Erythropygala) paera	Kalahari Scrub-Robin		1	1	2021-04-09
8	531	Falconidae	Anthracoceros minckleyi	Cape (Southern) Red-tailed T-Fal		1	1	2012-04-08
9	4142	Falconidae	Passer affinis	Southern Oryz-headed Sparrow (Trit)		1	1	2021-04-09
10	5	Podicipedidae	Podiceps nigricollis	Black-necked Grebe		1	1	2021-04-09
11	6	Podicipedidae	Tachypetus fulvicauda	Little Grebe (Dabchick)		1	1	2021-04-09
12	544	Pyronotidae	Pyronotus nigricans	African Red-eyed Bulbul		1	1	2021-04-09
13	600	Sylviidae	Eremomela icteropygala	Yellow-bellied Eremomela		1	1	2021-04-09
14	851	Viduidae	Vidua chalybeata	Village Indigobird		1	1	2021-04-09
Total						14	14	2021-04-09* 2021-04-09**

* median date of last recorded cycle
** median date for all records identified to species or subspecies level

Red listing source:

The IUCN Red List of Threatened Species (www.iucnredlist.org)

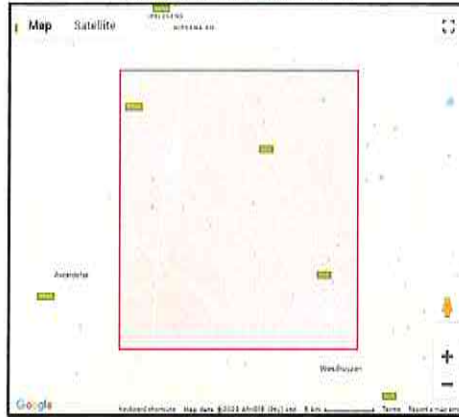
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2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) –
NW30/5/1/3/2/ 11231 MP



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ReptileMAP – Reptile Atlas of Africa
Summary information for locus 2225AD



12 species found for locus = 2225AD
Date filter: none

Records for 2225AD

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last recorded	Records link
1	1490	Agamidae	<i>Agama atra</i>	Southern Rock Agama	Least Concern (SARCA 2014)	1	2	1980-12-03	Records
2	4200	Colubridae	<i>Crotaphopeltis hylasimonei</i>	Red-tipped Snake	Least Concern (SARCA 2014)	1	1	1900-06-15	Records
3	5340	Hoplostidae	<i>Naja nigra</i>	Cape Cobra	Least Concern (SARCA 2014)	1	1	2020-03-10	Records
4	320	Gekkonidae	<i>Lygodactylus capensis</i>	Common Dwarf Gecko	Least Concern (SARCA 2014)	1	2	1980-17-01	Records
5	740	Gekkonidae	<i>Pachydactylus capensis</i>	Cape Gecko	Least Concern (SARCA 2014)	1	1	1900-06-15	Records
6	1730	Lacertidae	<i>Nura nubi</i>	Hobby's Sandlid Lizard	Least Concern (SARCA 2014)	1	2	1900-06-15	Records
7	4120	Lamprophiidae	<i>Amphisaurus lineatus</i>	Black-headed Centipede-eater	Least Concern (IUCN 2021)	1	1	1900-06-15	Records
8	4960	Lamprophiidae	<i>Pseudophis leightoni</i>	Cape Sand Snake	Vulnerable (SARCA 2014)	1	3	1900-12-03	Records
9	4970	Lamprophiidae	<i>Pseudophis tritaeniatus</i>	Striped Grass Snake	Least Concern (SARCA 2014)	1	2	1980-12-03	Records
10	4070	Pythoridae	<i>Python natalensis</i>	Southern African Python	Least Concern (SARCA 2014)	1	1	1900-06-15	Records
11	2520	Scincidae	<i>Panaspis mabbergi</i>	Wahlberg's Snake-eyed Skink	Least Concern (IUCN 2021)	1	1	1900-06-15	Records
12	2310	Scincidae	<i>Triturus caecus</i>	Cape Skink	Least Concern (SARCA 2014)	1	3	1980-12-03	Records
Total						12	19	1940-09-06* 1900-06-15**	

* median date of last recorded date
** median date for all records identified to species or subspecies level

Red listing source:

Atlas and Red List of the Reptiles of South Africa, Lesotho and Swaziland: 2014. Edited by Richard F. Bates, William R. Branch, Dawn M. Bawa, Marius Burger, Johan Huisman, Graham J. Alexander & Hannelise S. de Villiers. SANBI, Pretoria.



FrogMAP – Frog Atlas of Southern Africa

5 species found for locus = 2725AD
Date filter: none

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last record date
1	330	Bufo	<i>Sclerophrys gutturalis</i>	Guttural Toad	Least Concern (IUCN, 2016)	1	1	2000-01-01
2	660	Hyperoliidae	<i>Kassina senegalensis</i>	Bubbling Kassina	Least Concern	1	1	2000-01-01
3	1050	Pipidae	<i>Xenopus laevis</i>	Common Platanna	Least Concern (IUCN 2020)	1	1	1998-01-01
4	880	Pyxicephalidae	<i>Amietia delalandii</i>	Delalande's River Frog	Least Concern (2017)	1	1	1980-01-01
5	400	Pyxicephalidae	<i>Cacosternum boettgeri</i>	Common Caco	Least Concern (2013)	1	3	2000-01-01
Total						5	7	2000-01-01 1998-01-01

* median date of last recorded date

** median date for all records identified to species or subspecies level

Red listing source:

Minter LR, Burger M, Harrison JA, Braack HH, Bishop PJ & Kloepfer D (eds). 2004. Atlas and Red Data book of the frogs of South Africa, Lesotho and Swaziland. SI/MAB Series no. 9. Smithsonian Institution, Washington, D.C.

ID pending record(s) for this locus: 0 records

Citation: FitzPatrick Institute of African Ornithology (2023). FrogMAP Virtual Museum. Accessed at <https://vmus.adu.org.za/?vm=FrogMAP> on 2023-07-15

[Page served: July 15, 2023, 09:10 +0200]

The Biodiversity and Development Institute (BDI)
and
The FitzPatrick Institute of African Ornithology
Department of Biological Sciences - University of Cape Town

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PHOWN – Photos of Weaver Nests

1 species found for locus = 2725AD
Date filter: none

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last record
1	783	Ploceidae	Philetairus socius	Sociable Weaver	Least concern	1	2	2012-05-
Total						1	2	2012-05-2011-08-1

* median date of *last recorded date*

** median date for all records identified to species or subspecies level

Red listing source:

The IUCN Red List of Threatened Species (www.iucnredlist.org)

NB: the following taxa have been omitted from the database query to produce the list above:

- Ploceidae: FAMILY Ploceidae (Weaver family), Least concern

ID pending record(s) for this locus: 0 records

Citation: FitzPatrick Institute of African Ornithology (2023). PHOWN Virtual Museum. Accessed at <https://vmus.adu.org.za/?vm=PHOWN> on 2023-07-15

[Page served: July 15, 2023, 09:11 +0200]

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 The FitzPatrick Institute of African Ornithology
 Department of Biological Sciences - University of Cape Town

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August 18, 2023

N J VAN ZYL – VUURFONTEIN 117 HO (a portion of the Remaining Extent of Portion 13) – NW30/5/1/3/2/ 11231 MP

QUANTUM CALCULATION: ANNEXURE 7

Calculation of the Financial Provision							
Location: Bloemhof District							
No	Description	Unit	Quantity (A)	Master Rate (B)	Multiplication Factor (C)	Weighting Factor (D)	Amount (E)=A*B*C*D
1	Dismantling of the Processing Plant and related Structures (Including Overland conveyors and power lines)	m ³	-	17.91	1	1	-
2 (A)	Demolition of Steel buildings and structures (including floor slabs)	m ²	-	249.45	1	1	-
2(B)	Demolition of reinforced concrete buildings and structures	m ²	-	367.62	1	1	-
3	Rehabilitation of access Roads	m ²	50.00	44.64	1	1	2,232.00
4 (A)	Demolition and rehabilitation of electrified railway lines	m	-	433.26	1	1	-
4 (B)	Demolition and rehabilitation of non-electrified railway lines	m	-	236.33	1	1	-
5	Demolition of housing and facilities (including floor slabs)	m ²	-	498.91	1	1	-
6	Opencast Rehabilitation (including final voids and ramps)	ha	0.24	253,918.43	0.52	1	31,689.02
7	Sealing of shafts and adits and inclines (including concrete cap)	m ³	-	133.92	1	1	-
8 (A)	Rehabilitation of Overburden and Spoils	ha	-	174,355.57	1	1	-
8 (B)	Rehabilitation of processing waste Deposits an evaporation ponds (basic, salt-producing waste)	ha	-	217,156.72	1	1	-
8 (C)	Rehabilitation of processing waste Deposits an evaporation pond (acidic, metal-rich waste)	ha	-	630,726.04	1	1	-
9	Rehabilitation of subsided areas	ha	-	145,996.53	1	1	-
10	General Surface Rehabilitation, including grassing of all denuded areas	ha	0.20	138,119.02	0.52	1	14,364.38
11	River diversions	ha	-	138,119.02	1	1	-
12	Fencing	m	-	157.55	1	1	-
13	Water Management (Separating clean and dirty water and managing the impact on groundwater, including treatment, when required)	ha	-	52,516.74	1	1	-
14	2 to 3 Years of Maintenance and aftercare	ha	2.00	18,380.86	1	1	36,761.72
15 (A)	Specialist Study	Sum	-	-	-	-	-
15(B)	Specialist Study	Sum	-	-	-	-	-
Total Sum of all Items							85,047.12
1	Preliminary and General	12% of subtotal					
2	Contingencies	6% of subtotal					5,102.83
		10% Contingency					9,014.99
		Subtotal I plus sum of Management and contingency					99,164.94
		VAT@15% of the Total					14,874.74
		Grand Total					114,039.68