



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND 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: **Electri City Mining (Pty) Ltd.**

TELNO: **083 572 3025**

FAX NO: -

PHYSICAL ADDRESS: **Postnet Suite 205, Private Bag X507, Kathu 8446**

FILE REFERENCE NUMBER SAMRAD: **NC30/5/1/1/2/12454 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

2. Contact Person and correspondence address

a) Details of:

i) The EAP who prepared the report

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

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

Mr Daan Erasmus

Tel No.: 018-468 5355

Fax No. : 018-468 4015

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

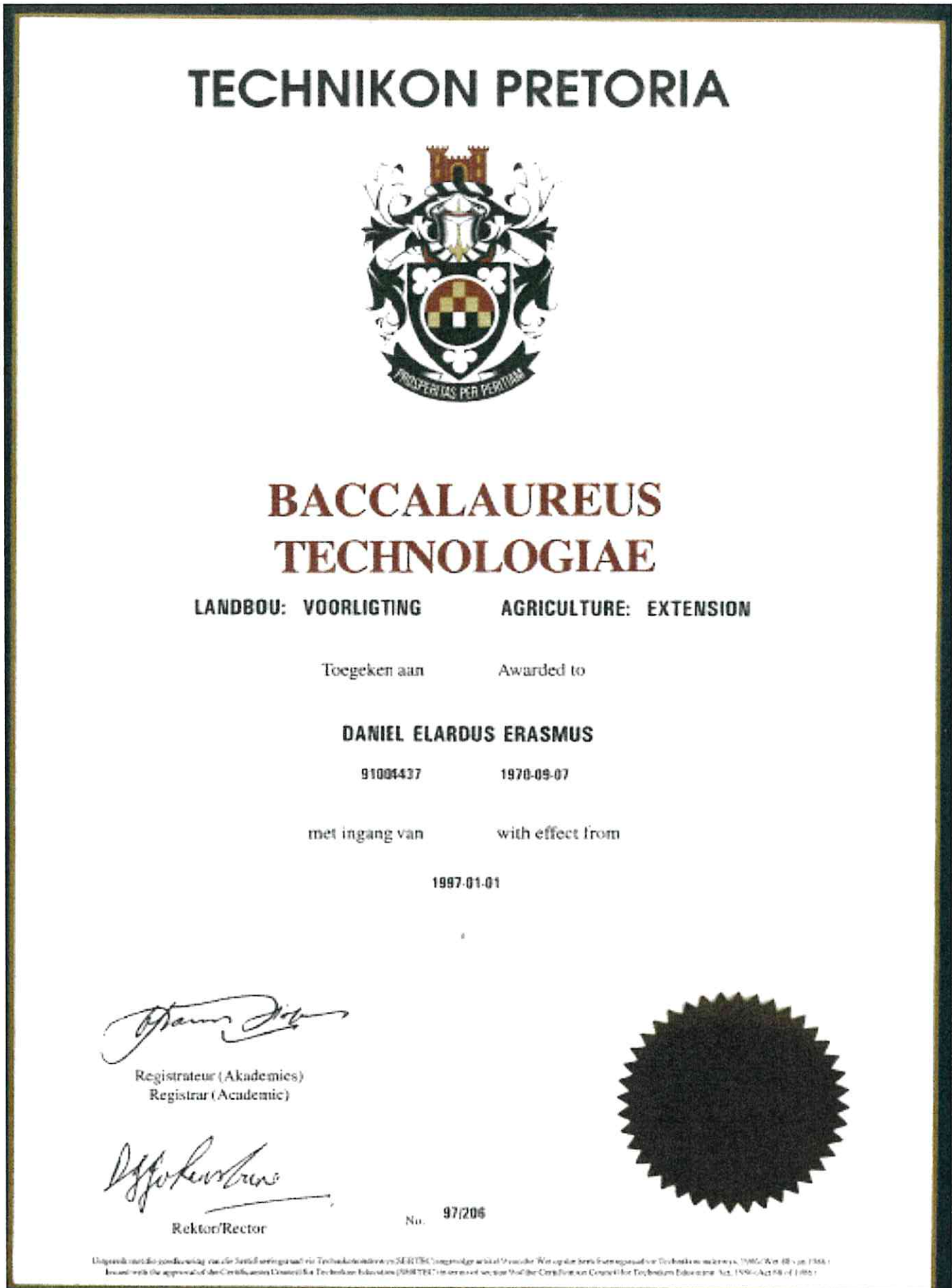
ii) Expertise of the EAP.

(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)

See next page for copy of qualification, Figure 1.

Figure 1 – Copy of Qualification



TECHNIKON
PRETORIA



TECHNIKON
PRETORIA

NASIONALE NATIONAL DIPLOMA

LANDBOU: HULPBRONBENUTTING

AGRICULTURE: RESOURCE UTILIZATION

Toegeken aan

Awarded to

DANIEL ELARDUS ERASMUS

91004437

7009075033088

met ingang van

with effect from

1994-01-01

Die volgende is voltooi

The following were completed

(In the Afrikaans version)

(In the English version)

Landbou-ekonomie I, II en III
Voorligtingsmetodiek I en II
Akkerbou I, II en III
Weidingkunde A
Bodembepanning I en II
Bodembewaring I
Grondkunde I en II
*Meganisasie
Fisiese Wetenskap
Melkproduksietegnologie
Vleisheesproduksietegnologie
Kleinveesproduksietegnologie
Grondklassifikasie III

Agricultural Economics I, II and III
Extension Method I and II
Field Husbandry I, II and III
Pasture Science A
Land Use Planning I and II
Soil Conservation I
Soil Science I and II
Mechanisation*
Physical Science
Milk Production Technology
Beef Production Technology
Small Stock Production Technology
Soil Classification III

Minimum Opleidingstydperk: 3 Jaar
Minimum Training Period : 3 Years

SERTEC
Uitvoerende Direkteur/
Executive Director

Nr /No. ND1117/94

TECHNIKON
Rektor/Rektor

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

See Figure 2 below Curriculum Vitae of D. E. Erasmus.

27 Lewis Street
Wekoppies
Klerksdorp

Phone +2718-468-6365
Fax +2718-468-4015
E-mail: dena@esnet.co.za

DAAN ERASMUS

Curriculum Vitae Daniël Elardus Erasmus

February 2015

Personal Information

Name: Daniël Elardus Erasmus
 Date of Birth: 7 September 1970
 Place of Birth: Ottosdal, North West Province, South Africa
 Marital Status: Married with two children

Secondary & Post Secondary Education

1983-1988 Wolmaransstad High School, North West, SA
 Higher School Certificate – with Full Exemption

Subjects: English Afrikaans
 Mathematics Science
 Geography Accounting

1989-1990 Military Service, Potchefstroom, SA
 Artillery Division
Officers Course: II Lieutenant

1991-1994 Technikon Pretoria, Pretoria, SA
National Diploma
 Agriculture: Resource Utilization

Subjects: Agricultural Economics I, II and III
 Extension Method I, II and III
 Field Husbandry I, II and III
 Pasture Science A
 Land Use Planning I and II
 Soil Conservation I
 Soil Science I and II
 Mechanization
 Physical Science
 Milk Production Technology
 Beef Production Technology
 Small Stock Production Technology
 Soil Classification III
 Computer Application I

1996 Technikon Pretoria, Pretoria, SA
Baccalaureus Technologiae
 Agriculture: Extension
 Agricultural Resource Conservation Act in the North West Province of SA; management of personnel and personnel related matters; management of budget of regional office in Potchefstroom; monitoring mine rehabilitation and environmental management out of agricultural point of view; management and control of declared weeds and invader species.

2003-Present Began own company – DERA Environmental Consultants. Main scope of business: Compiling and submission of mining related applications; Manage and compile legal environmental documents. Further doing monitoring work to evaluated compliance to environmental legislation; evaluating outstanding rehabilitation liabilities for mining companies.
 Assist legal companies in determining environmental damage. Do assessment for closure applications. Give guidance in rehabilitation practices. Compile applications and basic assessment reports for chicken broilers and feed lots based on experience form management of the natural resources and the mitigation of impacts.

b) Location of the activity

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

(i) 21 digit Surveyor General Code for each farm portion	C0310000000039200000																																																			
(ii) Farm Name:	Waaiohoek 392 ✓ Remaining Extent.																																																			
(iii) Coordinates - Co-ordinates List WG 27°	<table border="1"> <thead> <tr> <th colspan="3">CO-ORDINATE LIST WG 23°</th> </tr> <tr> <th>NAME</th> <th>Y</th> <th>X</th> </tr> </thead> <tbody> <tr><td>A</td><td>-25571.19</td><td>3219565.37</td></tr> <tr><td>B</td><td>-31526.66</td><td>3221930.80</td></tr> <tr><td>C</td><td>-31494.87</td><td>3222455.74</td></tr> <tr><td>D</td><td>-27206.64</td><td>3223363.69</td></tr> <tr><td>E</td><td>-27167.34</td><td>3223098.41</td></tr> <tr><td>F</td><td>-26830.04</td><td>3223144.64</td></tr> <tr><td>A</td><td>-25571.19</td><td>3219565.37</td></tr> <tr> <th>NAME</th> <th>LAT</th> <th>LONG</th> </tr> <tr><td>A</td><td>-29.092636</td><td>23.262666</td></tr> <tr><td>B</td><td>-29.113843</td><td>23.324012</td></tr> <tr><td>C</td><td>-29.118581</td><td>23.322596</td></tr> <tr><td>D</td><td>-29.126871</td><td>23.279558</td></tr> <tr><td>E</td><td>-29.124468</td><td>23.279148</td></tr> <tr><td>F</td><td>-29.124903</td><td>23.279883</td></tr> <tr><td>A</td><td>-29.092636</td><td>23.262666</td></tr> </tbody> </table>	CO-ORDINATE LIST WG 23°			NAME	Y	X	A	-25571.19	3219565.37	B	-31526.66	3221930.80	C	-31494.87	3222455.74	D	-27206.64	3223363.69	E	-27167.34	3223098.41	F	-26830.04	3223144.64	A	-25571.19	3219565.37	NAME	LAT	LONG	A	-29.092636	23.262666	B	-29.113843	23.324012	C	-29.118581	23.322596	D	-29.126871	23.279558	E	-29.124468	23.279148	F	-29.124903	23.279883	A	-29.092636	23.262666
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Application area (Ha)	1011.5145 ha																																																			
Magisterial district:	The area is situated in the Hay District of the Northern Cape. Griekwastad (Afrikaans for "Griqua city") is the nearest town to the application area. The town is in the Northern Cape Province of South Africa 168 kilometres (104 mi) by road west from the city of Kimberley																																																			
Distance and direction from nearest town	Approximately 36.3 km north of Griekwastad.																																																			
Minerals applied for	Alluvial Diamonds (DA) & Diamonds in Kimberlite (DK).																																																			

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)

See Appendix 1(a) - Locality Map indication where the applied area are situated within the district of Hay, Free State and Appendix 1(b) – Infrastructure and Activity Map indication applied area with attached coordinates of the area.

Appendix 1(a) – Locality Map
&
Appendix 1(b) – Infrastructure and Activity 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: the Remaining Extent of the farm Waaiohoek 392, 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 probably used for grazing. There are not a lot of infrastructure over the application area, only fence lines, farm roads and there are cement dam and two small structures located near the southern fence. There are further no structures of infrastructure over this property. The scope of the prospecting activities will entail that the prospecting area will be identified through geological surveys and mapping. The extent of the prospecting area is 1101 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. The prospecting phase will only be: Phase 1 – Geological desktop studies and surveys, Phase 2 – Test pits and Phase 3 – Bulk Sampling. See Appendix 1(b) for an indication of the proposed main listed activities and existing/proposed infrastructure and Figure 3 – Google Earth Images for more detail of what the side looks like pre-prospecting. Access to the application area is gained via existing roads 36,3 km south out of Griekwastad. 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.

Appendix 1(b) – Infrastructure and Activity Map

&

Figure 3 – Google Earth Images



i) Listed and specified activities

Table 1: Listed Activities

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

NAME OF ACTIVITY	Aerial extent of the Activity (Ha or m ²)	LISTED ACTIVITY	APPLICABLE LISTING
<p>Listing 1 – Activity 20: Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including—</p> <p>(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource[,] ; or [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]</p> <p>(b) <u>the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;</u> <u>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.</u></p>	1011 ha	X	327
<p>Listing 1 – Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>Plant area where washings pans and stockpiles will be</p>	2 ha	X	327
<p>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—</p> <p>(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource [,] ; or</p> <p>(b) [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] <u>the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;</u> <u>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.</u></p> <p>Stockpiles of topsoil next to the open excavation</p> <p>Roads within the prospecting area</p> <p>Ablution facilities, chemical and flush toilets</p> <p>Test pits been excavated and trenches for the bulk sampling</p> <p>Temporary office buildings</p>	2 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 2: Description of Activities to be followed

Activities	Description of phases	Associated structures and infrastructures
Phase 1	Geological desktop studies and surveys in order to try and identify the gravel run. Various geological maps and instruments will be used to identify if alluvial gravel deposits and or kimberlite pipes might be present on the application area. 12 Months needed for phase 1.	No infrastructure.
Phase 2	In Phase 2 test pits will be made (2 m x 2 m x ± 5m deep), on a grid of 100 x 100meters and where necessary on a 50 x 50 meters grid where the gravel outcrops. These test pits are made with a 30 ton excavator, to determine if any diamond bearing gravel does occur. This test pits will be closed up immediately before the excavator move on to the next one. 12 Months are needed for Phase 2	The topsoil and grass will be cleaned on the small area of 2 m x 2 m x 3.5 m 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.
Phase 3	In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. Trenching will be used to open the gravel in order to get a representative sample for testing. The trenches will be 10 x 60 x ± 5 m (deep). In one trench ± 3000m ³ (4800 ton) gravel will be exposed and tested with a 16 feet washing pan at a rate of 15m ³ (24 ton) an hour. The total prospecting area is 1011hectares, thus it is anticipated that a total of 30 000m ³ (48 000ton) will be tested by making trenches on different locations over the whole prospecting area, where the possibility of diamond bearing gravel were identified with the test pits. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 2400m ³ a month. The processing of 30 000m³ will take about 22 months for Phase 3 including the rehabilitation.	The washing pan will be on the plant area with stockpiles.

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
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 19, Listing 2
National Environmental Management Act, 1998 (Act 107 of 1998): Environmental Impact Assessment Regulations, 2014 (G38282 – R982-985) EA Authorization and EI/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
National Water Act, 1998 (Act 36 of 1998) Application for Water abstraction for prospecting use	Section 21 (a)
Conservation of Agricultural Resources Act No 43 of 1983 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
National Heritages Resources Act, 1999 (Act 25 of 1999) Compliance to Act and Regulations during course of activities. Ensure that no graves or heritage site will be disturbed.	Section 36

f) Need and desirability of the proposed activities.

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

The applicant believes that the applied area has prospects for: *Alluvial Diamonds and Diamonds in Kimberlite* as applied for. According to NEMA's Screening Tool/Report there are three sensitivity features that need to be taken into consideration when prospecting over this area. The first being the occurrence of archaeological and cultural heritage sites and/or artefacts and the second being palaeontology and the third being terrestrial biodiversity. There are further a two smaller tributary feeding the Orange River that cuts through the 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 Schmidtsdrif. 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 made during phase 2, and followed by bulk sampling of phase 3 and washing/sampling will take place. The duration of the activities will be 4 years.

g) Period for which the environmental authorization is required

Four (4) years.

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

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

The prospecting area was identified through aerial photographs. The extent of the prospecting area will be 1101 hectares. Information from Geological surveys will be used in order to determine where the test pits will take place. This will in turn help to determine the boundaries of the proposed prospecting area for more detailed surveying.

PHASE 1:

Geological desktop studies and surveys in order to try and identify the gravel run. Various geological maps and instruments will be used to identify if alluvial gravel deposits and or kimberlite pipes might be present on the application area. **12 Months needed for phase 1.**

PHASE 2:

In Phase 2 test pits will be made (2 m x 2 m x ± 5m deep), on a grid of 100 x 100meters and where necessary on a 50 x 50 meters grid where the gravel outcrops. These test pits are made with a 30 ton excavator, to determine if any diamond bearing gravel does occur. These test pits will be closed up immediately before the excavator move on to the next one. **12 Months are needed for Phase 2.**

PHASE 3:

In order to determine if the gravel does have diamonds the gravel needs to be taken out and tested, by putting it through the washing process. Trenching will be used to open the gravel in order to get a representative sample for testing. The trenches will be 10 x 60 x ± 5 m (deep). In one trench ± 3000m³ (4800 ton) gravel will be exposed and tested with a 16 feet washing pan at a rate of 15m³ (24 ton) an hour. The total prospecting area is 1011hectares, thus it is anticipated that a total of 30 000m³ (48 000ton) will be tested by making trenches on different locations over the whole prospecting area, where the possibility of diamond bearing gravel were identified with the test pits. Taken at an 8 hour working day, 5 days a week and 20 days a month, the applicant will be able to process 2400m³ a month. **The processing of 30 000m³ will take about 22 months for Phase 3 including the rehabilitation.**

i) 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. 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.

(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 portion only.

(b) the type of activity to be undertaken
The type of activity is in line with the submitted Prospecting Programme.

(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.

(d) the technology to be used in the activity
The technology used in the activity will as described in the Prospecting Programme and the best options will be determined by the applicant.

(e) the operational aspects of the activity, and
The operational aspect is only the prospecting for the said minerals on this specific area.

(f) the option of not implementing the activity
This option might only be possible if the applicant decide to abandon the project.

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 3** below for the identification of Interested and Affected Parties to be consulted with. The landowner (Louis Botha Eiendoms Trust), 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 26th November 2019, 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. No comments were received.

Appendix 2 – Proof of consultation

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

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

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an "X" where those who must be consulted were in fact consulted.	Date sent and/or Comments Received	Issues raised	EAP's response to the applicant
AFFECTED PARTIES			
Landowner/s	X		
Louis Botma Eiendoms Trust (Landowner on the farm Waaihoek) Mr. Louis Botma P.O. Box 148, Griekwastad, 8365 Cell: 082 443 0526	12 Sep 2019	No objection, see signed consultation letter attached.	
Lawful occupier/s of the land			
Landowners or lawful occupiers on adjacent properties	X		
(Neighbour)			
Municipal councillor			
Municipality	X		
Siyancuma Local Municipality Municipal Manager: Mr. H.F. Nel Fax: 053 298 3141; Tel: 053 298 1810	14 Oct 2019	Consultation letter to Mr. Nel.	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Teikom, DWA.			
Eskom			
Communities			
Dept. Land Affairs	X		
Ms. Ruwayda Baulackey Tel: 053 807 5700; E-mail: baulackey@drdlr.gov.za	14 Oct 2019	E-mail sent to verify any land claims	
Traditional Leaders			
N/A			
Dept. Agriculture, Land Reform and Rural Development	X		
Head of Department Cynthia Fortune 162 George Street, Private Bag X 5018, Kimberlite Building, Kimberley, 8300 Tel: 053 838 9100; Fax: 053 831 4685	27 Nov 2019	Scoping sent with Courier Guy for comments	No comments received
Dept. Water and Sanitation			
Chief Director: Northern Cape Mr. Abe Abrahams 28 Central Road, Beaconsfield, Kimberley, 8300 Tel: 053-830 8800; E-mail: AbrahamsA@dws.gov.za	27 Nov 2019	Scoping sent with Courier Guy for comments	No comments received
Dept. Agriculture, Forestry and Fisheries	X		
Attention: Mr. A.M. Tawana Head of Department, 162 George Street, Kimberley Building, Kimberley, 8300 Tel: 053-839 7806; E-mail: atawana@ncpg.gov.za	27 Nov 2019	Scoping sent with Courier Guy for comments	No comments received

[ELECTRICITY CITY MINING (PTY) LTD – WAAIHOEK 392 (RE) – NC30/5/1/1/2/12454 PR]

Other Competent Authorities				
OTHER AFFECTED PARTIES				
INTERESTED PARTIES				

Notice published in the DFA Newspaper of 26th November 2019

iv) The Environmental attributes associated with the sites

(1) Baseline Environment

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

Introduction:

The purpose of this section is to provide information on the environment in which the proposed 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 the: **Waaiohoek 392** (Remaining Extent) the area is characterized as natural veld used as grazing land.

Magisterial District:

The area is situated in the **Hay** District of the Northern Cape. Griekwastad (Afrikaans for "Griqua city") is the nearest town to the application area. The town is in the Northern Cape Province of South Africa 168 kilometres by road west from the city of Kimberley.

Direction from neighbouring town:

The driving direction is as follows: 41 min (36.3 km) via the town of Griekwastad. Head east for 550 m. Turn right drive 170 m. Turn right drive 21.9 km. Turn left continue for 5.0 km. Turn right and drive 4.4 km. Turn left the proposed site will be on the left after 4.3 km at -29.118581, 23.323596.

Longitude (approximate centre of prospecting site):

23.323596° E

Latitude (approximate centre of prospecting site):

-29.118581° S

Existing Surface Infrastructure:

The structures found over this area are only boundary fence lines and a gravel road that cuts through the middle of the application area. There seem to be a small farm shed located some 230 m from the centre southern boundary fence, with a cement dam. 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 3** – Google Earth Images for more detail of what the site looks like pre-prospecting. Access to the application area is gained via existing gravel roads south of Griekwastad town.

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

(its current geographical, physical, biological, socio- economic, and cultural character).

According to VEGMAP (2006) the 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 1996).

Distribution: 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 Griqualand West. Altitude varies mostly from 1 000- 1 500 m.

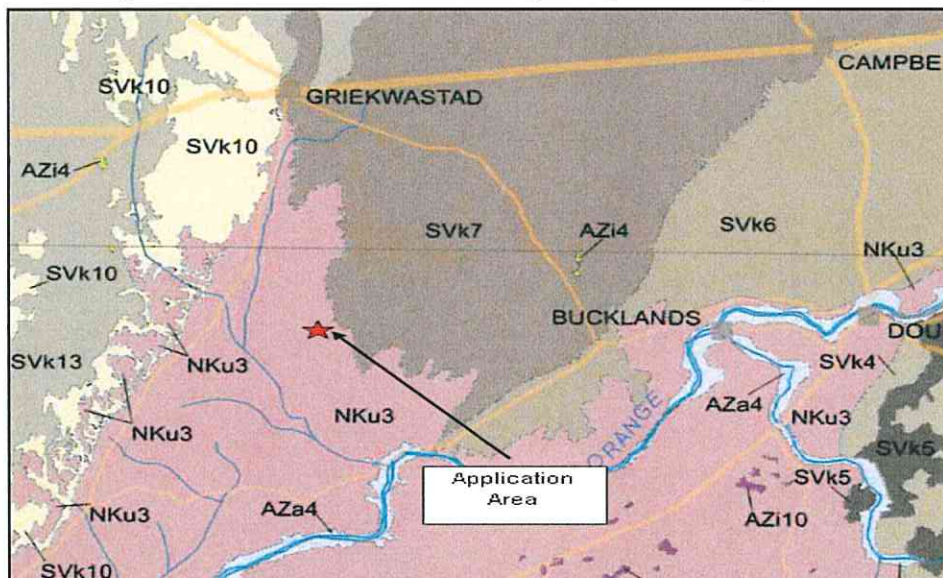
Vegetation [Flora] and Landscape Features: Shrubland dominated by dwarf karoo shrubs, grasses and *Acacia meffifera* subsp. *deti-nens* and some other low trees (especially on sandy soils in the

northern parts and vicinity of the Orange River). Flat to gently sloping, with isolated hills of Upper Karoo Hardeveld in the south and Vaalbos Rocky Shrubland in the northeast and with many interspersed pans.

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

Figure 5: The VEGMAP classification: [NKu 3] Northern Upper Karoo



Important Taxa - Small Trees: *Acacia mellifera* subsp. *definens*, *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 amatum*, *Osteospermum leptolobum*, *O. spinescens*, *Pegolettia retrofracta*, *Pentzia lanata*, *Phyllanthus maderaspatensis*, *Plinthus karoicus*, *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): *Gymnosporia szyszyłowiczii* subsp. *namibiensis*. **Endemic Taxa**

Succulent Shrubs: *Lithops hookeri*, *Stomatium pluridens*. **Low Shrubs:** *Atriplex spongiosa*, *Galenia exigua*. **Herb:** *Manulea deserticola*. **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), Weger (1980), Palmer (1990).

Animal Life [Fauna]: Not many species were directly observed but the presence of nesting sites in the area is an indication that this area is an acceptable habitat for shelter and food for avian species. The natural animal life occurring over the application area includes but is not restricted to, small animals common in this area include: Steenbuck, Duiker, Jackal and Meer cats.

Topography: The mine site is situated on a terrain that is characterized as flat to gently sloping, with isolated hills of Upper Karoo Hardeveld in the south and Vaalbos Rocky Shrubland in the northeast and with many interspersed pans. The slope varies around <0.1% to not more than 3%.

Surface Water: This application area falls within the water management area of the Lower Orange (14) and secondary catchment area D71 and tertiary drainage region D71A. There are two smaller tributary feeding the Orange River that cuts through the application area. It however seems that these water bodies only seem to carry water during peak rainfall seasons. There is also a cement soil dam used for cattle watering. River diversion is not applicable as all mining activities will be kept 100 meter horizontally away from any water body.

Ground Water: There are boreholes on the application area used for stock watering by the landowner. The applicant intends to use water from these current boreholes. The water uses will be 100m³ a day for the primary processing in the bulk sampling phase.

Air Quality: The impact on air quality will only start with the mining where dust from excavating and from the roads will occur. This impact will be low and will be monitored and mitigated through wetting of the roads.

Noise: 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 continuously. This operation will only be in day time working hours and will have a low impact on current surroundings.

Sites of Archaeological and Cultural Interest: No graveyard was observed, but this needs to be confirmed with the landowner. According to NEMA's Screening Tool/Report there are sensitivity features that need to be taken into consideration when prospecting over this area. The first being the occurrence of archaeological and cultural heritage sites and/or artifacts and the second being paleontology. It is recommended that a desktop study be done by an archaeologist to indicate the possibility of the above features and if there is strong possibility then a full on site investigation needs to be done. 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 the graveyard 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.

Sensitive Landscapes: The potential sensitive landscapes are two smaller tributary feeding the Orange River that cuts through the application area. These look to be dry runs, which probably only carry water during peak rainfall seasons. It is however recommended that all prospecting activities be kept 100 meter horizontally away from these water runs. Because if disturbed and the area do get a heavy rainfall event it can cause erosion and if the water is not contained in the natural watercourse it may cause damages to other landscape features.

Visual Aspects: These prospecting activities will only be visible to the landowner and neighbours. It is also not located near any main tourist route.

Social: The proposed activity will employ 9 people. Various social amenities are available close to the operation. These include schools, hospitals churches, recreation facilities as well as a Police Station at Griekwastad and Douglas, which is located approximate 36.3 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.

The structures found over this area are only boundary fence lines and a gravel road that cuts through the middle of the application area. There seem to be a small farm shed located some 230 m from the centre southern boundary fence, with a cement dam. 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 3** – Google Earth Images for more detail of what the site looks like pre-prospecting. Access to the application area is gained via existing gravel roads south of Griekwastad town.

(d) Environmental and current land use map.

Current land use on the application area is grazing over natural veld. This is privately owned land. See **Appendix 1(b) [Infrastructure Map]** for more detail.

v) Impacts and risks identified

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

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

It should be noted that a comprehensive Environmental Management Program (EMPr) will be developed and implemented to regulate and minimize the direct, indirect and cumulative impacts during the construction and operational phases. The potential environmental impacts identified during the Scoping Phase, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 5** on the next page.

Table 5: Impact significance identification matrix for – Waaihoek 392

PHASE	Components	ABIOTIC										BIOTIC				VISUAL			SOCIO-ECONOMIC		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Visual impact	Archaeological & cultural sites	Socio-economic	Affected parties		
	Geology	Topography	Soil	Land capability	Land use	Surface water	Ground water	Air quality	Noise	Vegetation	Wildlife	Sensitive landscapes									
1	Activity, Product or Service																				
2	Demarcation of mine focus area. Establishment (site preparation, vegetation clearance, topsoil removal and stockpiling) of proper access roads (upgrade existing road), site workshop & storage area (temporary containers), mineral processing plant conveyor, mobile screen and 1 x 15 feet washing pans, generator, ect.) Initial vegetation clearance, topsoil removal & stockpiling near to first opencast/trench within the mine focus area.	M	H	L	M	L	M	H	H	H	H	L				M					
3	Establishment of bonded diesel and silicochemical storage facilities, chemical toilets.	M		M	H		M			M						M					
4	Provision of storage tanks for potable (drinking water) and process water (slut suppression)	H	H	H	H	L	M	M	H	H	H	M				L					
5	Provision of waste handling/deposit facilities (domestic & industrial waste bins).			L		L	L					L									
6	Fencing – off active prospecting site in as required in terms of the IHAISA. Ensure access control (gate), ect.				M						M					M				H+	
7	Vegetation clearance, topsoil removal & stockpiling net to opencast/trench within the mine focus area (0.5 ha of surface area disturbed at any given time).	M		H	H	M	L	L		H	L					L				M	H
8	Mechanically excavating overburden with an excavator and stockpile separately from topsoil dump. Remove gravel with excavator and stockpile on side of trench to load onto trucks.	H	H+	H	H	H	M	L	L	L	L					L+				M	H
9	Transport with trucks to mineral processing plant (conveyor, screen, 1x 16 feet washing pans) for processing and sorting of concentrate at set intervals.						H	L	L	L						M+				M	H
10	The wet waste tailings coming out of the pans will be pumped to open excavations & portal dam, from where excess water is re-cycled. Backfilling of excavations (as part of concurrent rehabilitation): the coarse gravel (rough sifted from the pans) will be transported back by front-end loaders towards all open pits for backfilling.	M	H	H	H	H	M	L	L	L										M	H
11	Final backfilling of all voids/trenches and toping of overburden dumps (excess material as the result of swell factor).	H+	H+	H+	H+	H+	H+	L	L	L						L				H+	H±
12	Compaction of backfilled sites		H+	H+	H+	H+	H+	L	L	L										H+	H+

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PHASE	A	B	C	D	E	F	E	F	G	H	I	J	K	L	M	N
Components	Geology	Topography	Soil	Land capability	Land use	Surface water	Ground water	Air quality	Noise	Vegetation	Wildlife	Sensitive landscapes	Visual impact	Archaeological & cultural sites	Socio-economic	Affected parties
13	Activity, Product or Service															
14	Replace and spread all topsoil evenly over backfilled sites. Establishment of vegetation cover.		H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+
15	Removal of all temporary & demolition of all permanent structures (Section 44 of the MPRDA).		H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+
16	Rehabilitation of all access roads, compacted areas, etc.		H+	H+	H+	H+	H+	H+	L	H+	H+		H+		H+	H+

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

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

I. **Introduction:**

Table 9 describes and evaluates the effects of the different prospecting projects and the associated activities on the natural and social environments. The different environmental components, on which the project (can/may) have an impact, are:

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

IMPACT ASSESSMENT

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

ACTIVITIES:

3. Access Roads (Existing farm roads to be upgraded)
4. Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings
5. Prospecting equipment (conveyor, drum screen, washing pans, generator)
6. Stockpiles
7. Overburden dumps
8. Opencast 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	Affected		Not affected
	Negligible	Substantial	
1. GEOLOGY		X	
2. TOPOGRAPHY	X		
3. SOIL		X	
4. LAND CAPABILITY		X	
5. LAND USE	X		
6. VEGETATION		X	
7. WILDLIFE	X		
8. SURFACE WATER			X
9. GROUND WATER	X		
10. AIR QUALITY	X		
11. NOISE	X		
12. SENSITIVE LANDSCAPES			X
13. VISUAL ASPECTS	X		
14. SOCIO ECONOMICS	X		
15. INTERESTED & AFFECTED PARTIES	X		
16. ARCHAEOLOGICAL			X

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

Prospecting will be a new land use over this area. The site that is earmarked for prospecting represents ± 1 % of the total area applied for. And it is further not foreseen that prospecting activities would disturbed an area of not more than 0.5 ha at any given time. The rest of the terrain would continue to be used for agriculture purposes by the landowner.

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

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

Explanation of probability of impact occurrence

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

Explanation of extent of impact

Extend of impact	Explanation of extend
Site specific	Direct and indirect impacts limited to site of impact only.
Local	Direct and indirect impacts affecting environmental elements within the Hay 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 significance	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

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

ASPECT	IMPACTS				CUMULATIVE IMPACTS
1. GEOLOGY					
Nature of the impact	The geology will be destroyed during the opencast prospecting operation. During operation which will be for the next 4 years, the mineral resource (Diamonds (Alluvial Diamonds, Diamonds in Kimberlite) will be extracted. Waste rock material/overburden material is disposed off/backfilled in existing excavations as part of the prospecting process.				
Extent	Site				Activity causing the impact
Duration	Permanent				An opencast prospecting method will be used to extract bulk samples. Therefore the original geology will be totally destroyed.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X		

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ASPECT	IMPACTS	CUMULATIVE IMPACTS							
2. TOPOGRAPHY									
Nature of the impact	<p>* Change in landform : * The prospecting site is situated on: level plains some relief.</p> <p>* Disturbance of the surface drainage: The prospecting of the (Alluvial Diamonds, Diamonds in Kimberlite) deposits will result in the creation of trenches (10 m x 60 m x ±5 m or less), that act as depressions in the environment that captures run-off. Prospecting activities will be concentrated as indicated on Appendix 4 on the application area (approximately 5 m depth). The surface drainage is already disturbed. Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site.</p>								
Extent	Site	Activity causing the impact							
Duration	Very long to Permanent	Bulk sampling trough trenches, etc.							
Probability	Definite								
Significance	High								
Phase responsible for the impact	<table border="1"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X	X						

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

3. SOIL	IMPACTS	CUMULATIVE IMPACTS							
Nature of the impact	<p>The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the access roads, stockpiles /tailings dumps, cause compaction of soil.</p> <p>Some areas already disturbed thus no topsoil.</p> <p>All prospecting activities will be concentrated on the identified prospecting focus area where (Alluvial Diamonds, Diamonds in Kimberlite) deposits could be found.</p> <p>In the same time a certain surface area is therefore alienated. The active prospecting surface area (alienated) would be restricted within the ±5 ha at any given time (in relation to area of application of the prospecting right of 1101 hectares) for the next 4 years.</p>								
Extent	Site	Activity causing the impact							
Duration	Long	Site preparation for additional prospecting sites and the construction, operation of listed infrastructure.							
Probability	High								
Significance	Moderate								
Phase responsible for the impact	<table border="1"> <tr> <td>Phase 1</td> <td>Phase 2</td> <td>Phase 3</td> <td>Closure</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>		Phase 1	Phase 2	Phase 3	Closure		X	X
Phase 1	Phase 2	Phase 3	Closure						
	X	X	X						

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

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

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

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

ASPECT	IMPACTS				CUMULATIVE IMPACTS
4. LAND CAPABILITY					
Nature of the impact	<p>Temporary loss of land capability to support grazing. The small area (0.5 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.</p> <p>If the old areas be re-worked this will make more land available for grazing. The rest of the application area will still be used by the landowner as agricultural land.</p>				
Extent	Site				Activity causing the impact
Duration	Long				Site preparation for additional prospecting sites and the construction, operation of listed infrastructure, the land capability of the active prospecting area will be totally destroyed.
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
5. LAND USE					
Nature of the impact	<p>This is a new prospecting operation and therefore will lose its land use to support grazing on a certain portion of the 1101 hectares during the next 4 years. If the old areas be re-worked this will make more land available for grazing. Only a small portions of land (0.5 ha at a time) would be affected by the prospecting operation relation to the total prospecting right application area of 1101 hectares.</p> <p>All trenches would be rehabilitated as part of the prospecting process during which excavations are back-filled.</p>				
Extent	Site				Activity causing the impact
Duration	Long to permanent				Site preparation for prospecting and the construction, operation of listed infrastructure
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X		

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

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

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

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

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

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

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

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

ASPECT	IMPACTS	CUMULATIVE IMPACTS
8. SURFACE WATER		
Nature of the impact	Change in surface water quantity: Water management area (14) : Lower Orange The mine falls under the primary drainage region D71 and in quaternary sub-catchment D71A. Notwithstanding the above-mentioned facts, it is not expected that prospecting operations will have any effect on the boundaries or the general water flow of the catchment. There are two non-perennial stream running through the the application area, which is tributaries of the Orange River. Standing water in trenches could as the result of rain/ surface run-off ending up in shallow depressions.	
Extent	Site	Activity causing the impact
Duration	Long	It is an operational objective to contain or divert all surface run-offs from the active prospecting trenches area mainly due to pollution (sediment) potential. This will reduce the run-off quantity, although small in comparison with the drainage area in total.
Probability	High	
Significance	High	
Phase responsible for the impact	Phase 1 Phase 2 Phase 3 Closure	
		X X X

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 for the impact	Phase 1 Phase 2 Phase 3 Closure	
		X X X

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9. GROUND WATER				
Nature of the impact	Even though abstraction is likely to have a minimal effect on the surrounding groundwater users, this is a new use, and groundwater levels are expected to continue current trends. Groundwater will be abstracted for potable water supply and prospecting processes. The volume of water needed is small (10 000 Lit/hr) in comparison to other water use and will have a small impact on the surrounding aquifer.			
Extent	Site			Activity causing the impact
Duration	Long			Opencast prospecting operation.
Probability	Low			
Significance	High			
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	
		X	X	X

ASPECT	IMPACTS				CUMULATIVE IMPACTS
10. AIR QUALITY					
Nature of the impact	Dust will be generated during the prospecting operation (loading with an excavator on to a dump truck) and transportation to the plant (conveyor, drum screen & washing pans) and on gravel/dirt/farm roads. The processing of the gravel is a wet process and therefore minimum dust is generated.				
Extent	Site			Activity causing the impact	
Duration	Long			Initial construction work with regard to infrastructure (roads) that involves earth moving equipment. During the phase 2 & 3, dust could be generated as indicated during prospecting.	
Probability	Moderate				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3		Closure
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
11. NOISE POLLUTION					
Nature of the impact	Noise will be generated during the 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.				
Extent	Local			Activity causing the impact	
Duration	Long			Earth moving equipment and vehicles (trucks).	
Probability	Definite				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3		Closure
		X	X	X	

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

ASPECT	IMPACTS				CUMULATIVE IMPACTS
13. SENSITIVE LANDSCAPE					
Nature of the impact	No sensitive landscapes identified.				
Extent	Not applicable			Activity causing the impact	
Duration	Not applicable				
Probability	Not applicable				
Significance	Not applicable				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3		Closure

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ASPECT	IMPACTS				CUMULATIVE IMPACTS
14. VISUAL ASPECTS					
Nature of the impact	Prospecting will only be visible to the neighbours living there. The operation is not visible to from any tourist road.				
Extent	Site				Activity causing the impact
Duration	Long				Diamond prospecting operation.
Probability	Definite				
Significance	Low				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
15. SOCIO ECONOMICS					
Nature of the impact	Increase in Socio – economic activity at local level. The project in itself would ensure that approximately 9 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 Hay district. Once all prospecting operations have ceased it would definitely have a negative impact.				The increase in socio-economic activity will add to the current growth and development in Hay already created by industry and prospecting.
Extent	Local				Activity causing the impact
Duration	Long				Additional employment opportunities created.
Probability	Definite				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
15. SOCIO ECONOMICS					
Nature of the impact	The main impact on the landowners is visual impact and the small area of 0.5 ha that will not be available for agricultural activities at any given time for 4 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				
Probability	High				
Significance	Moderate				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

ASPECT	IMPACTS				CUMULATIVE IMPACTS
16. INTERESTED & AFFECTED PARTIES					
Nature of the impact	Impact of activities on I&AP's Temporary loss of utilization of the prospecting focus areas for agricultural purposes. The long-term benefits far out-weight the current benefits from the current use. No negative impact is expected that could be appropriately mitigated, such as the eventual rehabilitation of the excavations.				
Extent	Local				Activity causing the impact
Duration	Long				
Probability	High				
Significance	High				
Phase responsible for the impact	Phase 1	Phase 2	Phase 3	Closure	
		X	X	X	

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

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

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

However, for this specific project, no alternatives have been investigated, with the exception of the no-go alternative. The reason for this being that the prospecting right is being applied for the sole purpose of prospecting (Alluvial Diamonds, Diamonds in Kimberlite) gravels. 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, Appendix 2 – 2. (1){(h)} (g){viii}

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

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

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

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

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

Environmental Component	Soil (soil compaction)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil compaction: The prospecting operation should only be restricted to what is really required (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.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Alleviation of compaction of soils would be done during rehabilitation of the prospecting terrain, including roads.	

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

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

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

Environmental Component	Soil (Soil fertility)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil fertility: Little can be done to preserve the moisture status of the soil once it is exposed. The soil must be used for rehabilitation as quickly as possible. The soil on the rehabilitated area must be analysed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility, if necessary. Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized. Do not use stockpiled soil for any other purpose but for rehabilitation. Do not use topsoil to construct roads. Ensure the rehabilitation plan makes provision for fertiliser. Make sure rehabilitated topsoil is analyzed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
The soil must be fertile enough to sustain vegetation.	

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

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

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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 if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants. An invasive and alien control programme must be implemented by the mine.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No invasive and alien species must be present after closure. A post-closure control program must also be implemented.	

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

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

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

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

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

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

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

Environmental Component	Ground Water (quality)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Reduction of groundwater quality: Storm water control measures must be implemented to divert clean water away from the site and keep (sit) 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.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

Post water quality need to indicate a positive trend/improvement.	
Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Reduction of groundwater quantity, lowering of groundwater level: Water levels in the boreholes 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 fitted. Ensure that a complaints register is created, managed and maintained. Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
No noise attributed to prospecting will be generated from the site after closure anymore. During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation.	

Environmental Component	Archaeological and Cultural Sites
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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 stream area of the two tributaries must maintain un-scaled and all prospecting activates must be kept 100 meters horizontally away from them.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

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

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

Environmental Component	Interested and Affected Parties
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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) <i>(Permission of Inspector of Mines should be obtained.)</i>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Not to be an economic, social or environmental liability to the local community or the state now or in the future. The company will ensure that the interest of all interested and affected parties will be considered.	

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

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

Please see Appendix 1(b) 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, Appendix 2 – 2. (1){(h)} (g)(x)

Alternative is not applicable. The current land use is grazing. The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, Electri City 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.

xi) Statement motivating the preferred site.

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

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

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

The option to explore the possibility for prospecting is already in itself an alternative land use. The applicant, Electri City 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 cultivation with small fallout areas of natural grazing by the landowner.

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

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, 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:

(Alluvial Diamonds, Diamonds in Kimberlite) deposits will be destroyed during the opencast prospecting operation.

During operation which will be for the next 4 years, the mineral resource (Alluvial Diamonds, Diamonds in Kimberlite) 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 (0.5 ha) where the active prospecting activities occur (trenches, tailings dumps, stock piles, prospecting equipment) etc. will thus be temporary alienated, until the area is rehabilitated.

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

Rehabilitation:

This is a new prospecting operation and therefore will lose its land use to support grazing on a certain portion of the 1101 hectares during the next 4 years. Only a small portions of land (0.5 ha at a time) would be affected by the prospecting operation relation to the total prospecting right application area of 1101 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 veld.

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

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 – EIA 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 21 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 from experience and from the actual situation on the specific site. Please see **Point vi)** for detail.

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

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

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

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

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

1. Steps to be taken to notify interested and affected parties.

The landowner, as well as the competent authorities will be consulted. Please see **Table 3** for more detail on public participation process.

2. Details of the engagement process to be followed.

The process as described by NEMA for Environmental Authorization was followed. See **Table 3** below for the identification of Interested and Affected Parties to be consulted with. The landowners (Louis Botma Eiendomstrust) 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 26th November 2019, 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)(ix)

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

Environmental Component	Geology
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<ul style="list-style-type: none"> No mitigation exists except to backfill the excavations with the rock waste material and fine tailings. As prospecting progressed and the excavation has been back-filled, a certain amount of overburden material and topsoil would be placed on these areas. This will not restore the geology, but will mitigate the impact. Planned, systematic and thorough prospecting of the mineral resource (Alluvial Diamonds, Diamonds in Kimberlite) 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 mining method until such level is reach / cut-off point is reach where rehabilitation could begin. Care must be taken that the removal of (Alluvial Diamonds, Diamonds in Kimberlite) deposits by means of earthmoving equipment is restricted to what is really necessary to achieve the objective. 	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Optimal exploration of the mineral resource in order to ensure to facilitate better rehabilitation planning. The overburden and topsoil (where available) must be replaced in a responsible and planned manner in order to achieve some conformity with the surrounding undisturbed area.	

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

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

Environmental Component	Soil (soil compaction)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Soil compaction: The prospecting operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area. Access roads towards the sites would be restricted only to the roads (existing farm roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily. Prospecting & rehabilitation should be done in a well-planned manner (according to a PWP) and in the process ensuring that activities are only restricted to surface areas really required. Compaction of soil surface areas would be alleviated once rehabilitation of certain area starts. Certain roads would probably remain for access (in consultation</p>	

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

Environmental Component	Soil (Soil erosion)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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 hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity). No servicing of vehicles must occur except on a concrete floor or over PVC lined area in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. An incidence register for this purpose must be kept. Drip trays must be available and used where emergency repairs is done.	
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, 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.	

EMP Performance Assessment & Monitoring Reporting
To be included in EMP/EIA.
Closure Objective
The soil must be fertile enough to sustain vegetation.

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

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

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

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

Environmental Component	Vegetation
Environmental Management/Mitigation Measures/Action Plans/Commitments	
Ensure that all roads on the 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.	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

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

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

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

Environmental Component	Ground Water (quantity)
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Reduction of groundwater quantity, lowering of groundwater level: Water levels in the boreholes that are used for prospecting activities should be recorded monthly.</p> <p>Water volumes should be recorded continuously to ensure compliance with the water use authorization for abstraction.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Post water quality need to indicate a positive trend/improvement.	

Environmental Component	Air Quality
Environmental Management/Mitigation Measures/Action Plans/Commitments	
<p>Dust: The prospecting method will serve as mitigation measure because prospecting will limit dust to the active prospecting area (area where the excavator and the trucks are operating).</p> <p>Daily spraying of roads with water. Inspection should be done on a daily basis.</p> <p>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.</p>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Dust count must be the same as before prospecting. Rehabilitation of the bulk sampling site would ensure that no dust is generated from exposed surfaces.	

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

Environmental Component	Archaeological and Cultural Sites
Environmental Management/Mitigation Measures/Action Plans/Commitments	
No graves on site. However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered.	
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	
None	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	

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

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

Environmental Component	Interested and Affected Parties
Environmental Management/Mitigation Measures/Action Plans/Commitments	
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) <i>(Permission of Inspector of Mines should be obtained.)</i>	
EMP Performance Assessment & Monitoring Reporting	
To be included in EMP/EIA.	
Closure Objective	
Not to be an economic, social or environmental liability to the local community or the state now or in the future. The company will ensure that the interest of all interested and affected parties will be considered.	

i) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

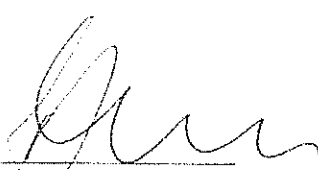
In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 2 – 2. (1)(j)(i), [(k)](j), [(l)](k), [(m)](l)

UNDERTAKING

I, **D.E. Erasmus**, the undersigned and duly authorised thereto by **DERA Omgewingskonsultante (PTY) Ltd** hereby confirm:

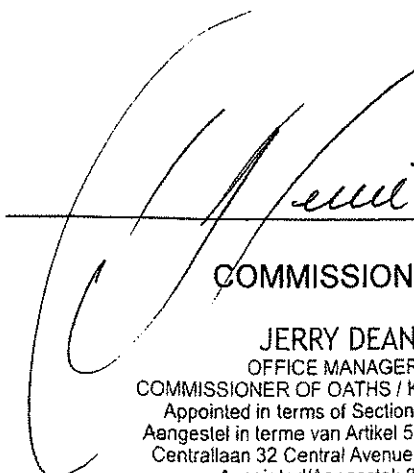
- ✓ the correctness of the information provided in this report;
- ✓ the inclusion of comments and inputs from stakeholders and I&AP's;
- ✓ the inclusion of inputs and recommendations from the specialist reports where relevant and where applicable and;
- ✓ all information provided to the interested and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

Signed at **Klerksdorp** on this day **27th** of **November 2019**.



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Signature of EAP



COMMISSIONER OF OATHS

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

-END-