

## SCOPING REPORT

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

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

NAME OF APPLICANT: Basson Rost Mining (Pty) Lld.

TELNO: 082 808 1850

FAX NO: -

PHYSICAL ADDRESS: P.O. Box 20576, Noordbrug, 2522

FILE REFERENCE NUMBER SAMRAD: NC30/5/1/1/2/ 13309 PR

## IMPORTANT NOTICE

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

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

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

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

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

## OBJECTIVE OF THE SCOPING PROCESS

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

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## CONTENT OF THE SCOPING REPORT

- Contact Person and correspondence address
- a) Details of:

i) The EAP who prepared the report

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

Name of the Practitioner:

DERA Environmental Consultants (Pty) Ltd

Ms. Esna Erasmus Tel No.: 018-468 5355 Fax No.: 018-011 3760

E-mail address:dera.office@dera.co.za

## ii) Expertise of the EAP.

(1) The qualifications of the EAP

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

The EAP, Ms HM (Esna) Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management. She also completed the subjects for her Master Degree in Environmental Analysis & Management at NWU. See Figure 1 & 2 for copies of his qualifications and CV. She is further registered at the International Association for Impact Assessment South Africa (IAIAsa), membership No: 6502 and is registered at Environmental Assessment Practitioners Association of South Africa (EAPASA), registration No: 2020/2909.



Figure 1: Copy of Qualification

## **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. Nº 30054

Utigerals met die gereikeuring van die Serinfracingsrand vir Technikononderwys (SERTEC) ingevolge artikei 9 van die Wet op die Sertiffactingsrand vir Technikononderwys, 1986 (Wat 88 van 1986) hand with the preproval of the Certification Council for Technikononderwys, 1986 (Azt 88 of 1986) hand with the preproval of the Certification Council for Technikononderwys, 1986 (Azt 88 of 1986)

Figure 2

## **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

Utigate its met die portikeuring van die Sertifiseringstraad vir Technikonomiderwys (SERTEC) ingevolge artikel 9 van die Wet op die Sentifiseringstraad vir Technikonomiderwys, 1986 (Wet 8% van 1986 houed with the approval of the Certification Council for Technikon Education (SERTEC) in terms of section 9 of the Certification Council for Technikon Education Act, 1985 (Act 8% of 1985)

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

HM (Esna) Erasmus is an environmental practitioner with 24 years' experience in Agricultural and Mining Management and Science. Experience in the field of inspection and evaluation of Environmental Impact Assessment in 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. See Figure 3 below Curriculum Vitae of H.M. Erasmus.

Figure 3: CV

## **ESNA ERASMUS**



**ENVIRONMENTAL PRACTITIONER** 

CONTACTS









esnae@dera.co.za



+27 83 45 25 9 17



Linkedin http://za.linkedin.com/ in/esna-erasmus-1881 aba\$/



Province, South Africa

Klecksdorp, North-west

Environmental practitioner with 22 years' experience in Agricultural and Mining Management and Science. Experience in the field of inspection and evaluation of Environmental Impact

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

Evaluation of Environmental Management Reports

Inspection and evaluation of all different mining entities in North West Province. A member of the Slimes Dam Core Committee of North West Province. involved in the compiling of a strategy for rehabilitation of Gold slime Dams in NW. Give inputs and comments on the revision of EMPR for small scale diamond mining. Involve in setting a strategy to encounter the impact of small scale mining on the environment in North West.

SKILLS



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

## WORK EXPERIENCE

Assessment in North West,



JAN 1998 JUN 2002

## SENIOR RESOURCE CONSERVATION INSPECTOR

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 Potchofstroom office of Directorate Land Resource Management.

JUL 2002

## SENIOR ENVIRONMENTAL OFFICER

FEB 2004

Department of Minerals and Energy - Klerksdorp, 5A

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

Evaluation of EMPR's and EtA's.

Audit and compliance inspections of mining operations.

MAR 2004 PRESENT

## **ENVIRONMENTAL PRACTITIONER**

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

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.

## Fig. EDUCATION 1993 HIGH SCHOOL DIPLOMA Middelburg High School - Middelburg, Mpumalanga, SA English Afrikaans Biology History Geography Accounting NATIONAL DIPLOMA: AGRICULTURE: RESOURCE UTILISATION 1998 Tshwane University of Technology – Pretorio, Tshwane, SA Animal Production I Computer Application ( Pasture Science I Physical Science I Agricultural Marketing II I, II and III Poultry Production # Crop Production I, II Agricultural Soil Science I Agricultural Mechanization I Agricultural Production Management III Agricultural Extension II Large Stock Production # Horticulture III Agricultural Anatomy & Physiology 1 Farm Planning L Soil Conservation II BACCALAUREUS TECHNOLOGIAE; AGRICULTURAL MANAGMENT 2000 Tshwane University of Technology - Pretoria, Tshwane, SA Financial Management IV Strategic Management IV Plant Production IV Leadership Development If MATERS OF ENVIRONMENTAL SCIENCES IN ENVIRONMENTAL 2004 **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 $\hat{\sigma}_{\overline{a}\overline{s}\overline{a}}$

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

## EIA EXPERIENCE



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

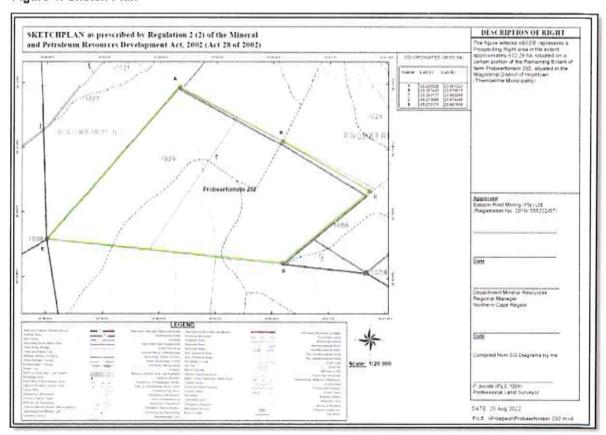
- F1 de Beer [Doornfontein] was done as part of a Prospecting Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Hartzer & Steyn Beleggers [Zwartplaat] was done as part of Mining Right
  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.

Page 3

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

(i) 21 digit Surveyor General Code for each farm	C0330000000029200000
(ii) Farm Name:	Probeerfontein 292  ➤ certain portion of the Remaining Extent
(iii) Coordinates - Co-ordinates List WG 27°	CO-ORDINATES (WGS 84)  Name Lat(S) Lon(E)  A -29.250528 23.661223 B -29.257423 23.676515 C -29.263737 23.689265 D -29.273068 23.676498 E -29.270119 23.641899
Application area (Ha)	632,29 ha
Magisterial district:	The area is situated in the Hopetown District of the Northern Cape. Douglas is the nearest town to the application area (26 km north of application area) via the R357 and R3112. The town is in the Northern Cape Province of South Africa 90 kilometres by R357 road west from the city of Kimberley.
Distance and direction from nearest town	Approximately 68 km north, north-west of Hopetown and 26 km south-east of Douglas.
Minerals applied for	Stone Aggregate, Gravel

Figure 4: Sketch Plan



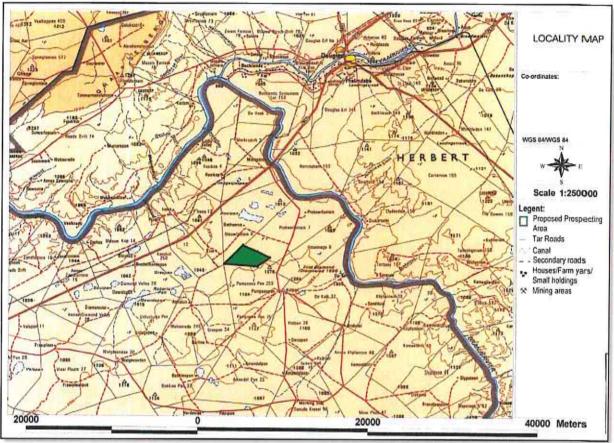
## c) Locality map

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

## (i) & (ii)

<u>See below and Appendix 1(a) - Locality Map</u> indication where the applied area are situated within the district of Hopetown, Northern Cape Province and Location of application area (Figure 5). The area is situated in the Hopetown District of the Northern Cape. Douglas is the nearest town to the application area (26 km north of application area).via the R357 and R3112. The town is in the Northern Cape Province of South Africa, 90 kilometers by R357 road west from the city of Kimberley.

Figure 5: 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 2 - 2. (1)(d)(i)(ii)

The applicant applied for a Prospecting Right over: certain portion of the Remaining Extent of the farm Probeerfontein 292. The application area is situated over a rural area of the Northern Cape Province. The area is characterized as being rural area under natural vegetation and used for grazing (for cattle (Drakensbergers) and Rooibokke (Impala's)). There is not a lot of infrastructure over the application area, only fence lines, farm roads, borehole with cement dam/reservoir. There are further no structures of infrastructure over this property.

The scope of the prospecting activities will entail the prospecting for Stone Aggregate; Gravel. The prospecting area will be identified through geological surveys and mapping. The extent of the prospecting area is 632.29 hectares. Information from Geological surveys will be used in order to determine where the test pits will be made. This will in turn help to determine the boundaries of the proposed prospecting area for more detailed surveying. The prospecting phase will only be: <a href="Phase 1">Phase 1</a> – <a href="Geological desktop studies">Geological desktop studies</a> and surveys, <a href="Phase 2">Phase 2</a> – <a href="Test pits">Test pits</a> and <a href="Phase 3">Phase 3</a> – <a href="Bulk Samping">Bulk Samping</a>. See Appendix 1(b) for an indication of the proposed main listed activities and existing/proposed infrastructure and Figure 5 – Google Earth Images for more detail of what the site looks like pre-prospecting. Access to the application area is gained via existing roads 68 km north, north-west of Hopetown and 26 km south-east from Douglas."

All of the area is under natural veld. Only a small portion of the land will be impacted upon at any given time and land use on the rest of the area can proceed normally. The prospecting focus area will be clearly demarcated after Phase 1 is completed. The area applied for is over the entire portion. It is envisaged that all impacts on the environment can be properly managed and mitigated and no high negative long-term

impacts will take place.

## Listed and specified activities

All of the area is under natural veld. Only a small portion of the land will be impacted upon at any given time and land use on the rest of the area can proceed normally. The prospecting focus area will be clearly demarcated after Phase 1 is completed. The area applied for is over the entire portion. It is envisaged that all impacts on the environment can be properly managed and mitigated and no high negative long-term impacts will take place.

The area is characterized as being in a rural area under natural vegetation and used for grazing (Cattle, Impala). There is not a lot of infrastructure over the application area, only fence lines, farm access roads, borehole with cement dam/reservoir. There are further no structures of infrastructure over this property, see Appendix 1(b) — Infrastructure and Activity Map for an indication of the proposed main listed activities and existing/proposed infrastructure and Figure 6 — Google Earth Images for more detail of what the side looks like pre-prospecting. Access to the application area is gained via existing roads 68 km north, north-west of Hopetown and 26 km south-east from Douglas. Only a small portion of the land will be impacted upon at any given time and land use on the rest of the area can proceed normally. The prospecting focus area will be clearly demarcated after Phase 2 is completed. The area applied for is over the entire portion. See Table 1 below as submitted as part of the prospecting works program (PWP) indicating what the main listed prospecting activities will be. Also see Table 2 below for NEMA Listed Activities as applied for in the Environmental Authorization which form part of the application.

SURFACE INFRASTRUCTURE PLAN (Google satellite image) Proposed prospecting right area CO-ORDINATES (WGS 84) GRAZING Name Lat(S) Lon(E) Farm ace roads/fences -29.250528 23.661223 GRAZING -29.257423 23.676515 Entrance (gate) -29.263737 23.689265 Entrance (gate) -29,273068 23,676498 N -29.270119 23,641899 Barahola 23 3842 GRAZING GRAZING

Farm access reads/fences

GRAZING

Figure 6: Infrastructure and Activity Map

GRAZING

Dry water course with 100m buffer zone(

prospecting restricted)

MAP/PLAN 1b (2)

Table 1: Main listed prospecting activities

Phase	Activity	Stall(s) required	Outcome	Timeframe for outcome	What technical expert will sign off on the
agovi					Goodogui to vest the see and the reconstances of the area. Take samples (probing) whore needed Compleation of report to re-house use by Basson Kisst Mining (Phy. Ltd
end		Managed of the Samuel S	Areas whore alkawal demond gravel is found will be identified though the exceedant of 150 leeds pits	201 201 201 201 201 201 201 201 201 201	Experienced mass markey (Basson Kush Minora) (Ptyl Ltd! will be responsible for all priyacal excavatores
e=\$	Buk Samplen	Examples operator Frond and Example operator Weshing pain operators & manager	Charconds found from bulk samples will be eviduated in terms of cardia 100cm and value in Secard 100cm and expected to be 3 misters thick, which need to be lessed and eviduated.	15年 14年 14年 14年 14年 14年 14年 14年 14年 14年 14	Experienced mine manager (Basson foot Minng (Phy Ut) will be responsible for all physical exceptions

**Table 2: Listed Activities** 

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

NAME OFACTIVITY	Aerial extent of the Activity (Ha or m²)	LISTEDACTIVITY	APPLICABLE LISTING
Listing 1 – Activity 20:  Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including—  (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.	632.29 ha	Х	327
Listing 1 – Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	0.3 ha	Y X X X X X X X X X X X X X X X X X X X	327
Listing 2 – Activity 19:  The removal and disposal of minerals contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including—  (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or  (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;  but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.	0.3 ha	X	325

## ii) Description of the activities to be undertaken [In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix 2 - 2. (1)(d)(ii)

Table 3: Description of Activities to be followed

Activities	Description of Activities to be followed  Description of phases	Associated structures and infrastructures
Phase 1	Geological desktop studies and surveys in order to	No infrastructure.
	try and identify the gravel run. Various geological	The first design of
	maps and instruments will used to identify if alluvial	
	gravel deposits and or kimberlite pipes might be	
	present on the application area. 6 Months needed	
	for phase 1.	
Phase 2	In Phase 2 test pits will concentrate on the areas where the outcrops anticipated gravel potential. The pits will be made (1 m x 2 m x ± 6m deep), on a grid of 100 x 100meters and where necessary on a 50 x 50 meters grid where the gravel outcrops. These test pits are made with a 30 ton excavator. These boundaries will be surveyed and mapped in order to determine where bulk samples will be taken. It is envisaged that 150 test pits will be excavated. Each pit will be examined and closed up immediately before the excavator move on to the next one. 12 Months	The topsoil and grass will be cleaned on the small area of 1 m x 2 m x (6 m depth) where the test pits will be excavated. After evaluation of the gravel the test pit will be closed. Rehabilitation of the test pits back to original land capability/use with topsoil and proper leveling.  Associated structures & infrastructure:  Stockpiles of topsoil next to the open excavation Roads within the prospecting area Ablution facilities, chemical tollets
		Test pits been excavated
PLATERIA WILLIAM 1 AND 1 A TANK 1	are needed for Phase 2.	Temporary office buildings
Phase 3	In order to determine if the gravel does have viable resources the gravel needs to be taken out and tested. Trenching will be used to open the gravel in order to get a representative sample for testing.	The washing pan will be on the plant area with stockpiles.  Associated structures & infrastructure:
	The trenches will be 20 x 60 x $\pm$ 6 m (deep). In one trench $\pm$ 7'200m <sup>3</sup> (8'158 ton) gravel will be exposed and tested with a 16 feet washing pan at a	Stockpiles of topsoil next to the open excavation Roads within the prospecting area
	rate of 10m³ (16 ton) an hour.	16 feet washing pan
	THE PERSON AND INVESTIGATION OF THE PERSON O	Ablution facilities, chemical and flush toilets
	The total prospecting area is 632.29 hectares,	Trenches excavated for the bulk sampling
	thus it is anticipated that a total of 57'600m³ will be tested by making 16 trenches on different locations over the whole prospecting area, where the possibility of diamond bearing gravel were identified with the test pits. Only (2) two of these will be open at any given time. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 8'000m³ a month. The processing of 57'600 m³ will take about 42 months for Phase 3 including the rehabilitation.	Trenches excavated for the bulk sampling Temporary office buildings

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# [Basson Rost Mining (Pty) Ltd.- certain portion of the Remaining Extent of the Farm Probeerfontein 292] - NC 30/5/1/1/2/13309 PR

e) Policy and Legislative Context In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix 2 - 2. (1)(e)

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) Submitted for Environmental Authorizations in terms of the National Environmental Management Act, 1998 and the National Environmental Management Waste Act, 2008 in respect of Listed Activities that has been triggered by applications in terms of the Minerals and Petroleum Resources Development Act, 2002 (As mentioned).	Activity 20, listing 1, Activity 27, Listing 1, Activity 19, Listing 2.	Prospecting Right application submitted and EA application with DMR
National Environmental Management Act, 1998 (Act 107 of 1998): Environmental Impact Assessment Regulations, 2014 (G38282 – R982-985) EA Authorization and EIA/EMP. Submit documents that will describe the impacts and sustainable mitigation thereof. Compliance to Act and Regulations during course of activities. Show impacts and mitigation thereof.	Regulation 21 Section 23	Scoping Report in process following by EIA/EMP
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.
	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 Northem Cape Nature Conservation Act, Act 9 of 2009 (NCNCA) Application of Permit or License if protected species may be affected.	Section 3 Section 49	Restricted activities involving specially protected animals. No person may, without a permit - hunt, import; export; transport; keep; possess; breed; or trade in, a specimen of a specially protected animal.  Restricted activities involving specially protected plants: (1) No person may, without a permit - pick; import; export; transport; possess; cultivate; or trade in, a specimen of a specially protected plant.
National Environmental Management Laws Amendment Act (Act 2 of 2022)		

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

## f) Need and desirability of the proposed activities

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

The applicant believes that the applied area has prospects for: Stone Aggregate & Gravel as applied for. According to NEMA's Screening Tool/Report (Appendix 3) there are sensitive landscape features that need to be taken into consideration when prospecting over this area, the first being the Terrestrial biodiversity. There are further smaller dry (Intermittent) stream courses within the 632.29 ha application area. All of the above features need to be taken cognisance off and management measures must be put in place to manage of prevent any impact on it. There are other alluvial diamonds mining operations around Douglas and Hopetown. The possible employee positions that could emerge could also be a great opportunity for revenue generation in this rural area. The locality of the activities is over the entire farm portions. The specific activities as listed will be over the whole areas of the application area. Where the potential of a gravel run is found with the geological surveys of phase 1, test pits will be make during phase 2, and followed by bulk sampling of phase 3 and washing/sampling will take place. The duration of the activities will be 5 years.

## g) Period for which the environmental authorization is required Four (5) years

## h) Description of the process followed to reach the proposed preferred site

In term of NEMA - EIA Regulations No. 325 of 7 April 2017 - Reg. 21, Appendix 2 - 2. (1)(h)

The prospecting area was identified through aerial photographs. The extent of the prospecting area will be **632.29 hectares**. Information from geological surveys will be used in order to determine where the test pits will take place. This will in turn help to determine the boundaries of the proposed prospecting area for more detailed surveying.

## PHASE 1:

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

## PHASE 2:

In Phase 2 test pits will be made (1 m x 2 m x  $\pm$  6m deep), on a grid of 100 x 100meters and where necessary on a 50 x 50 meters grid where the gravel outcrops. These test pits are made with a 30 ton excavator, to determine if any diamond bearing gravel does occur. This test pits will be closed up immediately before the excavator move on to the next one. 12 Months are needed for Phase 2.

## PHASE 3:

In order to determine the quality the gravel needs to be taken out and tested, by putting it through the washing process. Trenching will be used to open the gravel in order to get a representative sample for testing. The trenches will be  $20 \times 60 \times \pm 6$  m (deep). In one trench  $\pm 7'200\text{m}^3$  (8'185 ton) gravel will be exposed and tested with a 16 feet washing pan at a rate of  $10\text{m}^3$  (16 ton) an hour. The total prospecting area is 632.29 hectares, thus it is anticipated that a total of  $57'600\text{m}^3$  (bulk sample) will be tested by making 16 trenches on different locations over the whole prospecting area (over 42 months), where the possibility of gravel were identified with the test pits. Only (2) two of these will be open at any given time. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 8'000m³ a month. The processing of  $57'600\text{m}^3$  will take about 42 months for Phase 3 including the rehabilitation.

## Details of all alternatives considered

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(i)

Alternative is not applicable. The specific land applied for is the area to believe that minerals can be explored. The current land is used is grazing for cattle and Impala's. The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant is not interested in any other alternative land use over this land aside of exploration of the said minerals, or any other activity, or method use other than prospecting for it in the conventional way, which is the most cost effective.

Since it is a rural area and the local grow and development in this area is very slowly. Prospecting operation like this contributes to local economic growth and work opportunities in such a rural area. As can be seen on **Figure 6**, the current land use is grazing. The specific land applied for is the area to believe that minerals can be explored. The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, **Basson Rost Mining (Pty) Ltd.**, is not interested in any other alternative land use over this land aside of exploration of the said minerals <u>[Stone Aggregate, Gravel]</u>, or any other activity, or method use other than prospecting for it in the conventional way, which is the most cost effective.

(a) the property on which or location where it is proposed to undertake the activity. There are no alternative for the property as the application is for this area only. The prospecting focus area will only be determined after Phase 2 (Test Pits) is completed. And the whole of the application area will systematically be prospected eventually. There are no alternative sites as the whole of the application area was identified as being favourable to bear <u>Stone Aggregate</u>, <u>Gravel</u>.

## (b) the type of activity to be undertaken

The type of activity is in line with the submitted Prospecting Work Programme (PWP). <u>Stone Aggregate.</u> <u>Gravel</u> prospecting normally uses the opencast prospecting method in order to access the mineral where after it is tested. Testing will be done on site by use of washing plant. There are no alternatives to the testing of the mineral as this is the conventional manner in which it is done. Better technology requires bigger volumes to be processed and this will not be possible under a prospecting right. As this is only prospecting operation it will be the basic opencast method with associated machinery.

## (c) the design or layout of the activity

The layout of the activity will and can only be on the application area as per sketch plan, see **Figure 4** as submitted with the application. And the whole of the application area will systematically be prospected eventually. There are no preferred sites as the whole of the application area was identified as being favourable to be tested through test pits. Once phase 2 – test pits was completed, will there be determined where the trenched will be made. This prospecting operation will also not be a static operations as the whole of the application area will be tested via test pits on a grid basis in order to determine where the possible <u>Stone Aggregate</u>, <u>Gravel</u> occurs. They will have a temporary container that will serve as site office and the gravel to be tested will be done next to the open excavations. There will also be temporary chemical toilets on the site for ablution facilities. There will not be services to machinery done on site and in case of emergency it will be done over a PVC lining. This operation will be a basic small scale prospecting layout, with minimal temporary infrastructure and just the necessary equipment.

## (d) the technology to be used in the activity

The technology used in the activity will be as described in the PWP and the best options will be determined by the applicant, which will be test pits and bulk sampling through trenching. The technology used with regards to the testing of the <u>Stone Aggregate</u>, <u>Gravel</u> is putting it through a scrubber and washing plant. The washing plant will be set up next to the open excavation and will only be moved once the excavation is closed up. Phase 2 will be test pits and this will use an excavator to open pits which will only be visually inspected by the geologist, there are not much alternatives for this activity, Phase 3 will be excavation of a representative bulk sample and this will be done by conventional opencast excavations. The technology

used in the activity will as described in the Prospecting Programme and the best options will be determined by the applicant. They will basically be using excavators to open the test pits and take out bulk samplings, as well as a front-end loader to move the material to be tested to the washing plant.

## (e) the operational aspects of the activity, and

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

## (f) the option of not implementing the activity

This option might only be possible if the applicant decide to abandon the project. If this application is not implemented the current landowners will just continue with existing agricultural activities which is grazing. 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, Appendix2 - 2. (1)[(h)] (g)(ii)

The process as described by NEMA for Environmental Authorization was followed. See Table 4 below for the identification of Interested and Affected Parties to be consulted with. The landowner (Mr L.J. du Raan), neighbours and land users will be consulted personally and through written letter that are given to them by hand. A site notice was placed at the entrance to the application area. With this site notice all passers-by are requested to submit any written comments to be forwarded to the consultant (still awaiting response). A notice was also published in the DFA Newspaper of 14th October 2022, response is awaited. See proof of consultation already done under Appendix 2. The Public Participation process is still on going and the documents will be updated as more feedback is received back. The Scoping Report was send to all relevant State Departments for evaluation.

Appendix 2 - Proof of consultation

## Page 23 of 88

# [Basson Rost Mining (Pty) Ltd.- certain portion of the Remaining Extent of the Farm Probeerfontein 292].

## <u>||||</u>

Summary of issues raised by I&AP's
In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1){(h)} (g){(ii)}

Table 4: Interested and Affected Party Register

I able 4. Interested and Amedied Party Register	<u>.</u>			
Interested and Affected Parties		Date sent	Issues raised	EAP's response to the applicant
		Comments Received	o de la constanta de marco de la constanta de marco de la constanta de la cons	
AFFECTED PARTIES				7. 6. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
Landowner/s	×			
L.J. du Raan (Landowner) P.O. Box 145, Douglas, 8730 Celt. 082 373 2394, E-mail: leonarddr@vodamail.co.za		14 Oct 2022 28 Nov 2022	Consultation letter send No objection, see signed consultation letter attached.	
Landowners or Lawful occupier/s of the adjacent properties	×			
G. Du Raan (Neighbour) P.O. Box 83, Douglas, 8730 Cell: 082 786 2419, E-mail <sup>-</sup> ingwesafaris@vodamail.co.za		14 Oct 2022 28 Nov 2022	Consultation letter send No objection, see signed consultation letter attached.	
D.J. Snyders (Neighbour) P.O. Box 683, Douglas, 8730 Cell: 082 821 5801	: : :	14 Oct 2022 28 Nov 2022	Consultation letter send No objection, see signed consultation letter attached.	
Municipal councilor	<u>}</u>			
Municipality	×			
Thembelinke Local Municipality Municipal Manager: Mr. Michael Jack Church Street, Hopetown, 8750 Fax: 053 203 0490; Tel: 053 203 0005 C-mail: mrjack@thembelihlemunicipality.gov.za	***************************************	12 Oct 2022 17 Nov 2022	Consultation letter send	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA.				
Eskom			A	
Communities	27 64 555			
Dept. Land Affairs	×			
Ms. Ruwayda Bauiackey Tel: 053 807 5700; Е-mail: bautackey@drdtr.gov.za	VA-VA	12 Oct 2022 17 Nov 2022	E-mail sent to verify any land claims	

Traditional Leaders			<del>(1111-1111</del>
W. W			
Dept. Agriculture, Land Reform and Rural Development X			
Thembisele Mabuza	8 New 2022	Scoping Report send with Courier Guy for comments	
02 Harrison Street, De Beers, Kimberley, 8301 Kell: 064 869 0976			************
162 George Street, Private Bag X 5018, Kimberlite Building, Kimberley, Rann			
Dept. Water and Sanitation			
Chief Director: Northern Cape	8 Nov 2022	Scoping Report with Courier Guy for comments	
Lerato Mokhoanite			
28 Central Road, Beaconstield, Kimberley, 8300			***************************************
Tel: 083 655 8312; E-mail: Mothoantle L@dvs.gov.za			
Dept. Agriculture, Forestry and Fisheries			
DALRAEA has indicated that they will forward the	8 Nov 2022		
Other Competent Authorities			
OTHER AFFECTED PARTIES			
INTERESTED PARTIES X			
SAHRA			
F.O. Box 4051, Cape Town, bound Tel: 021 462 4502, E-mail: info@sahra.org.za			
France or a second contract of the second con			

Notice published in the DFA Newspaper of 14th October 2022

## PLACEMENT OF ADVERT AT GATE:



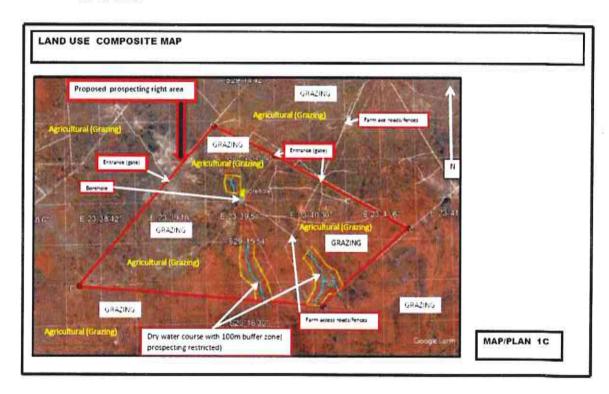
## iv) The Environmental attributes associated with the sites

(1) Baseline Environment

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(iv)

## Introduction:

The purpose of this section is to provide information on the environment in which the proposed prospecting activities will take place, with a view to identify sensitive issues/areas, which need to be considered when conducting the impact assessment. The application is over: a certain portion of the Remaining Extent of the farm Probeerfontein 292) the area is characterized as natural veld used as grazing land (for cattle, Impala (Rooibokke)). The small focus area of prospecting activities will be on the 0.3 ha of the application area, as only two trenches will be open at any given time:



<u>Magisterial District:</u> The area is situated in the <u>Hopetown District of the Northern Cape</u>. Douglas is the nearest town to the application area. The town is in the Northern Cape Province of South Africa, 90 kilometres by R357 road west from the city of <u>Kimberley</u>.

<u>Direction from neighbouring town:</u> The proposed prospecting area is approximately 68 km north, north-west from **Hopetown** and 26 km south-east of **Douglas**.

<u>Longitude (approximate centre of prospecting site):</u> 23°39' 46.86"E <u>Latitude (approximate centre of prospecting site):</u> 29°16' 6.01"S

Existing Surface Infrastructure: The structures found over this area are only boundary fence lines and a farm road on the application area, 2 boreholes with cement dams/reservoirs. There are further no structures of infrastructure over this property. See Appendix 1(b) for an indication of the proposed main listed activities and existing/proposed infrastructure and Figure 6 – Google Earth Images for more detail of what the site looks like pre-prospecting. Access to the application area is gained via existing R357 and R 3112 tar roads south of Douglas.

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

## Vegetation [Flora] and Landscape Features:

According to VEGMAP (2006) the Prospecting application area falls within the [NKu 3] Northern Upper Karoo. VT 35 False Arid Karoo (35%), VT 36 False Upper Karoo (27%) (Acocks 1953). LR 50 Upper Nama Karoo (44%), LR 52 Eastern Mixed Nama Karoo (24%) (Low & Rebelo 1998).

<u>Distribution</u>: Northern Cape and Free State Provinces: Northern regions of the Upper Karoo plateau from Prieska, Vosburg and Carnarvon in the west to Philipstown, Petrusville and Petrusburg in the east. Bordered in the north by Niekerkshoop, Douglas and Petrusburg and in the south by Carnarvon, Pampoenpoort and De Aar. A few patches occur in Grigualand West. Altitude varies mostly from 1 000-1 500 m.

Shrubland dominated by dwarf karoo shrubs, grasses and Acacia mellifera subsp. detinens and some other low trees (especially on sandy soils in the northern parts and vicinity of the Orange River).

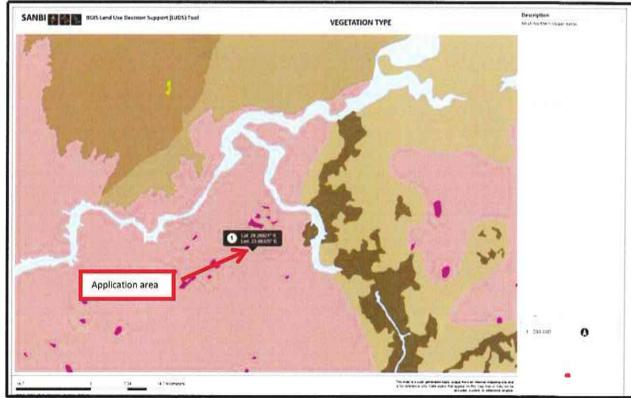


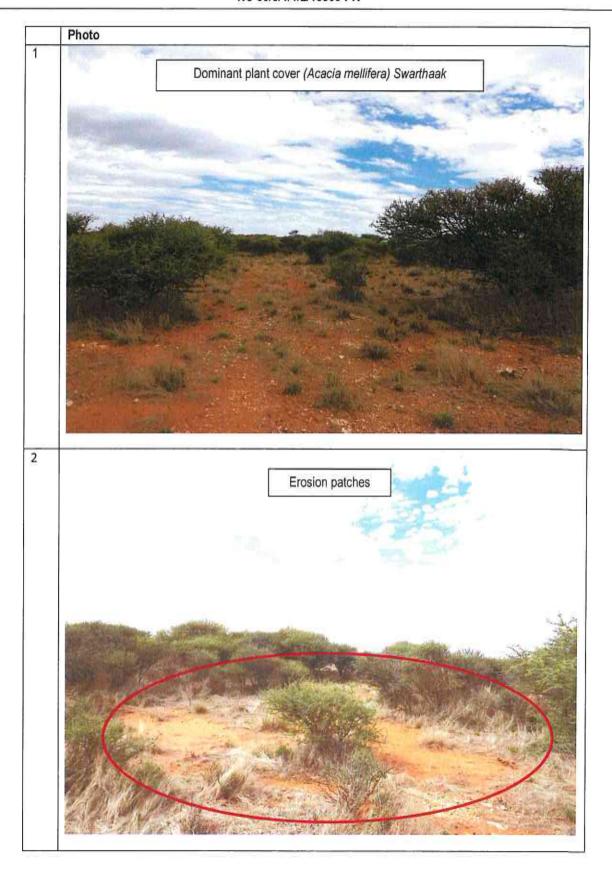
Figure 7: The VEGMAP classification: [NKu 3] Northern Upper Karoo

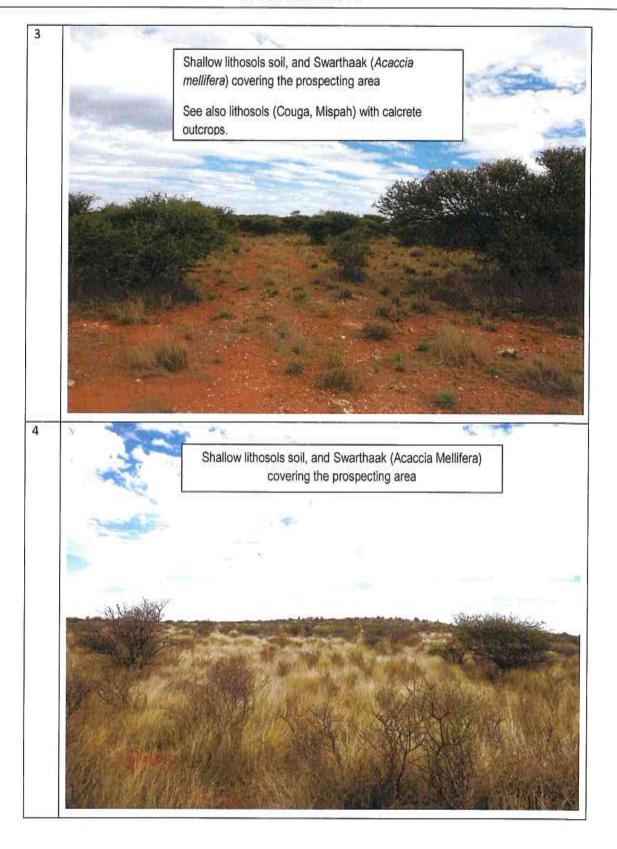
Important Taxa - Small Trees: Acacia mellifera subsp. detinens. Boscia albitrunca. Tall Shrubs: Lycium cinereum (d), L. horridum, L. oxycarpum, L. schizocalyx, Rhigozum trichotomum. Low Shrubs: Chrysocoma ciliata (d), Gnidia polycephala (d), Pentzia calcarea (d), P. globosa (d), P. incana (d), P. spinescens (d), Rosenia humilis (d), Amphiglossa triflora. Aptosimum marlothii, A. spinescens, Asparagus glaucus, Barleria rigida, Berkheya annectens, Eriocephalus ericoides subsp. ericoides, E. glandulosus, E. spinescens, Euryops asparagoides. Felicia muricata, Helichrysum lucilioides, Hermannia spinosa, Leucas capensis, Limeum aethiopicum, Melolobium candicans, Microloma armatum, Osteospermum leptolobum.O. spinescens. Pegolettia retrofracta. Pentzia lanata. Phyllanthus maderaspatensis, Plinthus karooicus, Pteronia glauca, P. sordida, Sebago geniculata, S. saxatilis, Tetragonia arbuscula, Zygophyllum lichtensteinianum. Succulent Shrubs: Hertia pallens, Salsola calluna, S. glabrescens, S. rabieana, S. tuberculata, Zygophyllum flexuosum. Semi parasitic Shrub: Thesium hystrix (d), Herbs: Chamaesyce inaequilatera, Convolvulus sagittatus, Dicoma capensis, Gazania krebsiana, Hermannia comosa, Indigofera alternans, Lessertia pauciflora, Radyera urens, Sesamum capense, Sutera pinnatifida, Tribulus terrestris, Dahlia capensis. Succulent Herb: Psilocaulon coriarium. Geophytic Herb: Moraea pallida. Graminoids: Aristida adscensionis (d), A. congesta (d), A. diffuse (d), Enneapogon desvauxii (d), Eragrostis lehmanniana (d), E. obtuse (d), E. truncata (d), Sporobolus fimbriatus (d), Stipagrostis obtusa (d), Eragrostis bicolor, E. porosa, Fingerhuthia africana, Heteropogon contortus, Stipagrostis ciliata, Themeda triandra, Tragus berteronianus, T. koelerioides, T. racemosus. Biogeographically Important Taxa Herb (western distribution limit): Convolvulus boedeckerianus. Tall Shrub (southern limit of distribution): Gyrnnosporia szyszylowiczii subsp. namibiensis. Endemic Taxa Succulent Shrubs: Lithops hookeri, Stomatium pluridens. Low Shrubs: Atriplex spongiosa, Galenia exigua. Herb: Manulea deserticola. References Acocks (1953, 1988), Werger (1980), Palmer (1990).

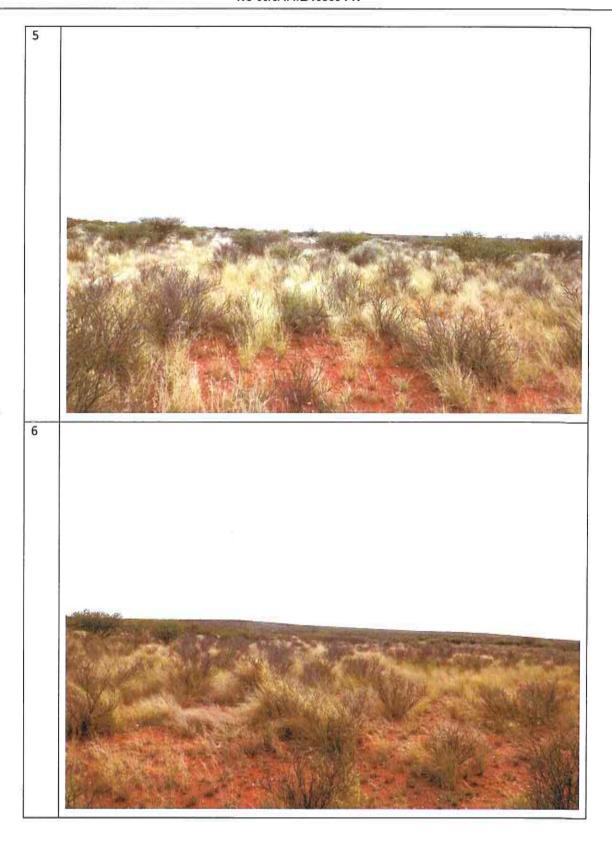
Some indication of the <u>original vegetation type</u> could be found on the 632.29 ha. Through the years the site has been disturbed by agricultural activities.

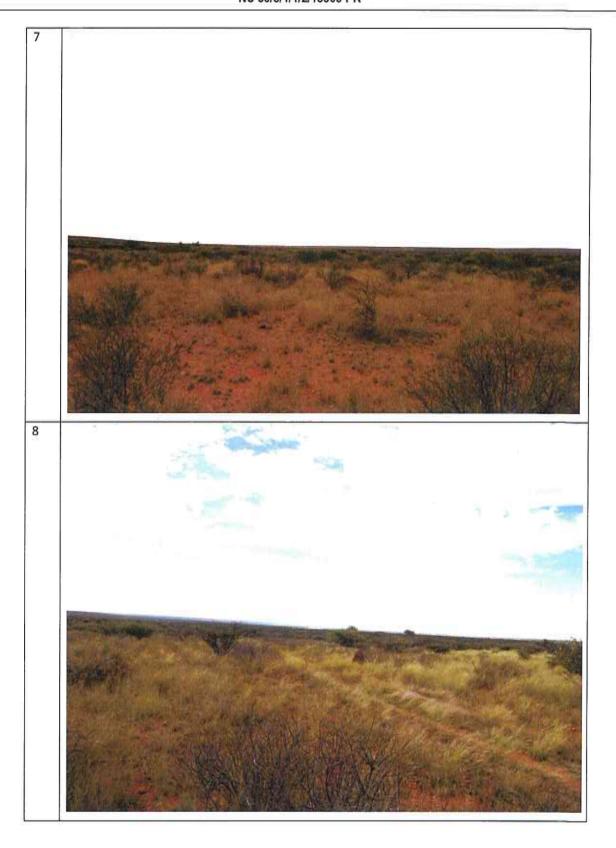
See photo table (next few pages)

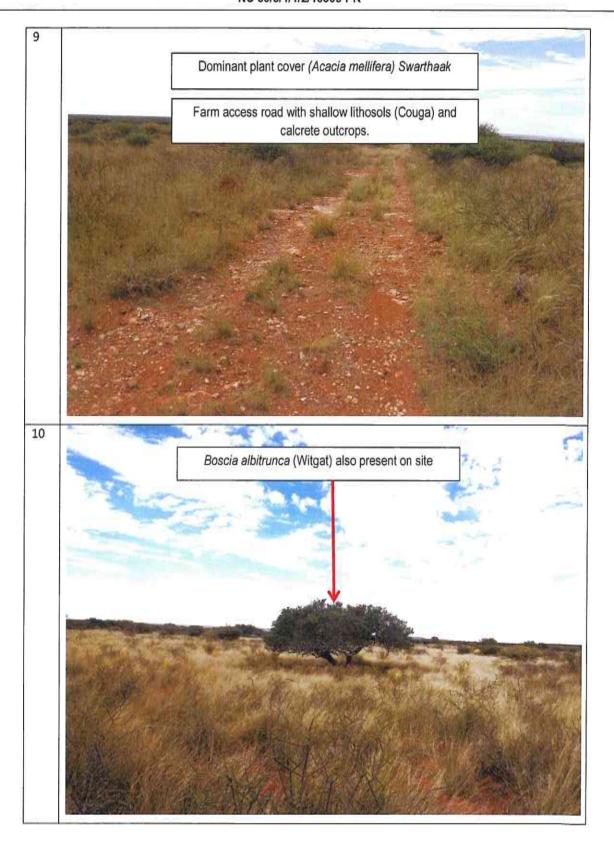


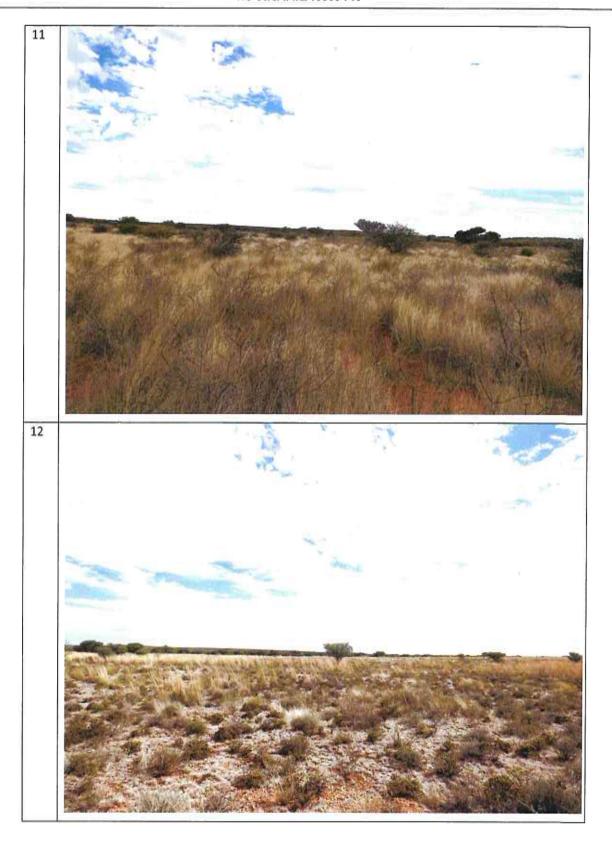


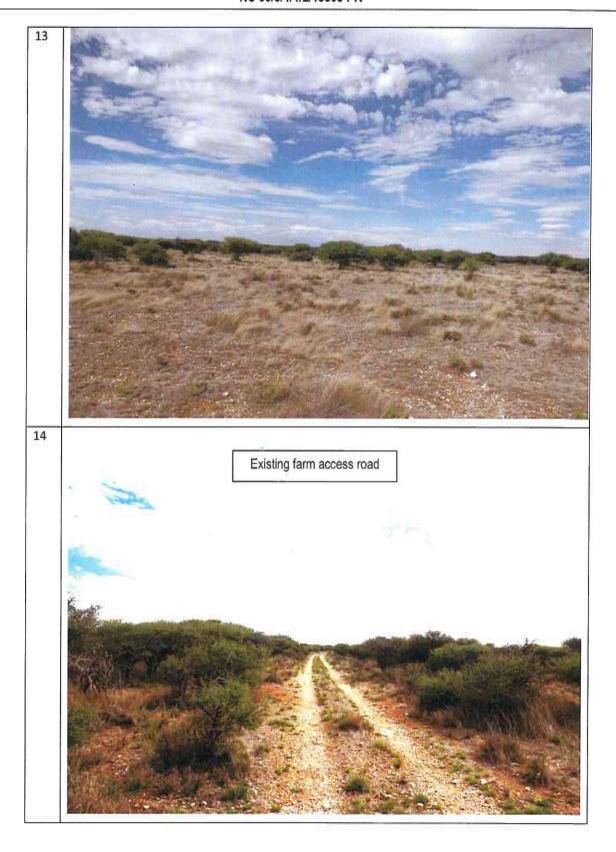












Conservation: Least threatened. Target 21%. None conserved in statutory conservation areas. About 4% has been cleared for cultivation (the highest proportion of any type in the Nama-Karoo) or irreversibly transformed by building of dams (Houwater, Kalkfontein and Smart Syndicate Dams). Areas of human settlements are increasing in the northeastern part of this vegetation type (Hoffman et al. 1999). Erosion is moderate (46.2%), very low (32%) and low (20%). *Prosopis glandulosa*, regarded as one of the 12 agriculturally most important invasive alien plants in South Africa, is widely distributed in this vegetation type (Hoffman et al. 1999). *Prosopis* occurs in generally isolated patches, with densities ranging from very scattered to medium (associated with the lower Vaal River drainage system and the confluence with the Orange River) to localised closed woodland on the western border of the unit with Bushmanland Basin Shrubland. Remark This Karoo unit is found on floristic and ecological gradients between the Nama-Karoo, arid Kalahari savanna and arid highveld grasslands. References: Acocks (1953, 1988), Werger (1980), Palmer (1990).

## Screening of environmental sensitivity of the proposed site (See Appendix 3) 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 prospecting (0.3 ha disturbance (0.04%) by pits and trenches in total out of an application area of 632.29 ha), are classified (by background reference to the whole farm) as per Table 5 below.

According to the screening of <u>environmental sensitivity</u> of the proposed mine site (632.29 ha) it is indicated that <u>Terrestrial Biodiversity Theme</u> was classified as being VERY HIGH sensitive. This prospecting site is only 632.29 ha (0.3 ha disturbance by pits and trenches (0.0.4 %) out of a total of an application area of 632.29 ha and should be regarded on basis of disturbance caused by the the prospecting activity to have a LOW impact. During the site investigation only wild animals (like Impala's) (introduced by the landowner) and cattle (Drakensberger's) were found on site.

Less than 1% of the biome is conserved in formal areas (Source: http://pza.sanbi.org/vegetation/nama-karoo-biome). The Prickly Pear Opuntia aurantiaca and Mesquite Prosopis glandulosa are the major alien invader species. Urbanization and agriculture are minimal, and irrigation is confined to the Orange River valley and some pans. Most of the land is used for grazing, for commercial cattle and Impala, which can be commensurate with conservation. However, under conditions of overgrazing, many indigenous species may proliferate, including Threethorn: Rhigozum trichotomum, Bitterbos: Chrysocoma ciliata and Sweet Thorn: Acacia karroo, and many grasses and other palatable species may be lost. There are very few rare or Red Data Book plant species in the Nama Karoo Biome. Source: http://pza.sanbi.org/vegetation/nama-karoo-biome.

Palaeontology Theme was further classified as being HiGH sensitive. It is however not foreseen that there will be any such sites of the application area that the landowner may not be aware of that he would have come across item if there were any. The prospecting project only focuses on (0.3 ha disturbance by pits and trenches (0.0.4%) in total out of an application area of 632.29 ha) should be of no real significance. The prospecting manager will have to keep a look out for possible

sightings and report it as soon as possible.

According to the screening of <u>environmental sensitivity</u> of the proposed site it is indicated that <u>Agricultural Theme</u> was classified as being MEDIUM sensitivity. The prospecting site is only (0.3 ha disturbance by pits and trenches (0.04%) in total out of an application area of 632.29 ha. Rehabilitation of the site will return the site to some grazing capability for cattle. The majority of the farm still continues with agricultural activity (grazing for cattle and Rooibokke) and is in no way hindered by the proposed activity and the environmental sensitivity for the (0.3 ha disturbance by pits and trenches (0.04%) in total out of an application area of 632.29 ha) should be low to be of no real significance. According to the Comprehensive Atlas Ver. 2.1 of the NDA the grazing capacity for the area is 31-40ha/LSU. Land capability is described as Non- Arable. According to the Comprehensive Atlas Ver 2.1 of the NDA the entire application area should be regarded as degraded land.

According to the screening of environmental sensitivity of the proposed site it is indicated that Civil Aviation Theme was classified as being MEDIUM sensitivity. Giving the distance from the activities in relation to the application area and that the fact that no blasting will be done the impact will be zero and the environmental sensitivity should actually be described as low

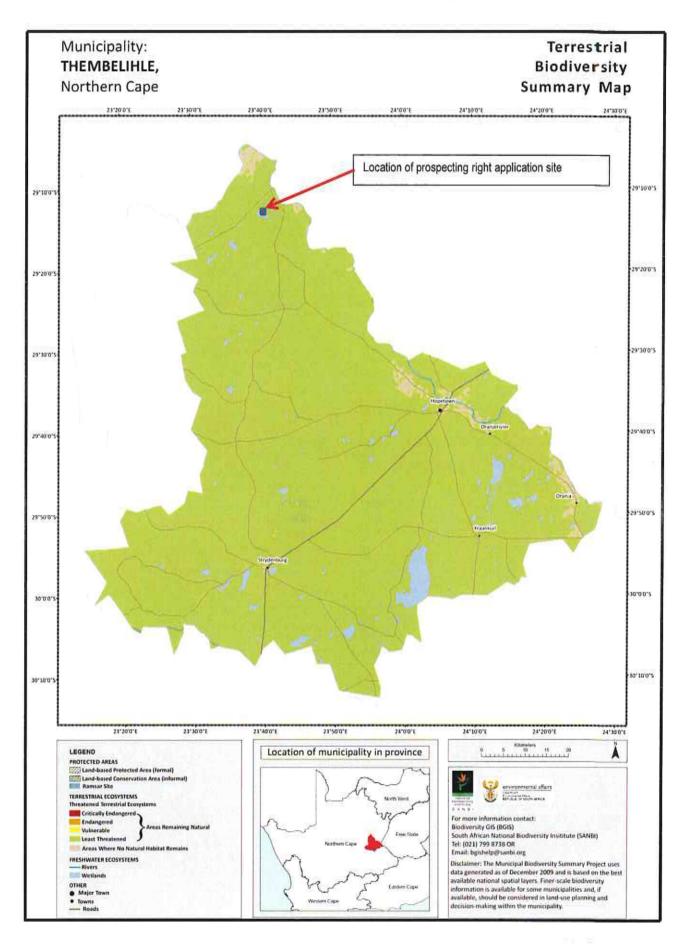
Very High High Medium Low Theme sensitivity sensitivity sensitivity sensitivity Agriculture Theme Х Animal Species Theme X Aquatic Biodiversity Theme Archaeological and Cultural X Heritage Theme Civil Aviation Theme X Palaeontology Theme X Plant Species Theme Defence Theme X Terrestrial Biodiversity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

Table 5: DEDACT - Screening Report

According to the Biodiversity Summary - Thembelihle Municipality (Source: https://bgis.sanbi.org/LUDS/Home/Municipality/211):

There are no Critically Endangered Threatened EcoSystems in the municipality. There are no Endangered Threatened EcoSystems in the municipality. There are no Vulnerable Threatened EcoSystems in the municipality.

See map below:



### Climate:

Rainfall peaks in autumn (March). MAP ranges from about 190 mm in the west to 400 mm in the northeast. Mean maximum and minimum monthly temperatures for Britstown are 37.9°C and —3.6°C for January and July, respectively. Corresponding values are 37.1°C and —4.8°C for De Aar and 39.0°C and —2.3°C for Kareekloof (northwest of Strydenburg).

**Geology:** Regional geology: **Shales** of the Volksrust Formation and to a lesser extent the Prince Albert Formation (both of the Ecca Group) as well as Dwyka Group **diamictites** form the underlying geology. Jurassic Karoo Dolerite sills and sheets support this vegetation complex in places. Wide stretches of land are covered by superficial deposits including **calcretes** of the Kalahari Group.

The alluvial deposits of the Vaal River basin are almost exclusively preserved overlying lavas of the Ventersdorp Supergroup, where the Vaal, Orange, and Riet Rivers flow off the younger Karoo cover onto the basement. The deposits extend intermittently along the Vaal River from Windsorton in the north to Schmidtsdrift in the south. On the Orange River, they occur between Hopetown in the south and Douglas in the north, and continue intermittently for several tens of kilometres downstream of the Vaal-Orange confluence. A classic deposit is also developed on the Riet River on the farms Schutsekama 103 and Koppies Kraal 140. It is interesting to note that there is a downstream decrease in value per carat for each individual deposit. This reflects the decrease in average stone size, corresponding to the change from a proximal to distal facies in a braided river system. An example is the gravels at Waldeck's Plant (Pniel 281) that are the proximal equivalent to those on Longlands 350, Delport's Hope 355 and Then 280 in a mid-river alluvial fan. Reliable production figures have never been compiled as these deposits were worked by thousands of individuals, over a very large area for over a century. **Source: Published on www.debeersgroup.com**.

This type of geology in the Hopetown district normally has good prospects for alluvial diamond bearing gravel. The geology over which the application area falls is made up of predominantly <u>T-Qc</u>: calcrete, which outcrops over most of the application area, with a small occurrence's of <u>Ra</u>: Basaltic lava, amygdaloidal in places; pyroclastic rocks over the far south-eastern part and the sporadic occurrence of <u>Cu</u>: Copper. The Ra outcrops fall under the <u>Allanridge Formatio</u> of the <u>Platberg Group</u> of the Ventersdorp Supergroup. The T-Qc fall under the <u>Kalahari Group</u>.

ANNEXURE 4 -- EXTRACTION OF GEOLOGICAL MAP

<u>Soil:</u> Soils are variable from shallow to deep, red-yellow, apedal, freely drained soils to very shallow Couga and <u>Mispah</u> forms. Mainly Ae, Ag and Fc land types.



Animal Life [Fauna]: Not many species were directly observed but the presence of nesting sites in the area is an indication that this area is an acceptable habitat for shelter and food for avian species. The natural animal life occurring over the application area includes (according to Virtual Museum for African Mammals), but is not restricted to and as confirmed by the land owner, big animals like Impala's (introduced by landowner), small animals common in this area include: Steenbok, Bat-eared Fox, Scrub Hare.

### MammalMAP — Virtual Museum of African Mammals

### 9 species found for locus = 2923BC Date filter: none

#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last recorded
1	213320	Bovidae	Raphicerus campestris	Stupnook	Least Concern (2016)	7	1	2013-07-07
2	198600	Canidae	Canis mesomelas	Black-backed Jackal	Least Concern (2016)	1	33	1957-03-29
3	199080	Canidae	Otocyon megalotis	Balveared Fox	Least Concern (2016)	1	18	2014-05-27
4	114040	Cercopithecidae	Papio ursinus	Chacma Baboon	Least Concern (2016)	1	19	1955-03-18
5	191660	Felidae	Caracal caracal	Caracal	Least Concern (2016)	1	16	1957-03-29
6	192070	Felidae	Felis silvestris	Wildcat	Least Concern (2016)	4	22	1957-03-29
7	158240	Leporidae	Lepus saxatilis	Scrub Ham	Least Concern	1	3	2014-05-27
8	107300	Procavildae	Procavia capensis	Cape Rock Hyrax	Least Concern (2016)	1	8	1957-03-29
9	195300	Viverridae	Genetta tigrina	Cape Genet (Cape Large-spotted Genet)	Least Concern (2016)	11	3	

Total

## BirdPix - Bird Pictures Archive

## 1 species found for locus = 2923BC Date filter: none

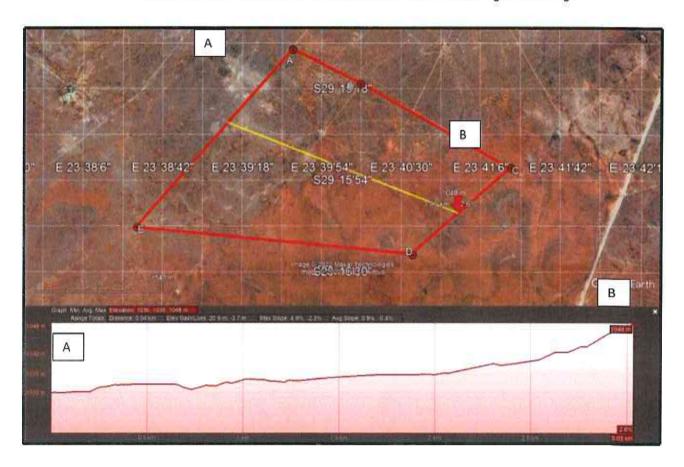
#	Species code	Family	Scientific name	Common name	Red list category	Number of QDSs	Number of records	Last recorded
1	460	Alaudidae	Calendulauda sabota	Sabota Lark		1	1	2021-10-19
	Total					1	1	2021-10-19* 2021-10-19**

Citation: FitzPatrick Institute of African Ornithology (2022). BirdPix Virtual Museum. Accessed at https://vmus.adu.org.za/?vm=BirdPix on 2022-12-07

Farming focuses on cattle **production** that feeds on the leaves of *Acacia mellifera* (Swarthaak) and grasses.



<u>Topography:</u> The site has one terrain type, which is characterized as **slightly irregular undulating lowland** (Topographical Map of S.A. 1983), covered with mainly *Acacia mellifera* (Swarthaak) and grasses. The slope varies around 0.4 (mainly average) to 4.9 % (low hill) that can be described gentle inclined. **The average elevation is between 1030-1048 m meters above sea level (masl)** over most of the prospecting area. The area is characterized by predominantly one-terrain unit that form part of the natural topography of the area. Most of the application area is partially under natural vegetation, with evidence of disturbance and eroded natural areas with little grass coverage.



Surface Water: This application area fall within the water management area of the Lower Orange (14) and secondary catchment area D33 and tertiary drainage region D33K (45 km²). There are intermittent dry water courses located on the application area (See figure below with 100m buffer zones (restriction of prospecting activities). Drainage density can be described as low to medium of 0-2 km/km². It however seems that these water bodies only seem to carry water during peak rainfall seasons. Only 0.3 ha is going to be influence by prospecting activities which is 0.04 % of the total of 632.29 ha application area. This is very low impact compare to the 45 km² drainage catchment in total.

See Figure 8 below for location of dry water courses and buffer zones

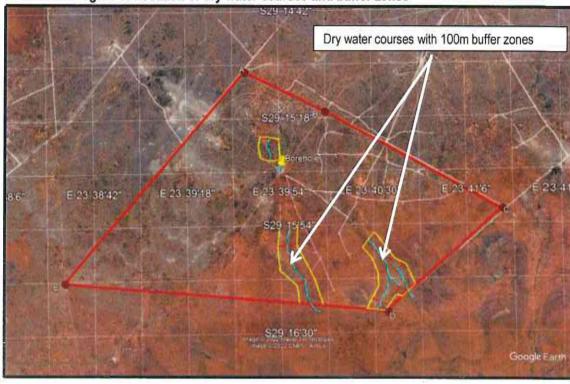


Figure 8: Location of dry water courses and buffer zones

<u>Ground Water:</u> There is a borehole on the application area used for stock watering by the landowner. The applicant indicated that he is going to a **dry prospecting method**, therefore only **potable water** is required intends to use water from the current borehole.

There is also boreholes (1) with associated a cement dam/reservoirs used for cattle and Impala's (Rooibokke) watering. River diversion is not applicable as all mining activities will be kept 100 meter horizontally away from any water body (dry water courses).



S 29° 15' 35, 04"

E 23° 39' 54, 08"

<u>Air Quality:</u> The impact on air quality will only start with the prospecting where dust from excavating and from the roads will occur. This impact will be low and will be monitored and mitigated trough wetting of the roads.

<u>Noise:</u> The impact of noise will only start with phase 2 test pits but these will be isolated and very far apart. During phase 3 when bulk sample commence the noise from the mining equipment will be generated more continues. This operation will only be in day time working hours and will have a low impact on current surroundings.

<u>Sites of Archaeological and Cultural Interest</u>: No graveyard where observed, but this need to be confirmed with the landowner.

According to NEMA's Screening Tool/Report the Environmental Sensitivty is low. There is no need for an further study to be done by a an archaeologist.

According to Section 36(3) of the National Heritage Resources Act 25 of 1999 no person may, without a permit issued by SAHRA or a provincial heritage resources authority—

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (b) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals

It is recommended that any graveyard (if found during the operations) is included in the overall management plan of the mine development. Preservation of the site will require that the area is properly demarcated with at least a 20m buffer zone placed around the graveyard in order to avoid potential damage during prospecting activities. It will be necessary to ensure that the graveyard is accessible to the relatives of the deceased. There are no major archaeological grounds to halt the proposed development. 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.

<u>Sensitive Landscapes:</u> The potential sensitive landscapes are a smaller intermittent dry stream courses on the application area. These look to be dry runs, which probably only curry water during peak rainfall seasons. Drainage density can be described as low to medium of 0-2 km/km². Only 0.3 ha is going to be influence by prospecting activities which is 0.04 % of the total of 632.29 ha application area. This is very low impact compare to the 45 km² drainage catchment in total. It is however recommended that all prospecting activities be kept 100 meter horizontally away from this course. Because if disturbed and the area do get a heavy rainfall event it can cause erosion and it the water is not contained in the natural watercourse it may cause damages to other landscape features.

<u>Visual Aspects:</u> These prospecting activities will only be visible to the landowner and neighbours and probable the people travelling the R3112 (tar road). **See Figure 9** below.

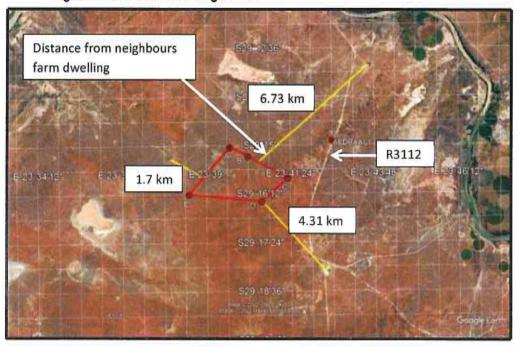


Figure 9: Distance from neighbours

<u>Social:</u> The proposed activity will employ 8 people (prospecting project manager included). Various social amenities are available close to the operation. These include schools, hospitals churches, recreation facilities as well as a Police Station at **Douglas**, which is located approximate 26 km north of the operation.

- (b) Description of the current land uses. The current land use is grazing over natural vegetation.
- (c) Description of specific environmental features and infrastructure on the site. There is not a lot of infrastructure over the application area, only fence lines, farm roads, 1 boreholes with cement dam (reservoir).

There are further no structures of infrastructure over this property. See Appendix 1(b) for an indication of the proposed main listed activities and existing/proposed infrastructure and Figure 6 – Google Earth Images for more detail of what the site looks like pre-prospecting. Access to the application area is gained via existing R357 and R 3112 tar roads south of Douglas.

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

Current land use on the application area is grazing by cattle and Impala's (Rooibokke) over natural veld. This is privately owned land (Mr. L.J. du Raan). See **Appendix 1(C)** for more detail.

### v) Impacts and risks identified

in term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(v)

The proposed project is anticipated to impact on a range of biophysical and socioeconomic aspects of the environment. The main purpose of the Scoping Report is to identify and evaluate the significance of these potential impacts and determine how they can be minimized or mitigated.

It should be noted that a comprehensive Environmental Management Program (EMPr) will be developed and implemented to regulate and minimize the direct, indirect and cumulative impacts during the construction and operational phases. The potential environmental impacts identified during the Scoping Phase, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 6** on the next page.

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[Basson Rost Mining (Pty) Ltd.- certain portion of the Remaining Extent of the Farm Probeerfontein 292]-

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(vi)

### I. Introduction:

**Table 7** describes and evaluates the effects of the different prospecting projects and the associated activities on the natural and social environments. The different environmental components, on which the project (can/may) have an impact, are:

- 1. Geology
- 2. Topography
- 3. Soil
- 4. Land Capability
- 5. Land Use
- 6. Vegetation
- Wildlife
- 8. Surface Water
- 9. Ground Water

- 10. Air Quality
- 11. Noise
- Archaeological and Cultural sites
- 13. Sensitive Landscapes
- Visual Aspects
- 15. Socio-economic Structure
- 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
- 5. Prospecting equipment (conveyor, drum screen, washing pans, generator)
- Stockpiles
- 7. Overburden dumps
- 8. Opencast pits & trenches (as part of bulk sampling)
- 9. Tailings dam (porrel dam)

### II. Environmental Impact Assessment Summary:

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

Environmental aspect	Aff	ected	Not affected
	Negligible	Substantial	
1. GEOLOGY		X	
2. TOPOGRAPHY	X		
3. SOIL		X	
4. LAND CAPABILITY		Χ	
5. LAND USE	X		The state of the s
6. VEGETATION		Х	100 mm m
7. WILDLIFE	X		The state of the s
8. SURFACE WATER			X
9. GROUND WATER	X	1 11	
10. AIR QUALITY	Χ		
11, NOISE	Х		WWW.AVA.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C
12. SENSITIVE LANDSCAPES			X
13. VISUAL ASPECTS	Х		TAP
14. SOCIO ECONOMICS	Χ		
15. INTERESTED & AFFECTED	X		
16. ARCHAEOLOGICAL			×

## Environment likely to be affected by the alternative land use

Prospecting will be a new land use over this area. The site that is earmarked for prospecting represents  $\pm$  0.3 % of the total area applied for. And it is further not foreseen that prospecting activities would disturbed an area of not more than 0.3 ha (total for 150 pits & 2 trenches) at any given time. The rest of the terrain would continue to be used for agriculture purposes by the landowner.

## Assessment of the impacts created by the prospecting activity

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

Explanation of probability of impact occurrence

Probability of	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	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 Hopetown area.
Regional	Direct and indirect impacts affecting environmental elements within Northern Cape 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	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	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts,
significance	there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for
	which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

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

**Table 7:** Description and evaluation the effects of the different prospecting projects and the associated activities on the natural and social environments

THE HALLIAI AND SC	SCIOL CHAILOUILIC	ario			
ASPECT 1. GEOLOGY	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	operation.  During operation resource (Stone Waste rock ma	n which will be for Aggregate; Gravel) w	erial is disposed off/	the mineral	
Extent	Site				Activity causing the impact
Duration	Permanent				An opencast prospecting method will be
Probability	Definite				used to extract bulk samples. Therefore the
Significance	High				original geology will be totally destroyed.
Phase responsible	Phase 1	Phase 2	Phase 3	Closure	silginal goology nin bo totally dood oyou.
for the impact		X	X		

ASPECT	IMPACTS		CUMULATIVE IMPACTS		
2. TOPOGRAPHY	]				
Nature of the impact	* Disturbance The prospectir in the creation depressions in activities will already disturb The surface dra will be disturbe	ing site is situated of the surface draing of the (Stone A) of trenches (20 m) the environment be concentrated oped areas (approximatinage is already did at a given point.	ggregate; Gravet) dep o x 60 m x ±6 m or le t that captures run-o on the application are	osits will result ss), that act as ff. Prospecting a mostly over ce drainage	
Extent	Site	**************************************			Activity causing the impact
Duration	Very long to Pe	rmanent	THE RESERVE THE PROPERTY OF TH		Bulk sampling trough trenches, etc.
Probability	Definite				
Significance	High			]	
Phase responsible for	Phase 1	Phase 2	Phase 3		
the impact		<u> </u>	X	X	

3. SOIL	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact		rea is characterize nfrastructure should			
Extent	Site				Activity causing the impact
Duration	Long				in the process of removing topsoil the soil
Probability	High				layers are mixed and the structure may be
Significance	Moderate			disturbed.	
Phase responsible	Phase 1	Phase 2			
for the impact		X			

3. SOIL	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	The establishm (demolition) of /tailings dumps Some areas al All prospecting fo be found. In the same tin prospecting su 0.03 ha for pits	listed structures s s, cause compaction ready disturbed the ng activities will cus area where (S ne a certain surfac rface area (alienals s & 0.3 ha for trenc			
Extent	Site				Activity causing the impact
Duration	Long				Site preparation for additional prospecting
Probability	High				sites and the construction, operation of
Significance	Moderate			listed infrastructure.	
Phase responsible for	Phase 1	Phase 2	Phase 3	, The state of the	
the impact		X	X	X	

ASPECT 3. SOIL	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	compacted and run-off that coul	this would lead to les d cause erosion on b e possible until such t	ain surface areas wou ser infiltration of rainw are disturbed surfaces ime a vegetation cove		
Extent	Site			Activity causing the impact	
Duration	Very short				When removing topsoil during site
Probability	Very low	TO THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRES			preparation, little storm water control
Significance	Low				structures are in place. If a severe storm
Phase responsible for	Phase 1	Phase 2	Phase 3	Cłosure	hits the area, it may lead to erosion on site.
the impact		X			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.

ASPECT	IMPACTS		CUMULATIVE IMPACTS		
3. SOIL					
Nature of the impact	Potential of s	soil contamination.			None.
Extent	Site				Activity causing the impact
Duration	Long				Vehicle/equipment breakages and
Probability	Moderate				oil/lubricant /diesel spills may contaminate
Significance	Moderate		11 1111111		soil.
Phase responsible for	Phase 1	Phase 2	ww.		
the impact		Х			

ASPECT	IMPACTS				CUMULATIVE IMPACTS
3. SOIL					
Nature of the impact	Loss of soil stru	icture			None
Extent	Site				Activity causing the impact
Duration	Long				in the process of removing topsoil the soil
Probability	High				layers are mixed and the structure may be
Significance	Moderate			disturbed.	
Phase responsible for	Phase 1	Phase 2	The state of the s		
the impact		X	Х		

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,
Probability	Definite				compaction and potential pollution
Significance	Low				(spillages form oil etc.) all may cause this
Phase responsible for	Phase 1	Phase 2	situation.		
the impact		X	X		Ī

ASPECT 4.LAND	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact	(± 0.03 ha for activities occur equipment) etc rehabilitated. All trenches wo during which tr If the old areas grazing. The re	ss of land capabile pits & 0.3 ha for tree (pits, trenches, tain will thus be tempted by the rehabilitate and the rehabilitate of the application agricultural land.			
Extent	Site				Activity causing the impact
Duration	Long				Site preparation for additional prospecting
Probability	Definite		sites and the construction, operation of		
Significance	Moderate	•	listed infrastructure, the land capability of		
Phase responsible for	Phase 1	Phase 2	Phase 3	the active prospecting area will be totally	
the impact		Х	X	X	destroyed.

ASPECT 5 LAND USE	IMPACTS		CUMULATIVE IN	//PACTS			
Nature of the impact	support grazing next 5 years available for gra would be affect prospecting righ	on a certain portion  if the old areas be  azing. Only a sma  sted by the prospent  application area of  as part of the	n and therefore will lo on of the 632.29 he re-worked this will Il portions of land (0 acting operation reta of 632.29 hectares. A prospecting proces				
Extent	Site				Activity causing to	he impact	100
Duration	Long to perman	ent			Site preparation		ng and the
Probability	Definite				construction,		of listed
Significance	Moderate		infrastructure				
Phase responsible for	Phase 1	Phase 2					
the impact		X	1				

ASPECT 6.VEGETATION	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact	Destruction :	clearance, disturbance of habitats for vegeta and spreading of exc	tion. Due to a disturb		
Extent	Site	and opiodaling of oxe	AUG GENT TOTION.		Activity causing the impact
Duration	Long				The site preparation for new sites,
Probability	Definite				construction of listed infrastructure will
Significance	High				cause destruction of habitats for vegetation.
Phase responsible for	Phase 1	Phase 2	Phase 3	Due to a disturbed ecosystem, bare ground	
the impact		X	X	and invasion of exotics could further spread.	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
6.VEGETATION					
Nature of the impact	Habitat chang	e, loss of species, spi	read of alien and inv	asive species.	THE PROPERTY OF THE PARTY OF TH
Extent	Site				Activity causing the impact
Duration	Permanent				The change in the current habitat will be
Probability	High				mitigated during final rehabilitation.
Significance	Moderate				
Phase responsible for	Phase 1	Phase 2			
the impact		X	X		

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

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

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
Probability	Very low				insects, rodents and possible birds. Most of
Significance	Low			the remaining animal life will however move	
Phase responsible for	Phase 1	Phase 2	away due to noise.		
the impact		Х	X		

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

ASPECT 8. SURFACE WATER	IMPACTS	CUMULATIVE IMPACTS
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
Probability	Moderate	on access roads will all contribute to an
Significance	Moderate	increase in the silt load on the prospecting
Phase responsible for	Phase 1 Phase 2 Phase 3 Closure	area.
the impact	XXX	area.

ASPECT 8. SURFACE WATER	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	Spillages from adequately diversed end-up in the end-up in the properties of the properties of the adjacent unlifthe adjacent surface returned surface from the	nce water quality.  vehicles and all exted away from the excavations creation ospecting process from active prospe mp) if not adequate disturbed natural vertace run-off is not e area, prospection			
Extent	Local				Activity causing the impact
Duration	Short				"Dirty / Clean" water systems at facilities
Probability	Moderate				like the overburden dumps, roads,
Significance	High			trenches, etc. may impact on the quality of	
Phase responsible for	Phase 1	Phase 2	the surface water. The water should be		
the impact		Х	X		contained in the surface runoff control measures provided therefore.

ASPECT 8. SURFACE WATER	IMPACTS			CUMULATIVE IMPACTS			
Nature of the impact	Water man. The mine quaternary mentioned have any e catchment. running thro Standing up ir See Appen courses with prospecting	surface water quantity agement area (14): falls under the pri- sub-catchment. If facts, it is not expended facts, it is not expended There are non-pended the application a ster in trenches could a shallow depression dix 1C - Map 1C when 100m buffer zones activity.	Lower Orange mary drainage reg D33K. Notwithstand oted that prospectin ries or the general rennial streams (drainea. dras the result of rains. S.				
Extent	Site		TO THE STREET OF		Activity causing the impact		
Duration	Long		·		It is an operational objective to contain or		
Probability	High				divert all surface run-offs from the active		
Significance	High				prospecting trenches area mainly due to		
Phase responsible for	Phase 1						

ASPECT	IMPACTS	CUMULATIVE IMPACTS
9. GROUND WATER		
Nature of the impact	Reduction of groundwater quality  Prospecting activities are not likely to impact on local ground-water quality. No chemicals area used during the prospecting process. Handling of waste and transport of building material can cause various types of spills (domestic waste, pit latrines, hydrocarbons) which can infiltrate and contaminate of the groundwater system.	
Extent	Site	Activity causing the impact
Duration	Long	
Probability	Definite	
Significance	High	
Phase responsible	Phase 1 Phase 2 Phase 3 Closure	
for the impact	X X X	

9. GROUND WATER					
Nature of the impact	surrounding g levels are exp Groundwater The volume of	abstraction is likely roundwater users, ected to continue cur will be abstracted for finater needed (10 e and will have a sm			
Extent	Site		1 11111111111		Activity causing the impact
Duration	Long				Opencast prospecting operation,
Probability	Low				
Significance	Hìgh				
Phase responsible for	Phase 1	Phase 2	Phase 3	Closure	
the impact		X	Х	X	

SPECT 10. AIR QUALITY	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact	excavator on to drum screen &	nerated during the properties and to a dump truck) and to washing pans) and to go fithe gravel is a sed.			
Extent	Site	THE RESERVE THE PROPERTY OF TH	C+WII - 1111/1-111 - 11		Activity causing the impact
Duration	Long	THE PERSON NAMED IN THE PE			Initial construction work with regard to
Probability	Moderate				infrastructure (roads) that involves earth
Significance	Moderate		1 11111111	moving equipment. During the phase 2 &	
Phase responsible for	Phase 1	Phase 2	3, dust could be generated as indicated		
the impact		X	X	Х	during prospecting.

ASPECT 11. NOISE	IMPACTS	CUMULATIVE	IMPACTS					
Nature of the impact	excavator on t drum screen & The mine itse more importar	enerated during the o a dump truck) and washing pans), If is located in run nce regarding the requirements in terr						
Extent	Local				Activity causing	the impact		
Duration	Long			1 1	Earth moving		and	vehicles
Probability	Definite		(trucks).	, .				
Significance	Moderate	THE PARTY OF THE P	1					
Phase responsible for	Phase 1	Phase 2	1					
the impact		X	X	Х	1			

ASPECT 12. ARCHAEOLOGICAL AND CULTURAL SITES	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact	proposed deve		ally vuinerable. It in any significant are ied on site.		The state of the s
Extent	Site				Activity causing the impact
Duration	Permanent				VII.
Probability	Definite		T-100.001-70.001-2-70.01-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2		
Significance	High				
Phase responsible for	Phase 1	Phase 2	Phase 3	Closure	
the impact		<u> Х</u>			

ASPECT 13. SENSITIVE	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	No sensitive lar	ndscapes identifie	ed.		1
Extent	Not applicable		****		Activity causing the impact
Duration	Not applicable				****
Probability	Not applicable	•	THE PERSON NAMED OF THE PE		]
Significance	Not applicable	•	The second secon		1
Phase responsible for	Phase 1	Phase 2	Phase 3	1	
the impact					

ASPECT 14.VISUAL ASPECTS	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	Prospecting will be visible to the neighbours living there. And probable the people traveling on the R 3112 (tarr road). The natural vegetation cover will also help to act as a visual screen.				
Extent	Site				Activity causing the impact
Duration	Long				Diamond prospecting operation.
Probability	Definite				· ' · '
Significance	Low				1
Phase responsible for	Phase 1	Phase 2	Phase 3	Closure	1
the impact		X	X	X	

ASPECT 15. SOCIO	IMPACTS				CUMULATIVE IMPACTS	
Nature of the impact	Increase in Socio – economic activity at local level.  The project in itself would ensure that approximately 8 workers would be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependants in the Hopetown district.  Once all prospecting operations have ceased it would definitely have a negative impact.				The increase in socio-economic activities will add to the current growth as development in Hay already created lindustry and prospecting.	
Extent	Local				Activity causing the impact	
Duration	Long				Additional employment opportunitie	
Probability	Definite				created.	
Significance	High					
Phase responsible	Phase 1	Phase 2	Phase 3	Closure		
for the impact		X	X	X		

ASPECT 15. SOCIO	IMPACTS				CUMULATIVE IMPACTS
Nature of the impact	The main impact on the landowners is visual impact and the small area of 0.33 ha that will not be available for agricultural activities (grazing by cattle or Impala's) at any given time for 5 years.				The economic benefits in terms of investment and the delivery of services in the Northern Cape province will get an additional benefit from the project.
Extent	Regional				Activity causing the impact
Duration	Very Long				The state of the s
Probability	High				
Significance	Moderate				
Phase responsible for	Phase 1	Phase 2	Phase 3	Closure	
the impact		X	Х	X	

ASPECT 16. INTERESTED & AFFECTED PARTIES	IMPACTS		CUMULATIVE IMPACTS		
Nature of the impact	purposes (grazi benefits far out- No negative im	ies on I&AP's of utilization of the ng for Cattle and Im weight the current b pact is expected tha rehabilitation of the	1		
Extent	Local				Activity causing the impact
Duration	Long		The state of the s		
Probability	High				
Significance	High				
Phase responsible for	Phase 1	Phase 2	Phase 3	Closure	urna.
the impact		Х	Х	X	

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(vii)

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

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

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

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(viii)

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

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

### **Environmental Component**

### Geology

#### Environmental Management/Mitigation Measures/Action Plans/Commitments

- · No mitigation exists except to backfill the excavations with the rock waste material and fine tallings,
- As prospecting progressed and the excavation has been back-filled, a certain amount of overburden material and topsoil
  would be placed on these areas. This will not restore the geology, but will mitigate the impact.
- Planned, systematic and thorough prospecting of the mineral resource (Stone Aggregate; Gravel) should take place.
- Optimal utilization of the mineral resource should take place within the boundaries of the prospecting terrain.
- Strip, remove and store soil and overburden as far as practical in an orderly fashion and replace as far as possible on backfilled areas, in the reverse order once decision have been taken that no further prospecting would take place in a particular
  section or which might still be traversed by vehicles and disturbed in the process. Cognisance should be taken of the fact that
  bulk sampling would take place by means of an opencast prospecting method until such level is reach / cut-off point is reach
  where rehabilitation could begin.
- •Care must be taken that the removal of (Stone Aggregate; Gravel) deposits by means of earthmoving equipment is restricted to what is really necessary to achieve the objective.

#### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

Optimal exploration of the mineral resource in order to ensure to facilitate better rehabilitation planning. The overburden and topsoil (where available) must be replaced in a responsible and planned manner in order to achieve some conformity with the surrounding undisturbed area.

### **Environmental Component**

### Topography

### Environmental Management/Mitigation Measures/Action Plans/Commitments

- All trenches should be back-filled with waste tailings material and eventually overburden material, covered with a shallow layer of topsoil (if available).
- Access to all active bulk sampling excavation areas should be controlled. The active bulk sampling area should be fenced
  off. The necessary warning signs should be put in place. All prospecting activities should be restricted to the fenced-off
  area.
- Surface run-off control should be put in place at active trenches (preventing water from entering) and also rehabilitated tailings dumps and overburden dumps in order to prevent the loss of growth medium on top of the dumps.

Prospecting would be done according to a definite PWP (only disturbing an area that is really necessary). As part of the PWP the handling of tailings material, overburden material, construction of dumps and back-filling of trenches should also form part of it.

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. As soon as a section of the prospecting site would not be explored anymore it should be rehabilitated (planned and phased manner).

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

Rehabilitation of the new and old disturbances topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. Rehabilitation in such a way that the new landscape features would be stable and would not pose any safety hazard to human and animal anymore.

**Environmental Component** 

Soil (topsoil & access roads)

Environmental Management/Mitigation Measures/Action Plans/Commitments

Handling of topsoil as a natural resource:

Any future expansion of the tranches or construction of infrastructure should be preceded by the removal of <u>all available to psoil</u>. The surface of any new areas to be disturbed must be kept to a minimum. <u>All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.</u>

Access roads, etc.:

The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. Wherever possible all topsoil should be removed and stockpiled for rehabilitation purposes. Overburden material should also be stockpiled separately if practically possible. Topsoil and overburden material should be transported to an area earmarked for rehabilitation.

## **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

Closure Objective

The topsoil removed in the site preparation process should be replaced during the rehabilitation exercise.

**Environmental Component** 

Soil (soil compaction)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Soil compaction:

The prospecting operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (exiting farm roads & roads established in consultation with the surface owner. No land would be disturbed unnecessarily.

Prospecting& rehabilitation should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

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.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EtA.

Closure Objective

Alleviation of compaction of soils would be done during rehabilitation of the prospecting terrain, including roads.

**Environmental Component** 

Soil (Soil erosion)

## Environmental Management/Mitigation Measures/Action Plans/Commitments

Soil Erosion:

To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.

**Re-vegetation of exposed soil surfaces** (man-made surfaces on tailings dumps, overburden dumps, disturb surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA

Closure Objective

No soil erosion must be visible and no potential for soil erosion must be present at closure.

### **Environmental Component**

Soil (Soil contamination)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Potential for soil contamination:

Vehicles to be inspected to ensure no oil and hydrautic fluid leaks occur.

All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity).

No servicing of vehicles must occur except on a concrete floor or over PVC lined area in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.

An incidence register for this purpose must be kept.

Drip trays must be available and used where emergency repairs is done.

### **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

### Change in Soil structure:

Ensure that all available (if any) topsoil is carefully removed in different areas.

The soil must also be compacted as backfilling is done.

No unnecessary driving outside the active prospecting area is allowed due to soil compaction that may occur.

Use organic material e.g. manure to restore the soil structure during rehabilitation.

Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation.

### 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, time and fertilizers must be implemented to restore the soil structure.

### **Environmental Component**

Soil (Soil fertility)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### 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.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

### Closure Objective

The soil must be fertile enough to sustain vegetation.

#### **Environmental Component**

**Land Capability** 

### Environmental Management/Mitigation Measures/Action Plans/Commitments

The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active prospecting site only. Remove topsoil where it is available. Take care that roads needed are restricted to one entry to the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner.

All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.

### **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

The disturbance of land must be restricted (kept to a minimum) to the planned active, fenced-off prospecting site only. Remove topsoil where it is available (shallow lithosols, like Couga and Mispah Forms).

Take care that roads are the only areas used to enter the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with surface owner.

All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

The opencast section requires the land to be totally disturbed. The replacement of tailings material, overburden and topsoit would ensure that the land is able to support some grazing.

### **Environmental Component**

Vegetation

### Environmental Management/Mitigation Measures/Action Plans/Commitments

No mitigation exists except to replace the vegetation by reseeding of grasses and natural growth.

Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA

## Closure Objective

During rehabilitation indigenous vegetation cover comprising of local plant species should be established in order to ensure a well-adapted sustainable plant cover that would be able to prevent erosion of the replaced topsoil on the disturbed prospecting site exposed surfaces, tailings dumps, etc.).

### **Environmental Component**

Vegetation

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Habitat change, loss of species, spread of alien and invasive species:

No mitigation exists except to replace the vegetation by reseeding of grasses.

Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species.

Eradicate exotic weeds and invader species (*Prosopus glandulosa* = Heuning prosopus) if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.

An invasive and alien control programme must be implemented by the mine.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

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

### **Environmental Component**

Vegetation

#### Environmental Management/Mitigation Measures/Action Plans/Commitments

Ensure that all roads on the prospecting site (utilized by prospecting vehicles) are daily sprayed with water to control dust. Site inspections to ensure the spraying are done.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

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

#### **Environmental Component**

Wildlife (habitat)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Wildlife or wildlife habitat destruction /change / disturbance :

To take care that no new or unnecessary destruction of habitats, other than the demarcated prospecting site should take place. Restoration of habitat:

Ensure the rehabilitation plan is implemented.

#### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.

### **Environmental Component**

Wildlife (injury and death)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Injury and death to wildlife:

Re-establish trees and grass cover as soon as possible during and after prospecting. Fence area off to ensure that no person can enter without permission.

Ensure that the rehabilitation plan is compiled and executed. Keep incidence register on killings and disturbances

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

### Closure Objective

The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.

### **Environmental Component**

Wildlife

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Make game catching, traps, snares, poaching and any other unnecessary disturbance of animals a disciplinary offence. All staff must undergo basic environmental awareness lecture during induction training.

Machine operators and drivers to undergo appropriate level of environmental impact training to ensure they understand their impact on the environment. Ensure all staff working on the opencast section undergo basic lecture during induction phase. Introduce the actions as listed above into disciplinary code as offence.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

#### Closure Objective

The post-closure phase must be suitable for further restoration of the newly man-made animal habitat. The area must be stable and acceptable for the return of animal- and plant life.

### **Environmental Component**

Surface Water (quality)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Change in surface water quality:

Storm water control measures must be implemented to divert clean water away from the active prospecting site and keep contaminated water contained.

Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil.

Vegetation disturbance must be as little as possible.

The PWP must be strictly adhered to.

Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.

All prospecting activities must be kept 100 meters horizontally away from any surface water body ( dry water courses).

### 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

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.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA

### Closure Objective

Ultimately rehabilitation of the disturbed prospecting site and the construction of run-off control structures in a planned and phased manner would ensure normal drainage and stability of rehabilitated site.

### **Environmental Component**

Ground Water (quality)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Reduction of groundwater quality: Storm water control measures must be implemented to divert clean water away from the site and keep (sitt) contaminated water contained.

Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. No servicing of vehicles must occur except at the workshops. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.

Storage of fuel and oil should be done according to best practices, within a bunded area and in containers of which the integrity is sound.

The prospecting processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area. The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel storage and the workshop area).

An incidence register for this purpose must be kept.

Drip trays must be available and used where emergency repairs is done.

All waste must be stored according to best practices and disposed at an authorized waste disposal facility.

### **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

Reduction of groundwater quantity, lowering of groundwater level: Water levels in the borehole that are used for prospecting activities should be recorded monthly.

Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction.

### 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

**Dust:** The prospecting method will serve as mitigation measure because prospecting will limit dust to the active prospecting area (area where the excavator and the trucks are operating).

Daily spraying of roads with water. Inspection should be done on a daily basis.

If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.

#### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA

### Closure Objective

Dust count must be the same as before prospecting. Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.

### **Environmental Component**

Noise

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Ensure the required silencers are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards.

Inspection of vehicles and machinery to ensure silencers are litted.

Ensure that a complaints register is created, managed and maintained. Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA

### Closure Objective

No noise attributed to prospecting will be generated from the site after closure anymore. During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation.

#### **Environmental Component**

Archaeological and Cultural Sites

### Environmental Management/Mitigation Measures/Action Plans/Commitments

No graves on site. The area are however identify as being high sensitive.

However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered.

All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts.

### **EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

### Closure Objective

No site of archaeological importance should be disturbed or damaged until the necessary permit from SAHRA has been issued.

### **Environmental Component**

Sensitive Landscapes

### Environmental Management/Mitigation Measures/Action Plans/Commitments

The dry water course: All prospecting activities must be kept 100 meters horizontally away from it.

#### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA.

### Closure Objective

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Visual Aspects

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Visual impact would be addressed by means of;

- re-vegetation of disturbed areas with grasses;
- \* removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. Concurrent rehabilitation should be done simultaneously as prospecting activities progress.

### EMP Performance Assessment & Monitoring Reporting

To be included in EMP/EIA,

### Closure Objective

No residual visual impacts will remain after closure. The terrain should blend in with the surrounding landscape.

**Environmental Component** 

Socio-Economics

Environmental Management/Mitigation Measures/Action Plans/Commitments

There will be a very small increase in Socio – economic activity at local level, because of the size of this prospecting activity.

**EMP Performance Assessment & Monitoring Reporting** 

To be included in EMP/EIA.

Closure Objective

The economic development must deliver a multiplier effect that will contribute to the local economy long after closure.

### **Environmental Component**

Interested and Affected Parties

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Access control should always be a priority. Active prospecting site should be fenced off and also any deep water holes.

if any problem should arise, meetings will be held with the landowners and affected parties to consult them on certain matters like permission to prospect and pollution.

No prospecting 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.

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(h)] (g)(lx)

As this is a prospecting application there will never be a final site layout as this will not be a static operation. The excavator will be moving over the application area on a grid basis in order to survey the entire prospecting area. Once phase 2 is completed and more in-depth investigation is necessary the trenches will be made, samples tested, backfilled and washing plant will be moved to the next position. Please see **Appendix 1(c)** for more detail. Please see **Appendix 1(b1) & 1(b2)** for more detail.

## x) Motivation where no alternative sites were considered

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

Alternative is not applicable. The current land use is AGRICULTURE (grazing for Cattle and Impala's ) that will continue on the farm , except in areas where active prospecting (fenced-off) is taking place . The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, Basson Rost Mining (Pty) Ltd. is not interested in any other alternative land use over this land aside for exploration of the said minerals, or any other activity, or method use other than prospecting in the conversional way, which is the most cost effective.

Please note that no additional infrastructure will be established, and therefore no alternatives for the location of infrastructure were identified.

Alternative is not applicable. There is not an alternative for the location as this is the specific area where the applicant believes minerals can be found.

The site selection for test pits and bulk sampling will have to be carefully though out and planned as this need to be done either with the necessary permit applications and in order to stay well clear for buffer zones around dry surface water courses.

The other alternative will be whether what method of processing to be used, puddle into the pans (wet method) or puddle dam (dry tailings method). The footprint of the actual disturbance on site does have the alternative where the puddle can be deposited onto a puddle dam or back into the excavations whereby the latter will have a smaller footprint. The puddle dam method however can lead to quicker rehabilitation and re-use of the land for grazing as the excavations are backfilled with dry material and immediately rehabilitated.

The applied area is the specific area need for prospecting thus no alternative. The whole of the application will be prospected, but on a grid basis, thus it will only be a small area that will be affected ant any given time. The current land use can thus continue on the rest of the unaffected areas. The current land use is natural grazing. The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, **Basson Rost Mining (Pty) Ltd** is not interested in any other alternative land use over this land aside for the exploration of the said minerals, or any other activity, or method use other than prospecting for the said minerals in the conversional way, which is the most cost effective.

### xi) Statement motivating the preferred site.

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

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

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(i)

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

The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, **Basson Rost Mining (Pty) Ltd.** is not interested in any other alternative land use over this land aside of diamonds exploration, or any other activity, or method use other than prospecting for diamonds in the conversional way, which is the most cost effective.

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

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix2 – 2. (1)[(i)](h)(a)(ii)

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

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

## Geology:

Stone Aggregate; Gravel deposits will be destroyed during the opencast prospecting operation. During operation which will be for the next 5 years, the mineral resource will be extracted from deposits. Waste rock material/overburden material is disposed off/backfilled in excavations as part of the backfilling process.

### Soil erosion:

Due to the fact that certain surface areas would become compacted and this would lead to lesser infiltration of rainwater and more run-off that could cause erosion on bare disturbed surfaces. Erosion would always be possible until such time a vegetation cover is provided during rehabilitation phase.

Temporary loss of land capability to support grazing. The small area (0.33 ha) where the active prospecting activities occur (trenches, tailings dumps, stock piles, prospecting equipment) etc. will thus be temporary alienated, until the area is rehabilitated.

All trenches would be rehabilitated as part of the prospecting process during which trenches are back-filled. The rest of the application area will still be used by the landowner (Mr. L.J. Du Raan) as agricultural land.

### Rehabilitation:

This is a new prospecting operation and therefore will lose its land use to support grazing on a certain small portion of the **632.29 hectares** during the next 5 years. Only a small portions of land (0.33 ha at a time) would be affected by the prospecting operation relation to the total prospecting right application area of 632.29 hectares. All trenches would be rehabilitated as part of the prospecting process during which excavations are back-filled.

## Wildlife or wildlife habitat destruction/change / disturbance:

Increase silt load. Clearing topsoil for footprint areas can increase infiltration rates of water to the groundwater system and decrease buffering capacity of soils to absorb contaminants from spills on surface. This can increase the risk of contamination of the groundwater system (increases aquifer vulnerability).

### Change in surface water quality:

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

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

If the natural surface run-off is not adequately diverted in the case of the dry-water course area, prospecting sections it could become silted-up.

#### Dust:

Dust will be generated during the prospecting operation (loading with an excavator on to a dump truck) and transportation to the plant (conveyor, drum screen & washing pans) and on gravel/dirt/farm roads. The processing of the gravel is a wet process and therefore minimum dust is generated.

#### Noise:

Dust will be generated during the prospecting operation (loading with an excavator on to a dump truck) and transportation to the plant (conveyor, drum screen & washing pans). The mine itself is located in rural landscape. The impact would be of more importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act.

## Archaeological/Cultural Sites:

The terrain is not archaeologically vulnerable. It is unlikely that the proposed development will result in any significant archaeological impact at the site. No graves were identified on site.

## iii. Description of aspects to be assessed by specialists

in term of NEMA - ElA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(iii)

As this is only a prospecting application and no sensitive areas or heritage areas of significance were noted on the application area there will be **no specialist studies**. All impacts noted will be mitigated.

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(iv)

A thorough foot survey and site inspection was done by the EAP and further visit will be done before compiling the EIA. Each aspect was then assessed individually with the 24 year experience of the EAP.

## v. The proposed method of assessing duration significance

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(v)

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

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(vi)

Consultation with all competent authorities will be done. The Scoping Report was send to them from the office of the EAP. This will also be done for the ElAr/EMP, whereby a copy of the document will be circulated to all competent authorities and their comment or concerns will be forwarded to DMRE for further attention.

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(vii)

- 1. Steps to be taken to notify interested and affected parties.
  - The landowner and neighbours was consulted personally and through a letter that was given to them by hand.
  - A site notice was put up at the entrance to the application area.
  - ✓ A notice for the both the Scoping and EMP report was published in the local DFA newspaper to inform the general public.
  - Copies of the Scoping Report (was) and the EMPr/EIA will be circulated to all the competent authorities for comments.

Please see Table 4 for more detail on public participation process.

Details of the engagement process to be followed.

The process as described by NEMA for Environmental Authorization was followed. See Table 4 for the Interested and Affected Party register, to be consulted with. The landowners (Mr L du Raan) and the direct neighbours was consulted personally and through written letters that will be given to them. A site notice was placed at the entrance to the application area. With this site notice all passers-by are requested to submit any written comments to be

forwarded to the consultant (still awaiting response). A notice was published in the DFA Newspaper of 14<sup>th</sup> October 2022, response is also awaited. See proof of consultation under Appendix 2. The Public Participation process is still on going and the documents will be updated as more feedback is received back. The Scoping Report was send to all relevant State Departments for evaluation. No comments were received.

3. Description of the information to be provided to Interested and Affected Parties.

A copy of the map, and Prospecting Works Programme and draft Scoping Report was handed to the neighbours and landowners. A copy of the Scoping Report was send to the State Departments.

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(viii)

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

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

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(i)](h)(a)(lx)

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

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

### Environmental Component

Geology

### Environmental Management/Mitigation Measures/Action Plans/Commitments

- . No mitigation exists except to backfill the excavations with the rock waste material and fine tailings (puddle).
- As prospecting progressed and the excavation has been back-filled, a certain amount of overburden material and topsoil would be
  placed on these areas. This will not restore the geology, but will mitigate the impact.
- Planned, systematic and thorough prospecting of the mineral resource (Diamonds, Alluvial Diamonds, Diamonds in Kimberlite, Stone Aggregate, Gravel) should take place.
- Optimal utilization of the mineral resource should take place within the boundaries of the prospecting terrain.
- Strip, remove and store soil and overburden as far as practical in an orderly fashion and replace as far as possible on back-filled
  areas, in the reverse order once decision have been taken that no further prospecting would take place in a particular section or
  which might still be traversed by vehicles and disturbed in the process. Cognisance should be taken of the fact that bulk sampling
  would take place by means of an opencast prospecting method until such level is reach / cut-off point is reach where rehabilitation
  could begin.
- Care must be taken that the removal of (Diamonds, Alluvial Diamonds, Diamonds in Kimberlite, Stone Aggregate, Gravel) deposits
  by means of earthmoving equipment is restricted to what is really necessary to achieve the objective.

## Rehabilitation/ Closure:

- \* Concurrent backfilling of the excavations (pits and trenches) with the rock waste material (overburden) and fine tailings (puddle).
- \* The impact will be mitigated by backfilling and sloping the sides of the excavation and stabilizing the soil to prevent soil erosion.
- \* The side of pit will be sloped and the soil stabilized to prevent erosion.
- \* Rehabilitation of the new sloped landscape in such a way that it would blend in with the surrounding landscape.

### Closure Objective

Optimal exploration of the mineral resource in order to ensure to facilitate better rehabilitation planning. The overburden and topsoil (where available) must be replaced in a responsible and planned manner in order to achieve some conformity with the surrounding undisturbed area.

### **Environmental Component**

Topography

### Environmental Management/Mitigation Measures/Action Plans/Commitments

- All trenches should be back-filled with waste tailings (puddle) material and eventually overburden material, covered with a shallow layer of topsoil (if available).
- Access to all active bulk sampling excavation areas should be controlled. The active bulk sampling area should be fenced off.
   The necessary warning signs should be put in place. All prospecting activities should be restricted to the fenced-off area.
- Surface run-off control should be put in place at active trenches (preventing water from entering) and also overburden dumps in
  order to prevent the loss of growth medium on top of the dumps.

Prospecting would be done according to a definite PWP (only disturbing an area that is really necessary). As part of the PWP the handling of tailings material (puddle), overburden material, construction of dumps and back-filling of trenches should also form part of it.

### Rehabilitation/ Closure:

- All trenches should be back-filled with waste tailings (puddle) material and eventually overburden material, covered with a shallow layer of topsoil (if available).
- Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue.
- As soon as a section of the prospecting site would not be explored anymore it should be rehabilitated (planned and phased manner).

### Closure Objective

Rehabilitation of the new disturbances topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. Rehabilitation in such a way that the new landscape features would be stable and would not pose any safety hazard to human and animal anymore.

## **Environmental Component**

Soil (topsoil & access roads)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Handling of topsoil as a natural resource:

Any future expansion of the trenches or construction of infrastructure should be preceded by the removal of <u>all available topsoil</u> (shallow Lithosols).

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.

### Access roads, etc:

The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. Wherever possible all topsoil should be removed and stockpiled for rehabilitation purposes. Overburden material should also be stockpiled separately if practically possible. Topsoil and overburden material should be kept next to open excavations for easy backfilling and rehabilitation.

## Rehabilitation/ Closure:

### Closure Objective

The topsoil removed in the site preparation process should be replaced during the rehabilitation exercise.

#### **Environmental Component**

Soil (soil compaction)

Environmental Management/Mitigation Measures/Action Plans/Commitments

#### Soil compaction:

The prospecting operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area.

Access roads towards the sites would be restricted only to the roads (exiting farm roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily.

Prospecting & rehabilitation should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

### Rehabilitation/ Closure:

Compaction of soil surface areas would be alleviated once rehabilitation of certain area starts.

Certain roads would probably remain for access (in consultation with the surface owner). Those that would not be required would be ripped and rehabilitated.

#### Closure Objective

Alleviation of compaction of soils would be done during rehabilitation of the prospecting terrain, including roads.

### **Environmental Component**

Soil (Soil erosion)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Soil Erosion:

To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.

#### Rehabilitation/ Closure:

Re-vegetation of exposed soil surfaces (man-made surfaces such as tamps overburden dumps, disturb surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.

### Closure Objective

No soil erosion must be visible and no potential for soil erosion must be present at closure.

### **Environmental Component**

Soil (Soil contamination)

#### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Potential for soil contamination:

Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur.

No servicing of vehicles must occur except on a concrete floor or over PVC lined area in an area allocated for that.

Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.

An incidence register for this purpose must be kept.

Drip trays must be available and used where emergency repairs is done.

### Rehabilitation/ Closure:

All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity).

### Closure Objective

No soil contamination must be visible or known before closure can be given.

#### **Environmental Component**

Soil (Soil structure)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

#### Change in Soil structure:

Ensure that all available (if any) topsoil is carefully removed in different areas.

The soil must also be compacted as backfilling is done.

No unnecessary driving outside the active prospecting area is allowed due to soil compaction that may occur.

### Rehabilitation/ Closure:

The soil must also be compacted as backfilling is done.

Use organic material e.g. manure to restore the soil structure during rehabilitation (if available).

Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation.

### Closure Objective

No compaction of any roads or any other area must be present during closure. If the soil structure is disturbed mitigation measures e.g. the use of organic material, lime and fertilizers must be implemented to restore the soil structure.

### **Environmental Component**

Soil (Soil fertility)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### 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.

### Rehabilitation/ Closure:

See above section: Soil fertility: Environmental Management/Mitigation Measures/Action Plans/Commitments

#### Closure Objective

The soil must be fertile enough to sustain vegetation.

### **Environmental Component**

Land Capability

### Environmental Management/Mitigation Measures/Action Plans/Commitments

The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active prospecting site only. Remove topsoil where it is available. Take care that roads needed are restricted to one entry to the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner.

### Rehabilitation/ Closure:

All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR).

Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.

### Closure Objective

Rehabilitated to the state that it is suitable for the predetermined and agreed land capability.

### **Environmental Component**

Land Use

### Environmental Management/Mitigation Measures/Action Plans/Commitments

The disturbance of land must be restricted (kept to a minimum) to the planned active, fenced-off prospecting site only. Remove topsoil where it is available.

Take care that roads are the only areas used to enter the area for prospecting purposes. If new land is used for roads to enter the area it must be done in consultation with surface owner.

### Rehabilitation/ Closure:

All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR).

Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented.

### Closure Objective

The opencast mining requires the land to be totally disturbed. The replacement of tailings material, overburden and topsoil would ensure that the land is able to support some grazing.

#### **Environmental Component**

Vegetation

### Environmental Management/Mitigation Measures/Action Plans/Commitments

No mitigation exists except to replace the vegetation by reseeding of grasses and natural growth.

Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

### Rehabilitation/ Closure:

Replace the vegetation by reseeding of grasses and natural growth.

#### Closure Objective

During rehabilitation indigenous vegetation cover comprising of local plant species should be established in order to ensure a well-adapted sustainable plant cover that would be able to prevent erosion of the replaced topsoil on the disturbed prospecting site exposed surfaces, tailings dumps, etc.).

#### **Environmental Component**

Vegetation

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Habitat change, loss of species, spread of alien and invasive species:

No mitigation exists except to replace the vegetation by reseeding of grasses.

Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

An invasive and alien control programme must be implemented by the mine.

### Rehabilitation/ Closure:

Replace the vegetation by reseeding of grasses and natural growth.

Habitat change, loss of species, spread of alien and invasive species:

No mitigation exists except to replace the vegetation by reseeding of grasses.

Prospecting should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required.

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive

Eradicate exotic weeds and invader species if it (like Prosopus glandulosa (heuningprosopis) 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.

### Closure Objective

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

**Environmental Component** 

Vegetation

Environmental Management/Mitigation Measures/Action Plans/Commitments

Ensure that all roads on the prospecting site (utilized by prospecting vehicles) are daily sprayed with water to control dust. Site inspections to ensure the spraying are done.

### Rehabilitation/ Closure:

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

### Closure Objective

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

### **Environmental Component**

Wildlife (habitat)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Wildlife or wildlife habitat destruction /change / disturbance :

To take care that no new or unnecessary destruction of habitats, other than the demarcated prospecting site should take place.

### Rehabilitation/ Closure:

Restoration of habitat: Ensure the rehabilitation plan is implemented

#### Closure Objective

The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.

#### **Environmental Component**

Wildlife (Injury and death)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Injury and death to wildlife:

Keep incidence register on killings and disturbances.

### Rehabilitation/ Closure:

Re-establish trees and grass cover as soon as possible during and after prospecting. Fence area off to ensure that no person can enter without permission.

Ensure that the rehabilitation plan is compiled and executed

#### Closure Objective

The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area.

### **Environmental Component**

Wildlife

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Make game catching, traps, snares, poaching and any other unnecessary disturbance of animals a disciplinary offence. All staff must undergo basic environmental awareness lecture during induction training.

Machine operators and drivers to undergo appropriate level of environmental impact training to ensure they understand their impact on the environment. Ensure all staff working on the opencast section undergo basic lecture during induction phase. Introduce the actions as listed above into disciplinary code as offence.

## Rehabilitation/ Closure:

All staff must undergo basic environmental awareness lecture (rehabilitation) during induction training.

### Closure Objective

The post-closure phase must be suitable for further restoration of the newly man-made animal habitat. The area must be stable and acceptable for the return of animal- and plant life.

#### **Environmental Component**

Surface Water (quality)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

### Change in surface water quality:

Storm water control measures must be implemented to divert clean water away from the active prospecting site and keep contaminated water contained.

Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil.

Vegetation disturbance must be as little as possible.

All domestic waste must be collected in bins and taken off site to Wolmaransstad licensed waste disposal site.

All used oils and filters must be collected and responsibly recycled.

The PWP must be strictly adhered to.

Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.

### Rehabilitation/ Closure:

Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil.

Once the area is rehabilitated the surface run-off will be restored and normal clean water run-off will end-up in the drainage system. Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.

### Closure Objective

The post closure water run-off may in no circumstance impact negatively on the water quality.

### **Environmental Component**

Surface Water (quantity)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Change in surface water quantity: Once the area is rehabilitated the surface run-off will be restored and normal clean water run-off will end-up in the drainage system.

Once the area is rehabilitated the normal surface run-off drainage will be restored according to rehabilitation plan.

The disturbed surface area must be rehabilitated to ensure some normal drainage.

Minimal run-off should end-up in trenches.

All prospecting activities must be kept 100 meters horizontally away from any surface water body (dry water courses).

## Rehabilitation/ Closure:

Water control structures must be well designed and constructed to ensure a minimum down wash of topsoil.

Once the area is rehabilitated the surface run-off will be restored and normal clean water run-off will end-up in the drainage system. Re-vegetation to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan. Final rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources.

### Closure Objective

Ultimately rehabilitation of the disturbed prospecting site and the construction of run-off control structures in a planned and phased manner would ensure normal drainage and stability of rehabilitated site.

## **Environmental Component**

Ground Water (quality)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Reduction of groundwater quality: Storm water control measures must be implemented to divert clean water away from the site and keep (silt) contaminated water contained.

Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately.

No servicing of vehicles must occur except at the workshops.

Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.

Storage of fuel and oil should be done according to best practices, within a bunded area and in containers of which the integrity is sound.

The prospecting processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area.

The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel car and the workshop area).

An incidence register for this purpose must be kept.

Drip trays must be available and used where emergency repairs is done.

All waste must be stored according to best practices and disposed at an authorized waste disposal facility.

### Rehabilitation/ Closure:

All oil spills on soil to be removed and bio-remediate immediately.

All waste must be stored according to best practices and disposed at an authorized waste disposal facility.

### Closure Objective

Post water quality need to indicate a positive trend/improvement.

#### **Environmental Component**

Ground Water (quantity)

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Reduction of groundwater quantity, lowering of groundwater level: Water levels in the borehole that are used for prospecting activities should be recorded monthly.

Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction.

Water will be supplied via a tanker.

### Rehabilitation/ Closure:

Post water quality need to indicate a positive trend/improvement

### Closure Objective

Post water quality need to indicate a positive trend/improvement.

### **Environmental Component**

Air Quality

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Dust: The prospecting method will serve as mitigation measure because prospecting will limit dust to the active prospecting area (area where the excavator and the trucks are operating).

Daily spraying of roads with water. Inspection should be done on a daily basis.

If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water

### Rehabilitation/ Closure:

Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.

## Closure Objective

Dust count must be the same as before prospecting. Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.

### **Environmental Component**

Noise

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Ensure the required silencers are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards.

Inspection of vehicles and machinery to ensure silencers are fitted.

Ensure that a complaints register is created, managed and maintained.

Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition.

### Rehabilitation/ Closure:

During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation.

### Closure Objective

No noise attributed to prospecting will be generated from the site after closure anymore. During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation.

### **Environmental Component**

Archaeological and Cultural Sites

Environmental Management/Mitigation Measures/Action Plans/Commitments

No graveyard found on site.

However, the potential occurrence of OTHER unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered. All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts. No activities should take place 20 m from the site. The area are however identify as being high sensitive.

However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered.

All excavator operators must be sensitized as to identify and report any occurrence of such sites of artefacts.

### Rehabilitation/ Closure:

A 20m buffer zone must be marked around any graveyard in order to avoid potential damage during prospecting activities

Closure Objective

No site of archaeological importance should be disturbed or damaged until the necessary permit from SAHRA has been issued.

#### **Environmental Component**

Sensitive Landscapes

Environmental Management/Mitigation Measures/Action Plans/Commitments

Dry water courses t: - All prospecting activities must be kept 100 meters horizontally away from it.

### Rehabilitation/ Closure:

No impact = no rehabilitation necessary

Closure Objective

No surface water bodies, its flow or stream areas must be disturbed during the prospecting activities.

### **Environmental Component**

Visual Aspects

### Environmental Management/Mitigation Measures/Action Plans/Commitments

Visual impact would be addressed by means of;

\* re-vegetation of disturbed areas with grasses; re-establish vegetation cover as soon as possible after closure of excavations \* removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

Concurrent rehabilitation should be done simultaneously as prospecting activities progress.

### Rehabilitation/ Closure:

Visual impact would be addressed by means of;

- \* re-vegetation of disturbed areas with grasses; re-establish vegetation cover as soon as possible after closure of excavations.
- \* removal of any temporary building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

  Concurrent rehabilitation should be done simultaneously as prospecting activities progress.

Closure Objective

No residual visual impacts will remain after closure. The terrain should blend in with the surrounding landscape,

## ) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

In term of NEMA - EIA Regulations No. 326 of 7 April 2017 - Reg. 21, Appendix2 - 2. (1)[(j)](i), [(k)](j), [(l)](k), [(m)](l)

### **UNDERTAKING**

- I, H.M. Erasmus, the undersigned and duly authorised thereto by <u>DERA</u>
  <u>Omgewingskonsultante (Pty) Ltd.</u> 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 of November 2022.

Hiew

Signature of EAP

-END-

JERRY DEAN MENIN
OFFICE MANAGER / AUDITOR
COMMISSIONER OF OATHS / KOMMISSARIS VAN EDE
Appointed in terms of Section 5(1) of Act, 16 of 1963
Aangestel in terms van Artikel 5(1) van Wet 16 van 1963
Centrallaan 32 Central Avenue, Flamwood, Klerksdorp
Appointed/Aangestel: 23 Oktober 2012
Reference/Verwysing: 9/1/8/2 Klerksdorp