

**PROPOSED PROSPECTING RIGHT WITH BULK SAMPLING
OVER VARIOUS FARMS IN THE HAY AND KURUMAN
ADMINISTRATIVE DISTRICTS, NORTHERN CAPE**

FINAL SCOPING REPORT

DEPARTMENTAL REFERENCE NUMBER:

NC 30/5/1/1/2/13826 PR

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EXECUTIVE SUMMARY

The Applicant, K2022641005 (SOUTH AFRICA) (Pty) Ltd, applied for a prospecting right (PR) with bulk sampling, and environmental authorisation (EA) for kieselguhr over 15 602.0765 ha that extends over the properties listed under *(b) Description of the Property* within the Hay and Kuruman Administrative Districts of the Northern Cape.

Should the relevant authorisations be granted, and the project commence the principal prospecting activities will entail the following:

- ❖ Non-Invasive Prospecting:
 - ◆ Desktop geological studies (Phase 1),
 - ◆ Geological field mapping (Phase 2),
 - ◆ Feasibility studies and target selection (Phase 4 & 6),
 - ◆ Metallurgical Testing and Analysis (Phase 4),
- ❖ Invasive Prospecting (with bulk sampling):
 - ◆ Drilling and excavation of trenches, exploration pits and collecting of bulk samples (Phase 3 & 5),
 - ◆ Sloping, landscaping, and rehabilitation the affected areas (Phase 3 & 5).

The proposed project triggers listed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended) and therefore requires an environmental impact assessment that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures, to ultimately culminate in an environmental management programme that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation. The Scoping Report forms part of the departmental requirements and presents the first report to be approved in the EIA process.

Should the PR be issued, the proposed project will comprise of activities that can be divided into three key phases namely the:

- (1) *Site commencement/establishment phase*: Once the target areas were identified (during non-invasive prospecting) and the invasive prospecting commences (phase 3 & 5), site commencement/establishment will entail discussions with the landowners regarding access to the properties and co-existence agreements, the clearance of vegetation (where necessary) from the areas to be sampled, the stripping and stockpiling of the topsoil (where applicable), and the introduction of the prospecting equipment.
- (2) *Operational phase (Trenching and Sampling Pits)*: The targeting of all drilling and/or trenching activities will be dependent on the results obtained during the preceding non-invasive phases of prospecting. The initial planned invasive exploration activities will consist of exploration drilling, trenches, and pits to appropriate depths to target anomalies and testable material identified during Phases 1 & 2 of the non-

invasive prospecting. Down the hole geophysical surveying will take place upon completion of the exploratory trenching and pits along with ground surveys to determine positions of geological materials.

(3) *Decommissioning phase:* Rehabilitation will include activities that can be divided into medium- and long term categories. In the medium term, rehabilitation will entail the continuous reinstatement of prospected areas, and the management of invasive plant species and/or erosion. In the long term, rehabilitation will involve the reinstatement of the remaining disturbed areas (not yet reinstated), prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE). The PR holder will further be responsible for the seeding of all rehabilitated areas should vegetation not establish through succession within the first six months.

Need and Desirability:

Kieselguhr is a highly sought after mineral in the absorbent, cement, filtration, medical, and other industries. Other uses of kieselguhr include animal feed applications, natural de-wormer for animals, insect, and ant killer. Kieselguhr also has wide application for an anti-caking agent in grain storage as well as mixed feeds.

Within the Griqualand West area, kieselguhr appear to overlay either lava of the Ongeluk Sub-Group, or Dwyka shale (Base Kalahari Formation) along ancient water courses and paleo-marshes. This prospecting right application intends to identify feasible kieselguhr sources in the Northern Cape that can economically be exploited and contribute to the economy of the region.

Identified Alternatives to be Assessed in the EIA phase:

a) The property on which, or location where, it is proposed to undertake the activity.

Presently, the project proposal entails the prospecting of 15 602.0765 ha area over the properties listed in section *b) Description of the Property* and presented in Figures 1 and 2. Applicants can only apply for prospecting rights within areas where such rights are not yet held by other companies/applicants. Furthermore, the prospecting activities are dependent upon the presence of the desired minerals which are again dependent upon geological formations. As the intention of the proposed prospecting operations is to determine the presence of economically viable kieselguhr deposits in the Northern Cape, an area known/expected to contain these resources needs to be selected. The proposed footprint of the PR application was based on the available geological information which is of interest to kieselguhr.

b) Type of activity to be undertaken

The proposed activity entails prospecting with bulk sampling. Prospecting will be conducted using a combination of non-invasive and invasive activities. The invasive prospecting will include drilling and trenching. The only other alternative would be to prospect the area without bulk sampling. However, the Applicant entered a partnership with an international firm regarding the testing of the kieselguhr samples for

metallurgical and production compatibility with their production plants. This company requires bulk samples to facilitate the metallurgical and production compatibility testing. Should bulk sampling be excluded from the project proposal the prospect of a possible international market for South African kieselguhr (should a mining right be considered) will remain unexploited. Further to this, kieselguhr has varying qualities and thus the samples must be distributed to a wide range of prospective clients that requires the collection of large samples.

c) Design and layout of the activity.

The preferred drilling, trenching and pitting locations will be determined following the outcome of phases 1 & 2 and the mapping of geological survey data. The EIAR will include a list of areas (identified by specialists) that must be avoided and where no prospecting may be allowed. This list will be expanded on upon consultation with the stakeholders.

Following receipt of the correspondence that Portion 4 and 5 of Bermolli No 583 forms part of the proposed Kolomela Biodiversity Off-Set Area to be declared a nature reserve once the required administrative processes have been completed, the Applicant and project team (including specialists) will consider the matter during the EIA phase and contemplate design/layout. This will be assessed and discussed in detail in the DEIAR.

As some of the proposed properties are actively mined/earmarked for mining, additional design/layout alternatives that take the current land uses into account will be considered, discussed, and assessed during the EIA phase.

d) Technology to be used in the activity.

The Applicant proposes to use air drills for RAB (rotary air blast) drilling and reverse circulation drilling and diamond drill rigs will be used for core drilling. Geophysical equipment will be needed for ground electro-magnetic, magnetic and gravity surveys.

The bulk sampling trenches/pits will be dug by excavator, upon which the loosened material will be moved by FEL to the crushing/milling plant. The material will be crushed, screened, and sized to product stockpiles from where it will be transported off-site by trucks.

Although sample collection will require various mechanical equipment to be on site, the process do not require highly specialised technology as secondary processing and metallurgical testing will occur off-site. Therefore no technology alternatives were deemed viable for this project.

e) Operational aspects of the activity

The operational aspects of the activity will be based on the non-invasive prospecting results. The project allows some flexibility in terms of when, where, and how the sampling and surveying is conducted. For instance, the site camp location and jeep-track routes will be determined in accordance with the landowner agreement and identified sensitive areas that must be avoided. The project can also consider mitigating impacts such as dust generation, prospecting during agriculturally important seasons etc. The DEIAR will expand on the operational aspects of the project upon receipt of the specialist studies.

f) Option of not implementing the activity (No-go Alternative)

If the no-go alternative is implemented the land in question cannot be prospected for kieselguhr, which may result in a loss of an economically viable natural resource that can be used in a variety of industries. The no-go option will further entail a loss of employment opportunities, as well as socio-economic benefits and growth development opportunities. Given the high level of unemployment and poverty in the Hay and Kuruman Magisterial Districts the loss of such opportunities is considered significant. The positive implications of the no-go alternative are that there will be no impact on the current land use, bio- and geophysical environment of the earmarked areas.

Public Participation Process:

The relevant landowners, stakeholders and I&AP's were informed of the prospecting right application by means of an advertisement in the Noordkaap Bulletin, and on-site notices that were placed at conspicuous places. A notification letter inviting comments on the DSR over a 30-days commenting period (ending 25 March 2024) were also sent to the landowners, lawful occupier, neighbouring landowners, stakeholders, and any other I&AP that may be interested in the project. Further to this an advertisement was placed in the Noordkaap Bulletin inviting the surrounding landowners whose contact details could thus far not be obtained to register on the project. All the notices and advertisements were available in both Afrikaans and English. All the comments received on the DSR were incorporated into the final Scoping Report (FSR) to be submitted to the DMRE for consideration.

Scoping Report:

The scoping report identifies the potential positive and negative impacts that the proposed project may have on the environment and the community as well as the aspects that may impact on the socio-economic conditions of directly affected persons and proposes possible mitigation measure that could be applied to modify / remedy / control / stop the identified impacts.

Plan of Study for the Environmental Impact Assessment Process:

The aspects to be assessed as part of the environmental impact assessment process will include, but not be limited to, the following:

1. The need and desirability of the proposed activity will be discussed in detail and weighed against the no-go option of upholding the status quo at the study area.
2. The alternatives that were identified/considered in the scoping report will be assessed and the project proposal will be refined.
3. The inputs received during the public participation process (first- and second phase) will be assessed and considered by the project team during the EIA process.
4. The findings, recommendations and management measure proposed in the specialist studies will be assessed during the EIA process and incorporated into the DEIAR.
5. The impact of the proposed project on the physical-, biological-, and human environments will be assessed.
6. Mitigation measures will be proposed to control, modify, remedy, or stop the impacts associated with the proposed activity on the surrounding environment.
7. Any additional requirements submitted by the DMRE will be incorporated into the DEIAR and treated accordingly.

1. TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. TABLE OF CONTENTS	7
2. CONTACT PERSON AND CORRESPONDENCE ADDRESS	16
a) Details of: Greenmined Environmental	16
i) The EAP who prepared the report	16
ii) Expertise of the EAP	16
b) Description of the property	17
c) Locality map	18
d) Description of the scope of the proposed overall activity	19
i) Listed and specified activities	19
ii) Description of the activities to be undertaken	22
e) Policy and Legislative Context	32
f) Need and desirability of the proposed activities	34
g) Period for which the environmental authorization is required	45
h) Description of the process followed to reach the proposed preferred site	45
i) Details of all alternatives considered	45
ii) Details of the Public Participation Process Followed	47
iii) Summary of issues raised by I&Aps	52
iv) The Environmental attributes associated with the sites	85
i) Impacts Identified	135
j) Methodology used in determining the significance of environmental impacts	139
k) 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	146
l) The possible mitigation measures that could be applied and the level of risk	148
m) The outcome of the site selection Matrix Final Site Layout Plan	155
n) Motivation where no alternative sites were considered	155
o) Statement motivating the preferred site	155
3. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS	156
a) Description of alternatives to be considered including the option of not going ahead with the activity	156
b) Description of the aspects to be assessed as part of the environmental impact assessment process	156
c) Description of aspects to be assessed by specialists	157
d) Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives	159
e) The proposed method of assessing duration significance	159
f) The stages at which the competent authority will be consulted	160
g) Particulars of the public participation process with regard to the Impact Assessment process that will be conducted	161
i) Steps to be taken to notify interested and affected parties	161

ii)	Details of the engagement process to be followed	161
iii)	Description of the information to be provided to Interested and Affected Parties.....	161
h)	Description of the tasks that will be undertaken during the environmental impact assessment process	162
i)	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	163
j)	Other Information required by the competent Authority	167
k)	Other matters required in terms of sections 24(4)(a) and (b) of the Act.	168
l)	UNDERTAKING REGARDING CORRECTNESS OF INFORMATION	170
m)	UNDERTAKING REGARDING LEVEL OF AGREEMENT	170

LIST OF FIGURES

Figure 1: Satellite view showing the proposed prospecting right footprint over the farms Botha No 313 and Devon No 277. (Image obtained from Google Earth)	18
Figure 2: Satellite view showing the proposed prospecting right footprint over the farms Bermolli No 583, Engelsdraai No 221, Witdraai No 204, and Vaalwater No 84. (Image obtained from Google Earth)	19
Figure 3: Images of white diatomite (first frame), and in the second frame diatomaceous earth that is crushed diatomite. (Images from geology.com)	22
Figure 4: Example of a typical drill site.	29
Figure 5: Schematic diatomite bulk sampling flow diagram.	29
Figure 6: Average temperatures and precipitation for Hotazel (image obtained from https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/hotazel_south-africa_995397).	85
Figure 7: Monthly wind speed statistics and directions for Kathu/Sishen (image obtained from www.windfinder.com/windstatistics/kathu_sishen).	86
Figure 8: Monthly wind direction and strength distribution for Kathu/Sishen (image obtained from www.windfinder.com/windstatistics/kathu_sishen).	86
Figure 9: Charts showing the climatic averages of the Postmasburg region (information obtained from SAExplorer). .	87
Figure 10: Image showing the dominant wind direction and average wind speed over a 12 month period for the Postmasburg area. (Image obtained from www.windfinder.com/windstatistics/postmasburg).....	87
Figure 11: Map showing the topography of the greater Hotazel area (image obtained from https://en-za.topographic-map.com/map-6m7zs/South-Africa/?center=-27.31565%2C22.96555&zoom=10).....	88
Figure 12: Map showing the topography of the greater Postmasburg area (image obtained from https://en-za.topographic-map.com/map-6m7zs/South-Africa/?center=-27.31565%2C22.96555&zoom=10).....	89
Figure 13: Geological map of Griqualand West (modified from Beukes 1986) (image obtained from Gamagara Resources (Pty) Ltd 2019).	90
Figure 14: A southwest-northeast 600 km cross-section showing the simplified geology of the Transvaal Supergroup and the distribution of other important geological features (modified from Beukes 1983) (image obtained from Gamagara Resources (Pty) Ltd 2019).	91
Figure 15: Example of kieselguhr (Van der Merwe).....	94
Figure 16: Figure indicating the position of the Upper Nama Karoo Depression (blue polygon with yellow outline) on the farm Bermolli No 583 as indicated on the BGIS Map Viewer – National Wetlands and NFEPA.....	95
Figure 17: Map showing the position of the nearest NFEPA (dark green polygon) north-west of the study area (blue polygon). The Ga-Mogara Stream runs along the western boundary of the study area while the Witleegte Stream cuts between the two properties. (Image obtained from the BGIS Map Viewer – National Wetlands and NFEPA).....	96
Figure 18: Map showing Bermolli No 583 (upper most farm) and Engelsdraai No 221 (second upper most polygon) within the NFEPA (dark green polygon), while the two lower farms Witdraai No 204 (west) and Vaalwater No 84 (east) are outside a FEPA. Note the Soutloop Stream crossing through Witdraai No 204 as well as the pan system north of Vaalwater No 48. (Image obtained from the BGIS Map Viewer – National Wetlands and NFEPA).....	97
Figure 19: Terrestrial Biodiversity theme sensitivity of Devon No 277 according to the DFFE screening report.	98
Figure 20: Terrestrial Biodiversity theme sensitivity of Botha No 313 according to the DFFE screening report.	99

Figure 21: Terrestrial Biodiversity theme sensitivity of Bermolli No 583 according to the DFFE screening report.	100
Figure 22: Terrestrial Biodiversity theme sensitivity of Engelsdraai No 221 according to the DFFE screening report.	101
Figure 23: Terrestrial Biodiversity theme sensitivity of Witdraai No 204 according to the DFFE screening report.	101
Figure 24: Terrestrial Biodiversity theme sensitivity of Vaalwater No 84 according to the DFFE screening report.	102
Figure 25: Map showing the distribution of the Kathu Bushveld (brown shading) as well as the Gordonia Duneveld (pink polygon) as depicted on the SANBI 2018 National Vegetation Map. The blue polygon represents the farms Botha No 313 (lower) and Devon No 277. (Image obtained from the BGIS Map Viewer: 2018 National Vegetation Map).	103
Figure 26: Map showing the distribution of the Olifantshoek Plains Thornveld (light brown), Postmasburg Thornveld (dark brown), Northern Upper Karoo (pink), Southern Kalahari Salt Pans (green), and the Kuruman Mountain Bushveld (sand colour) as depicted on the SANBI 2012 National Vegetation Map. The blue polygon represents the farms Bermolli No 583 (top), Engelsdraai No 221 (top-west), Witdraai No 204 (bottom-west), and Vaalwater No 84 (bottom). (Image obtained from the BGIS Map Viewer: 2018 National Vegetation Map).	104
Figure 27: The farms Devon No 277 (red polygon) and Botha No 313 (yellow polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).	111
Figure 28: The farms Bermolli No 583 (blue polygon) and Engelsdraai No 221 (orange polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).	111
Figure 29: The farms Witdraai No 204 (green polygon) and Vaalwater No 84 (white polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).	112
Figure 30: JTGDM population profile (image obtained from the JTGDM IDP).	113
Figure 31: JTGDM age distribution profile (image obtained from the JTGDM IDP).	113
Figure 32: JTGDM population group profile (image obtained from the JTGDM IDP).	114
Figure 33: Gender profile (image obtained from Statistics South Africa).	115
Figure 34: Gender and age distribution profile (image obtained from Statistics South Africa).	116
Figure 35: Population profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).	116
Figure 36: Average Household Income profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).	117
Figure 37: Average Household Income profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).	118
Figure 38: Elevation profile of the farm Devon No 277 (image obtained from Google Earth).	122
Figure 39: Elevation profile of the farm Botha No 313 (image obtained from Google Earth).	123
Figure 40: Elevation profile of the farm Bermolli No 583 (image obtained from Google Earth).	124
Figure 41: Elevation profile of the farm Engelsdraai No 221 (image obtained from Google Earth).	125
Figure 42: Elevation profile of the farm Witdraai No 204 (image obtained from Google Earth).	126
Figure 43: Elevation profile of the farm Vaalwater No 84 (image obtained from Google Earth).	127
Figure 44: Aquatic biodiversity theme sensitivity of Devon No 277 according to the DFFE screening report where the Witleegte stream is of very high importance.	128
Figure 45: Aquatic biodiversity theme sensitivity of Botha No 313 according to the DFFE screening report where the Witleegte- and Ga-Mogara Streams are of very high importance.	128
Figure 46: Aquatic biodiversity theme sensitivity of Bermolli No 583 according to the DFFE screening report where the FEPA area is of very high importance.	129
Figure 47: Aquatic biodiversity theme sensitivity of Engelsdraai No 221 according to the DFFE screening report where the FEPA area is of very high importance.	129
Figure 48: Aquatic biodiversity theme sensitivity of Witdraai No 204 according to the DFFE screening report where the drainage line is of very high importance.	130
Figure 49: Aquatic biodiversity theme sensitivity of Vaalwater No 84 according to the DFFE screening report where the pans are of very high importance.	130
Figure 50: Satellite view of the mining operations bordering the farms Devon No 277 (pink polygon) and Botha No 313 (green polygon), also note the R31 and R380 in the vicinity of the farms. (Image obtained from Google Earth).	132
Figure 51: Satellite view of the farms Bermolli No 583 (blue polygon), and Engelsdraai No 221 (orange polygon) showing the farmyards and gravel road passing through the farms. (Image obtained from Google Earth).	133

Figure 52: Satellite view of the farms Witdraai No 204 (green polygon), and Vaalwater No 84 (light blue polygon) showing the farmyards and the R383 passing through Vaalwater No 84. (Image obtained from Google Earth). 133

LIST OF TABLES

Table 1: Listed and specified activities triggered by the proposed activities. 20
 Table 2: GPS Coordinates of the proposed prospecting footprint. 23
 Table 3: Proposed prospecting activities to be implemented. 24
 Table 4: Bulk Sampling Activities. 28
 Table 5: Applicable legislation and guidelines used to compile the report. 32
 Table 6: Need and desirability determination. 36
 Table 7: List of the landowners, I&AP’s and stakeholders that were informed/invited to comment/register on the project. 48
 Table 8: List of the landowners, I&AP’s and stakeholders that comment/register on the project. 51
 Table 9: Summary of issues raised by I&AP’s and stakeholders. 52
 Table 10: Land uses and/or prominent features that occur within 500 m radius of the study area. 119
 Table 11: Land uses and/or prominent features that occur within 500 m radius of the study area. 120
 Table 12: Table to be used to obtain an overall rating of severity, taking into consideration the various criteria. 142
 Table 13: Criteria for the rating of duration. 142
 Table 14: Criteria for the rating of extent / spatial scale. 142
 Table 15: Example of calculating overall consequence. 143
 Table 16: Criteria for the rating of frequency. 143
 Table 17: Criteria for the rating of probability. 143
 Table 18: Example of calculating overall likelihood. 144
 Table 19: Determination of overall environmental significance. 144
 Table 20: Description of environmental significance and related action required. 144
 Table 21: List of potential negative impacts associated with the present project proposal. 146
 Table 22: Table listing the identified impacts, residual risks to be managed and monitored. 163

LIST OF APPENDICES

Appendix 1 Curriculum Vitae of the Environmental Assessment Practitioner
 Appendix 2 Proof of Experience of the Environmental Assessment Practitioner
 Appendix 3.1 Regulation 42 Project Map
 Appendix 3.2 Regulation 2.2 Project Map
 Appendix 4 Land Uses Map
 Appendix 5.1 Comments and Response Report
 Appendix 5.2 Proof of Public Participation Part 1 & 2

LIST OF ACRONYMS

CARA	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)
CBA	Critical Biodiversity Area
DAERL	Department of Agriculture, Environmental Affairs, Rural Development and Land Reform
DEIAR	Draft Environmental Impact Assessment Report
DFFE	Department of Forestry, Fisheries, and the Environment
DMRE	Department of Mineral Resources and Energy
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
ESA	Ecological Support Areas
FEIAR	Final Environmental Impact Assessment Report
FEL	Front-end-loader
FEPA	Freshwater Ecosystem Priority Area
FSR	Final Scoping Report
GPS	Global Positioning System
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
JMLM	Joe Morolong Local Municipality
JTGDM	John Taolo Gaetsewe District Municipality
KMR	Kudumane Manganese Resources (Pty) Ltd
MHSA	Mine Health and Safety Act, 1996 (Act No 29 of 1996)
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002)
NCPAERC	Northern Cape Protected Area Expansion Review Committee
NEM:AQA	National Environmental Management: Air Quality Control Act, 2004 (Act No 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No 59 of 2008)
NEMA	National Environmental Management Act, 1998 (Act No 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No 25 of 1999)
NRTA	National Road Traffic Act, 1996 (Act No 25 of 1999)
NWA	National Water Act, 1998 (Act No 36 of 1998)
OHSA	Occupational Health and Safety Act, 1993 (Act No 85 of 1993)

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT



PCB's	Polychlorinated Biphenyls
PCO	Pest Control Officer
PPE	Personal Protection Equipment
PR	Prospecting Right
PSDM	Pixley ka Seme District Municipality
PSM	Palaeontological Sensitivity Map
RAB	Rotary air blast
SAHRA	South African Heritage Resources Agency
SAMBF	South African Mining and Biodiversity Forum
SAMRAD	South African Mining Mineral Resources Administration System
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SLM	Siyancuma Local Municipality
SWMA	Sub-Water Management Area
TLM	Tsantsabane Local Municipality
UMK	United Manganese of Kalahari (Pty) Ltd
WMA	Water Management Area
SFMDM	ZF Mgcawu District Municipality



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).

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FILE REFERENCE NUMBER SAMRAD: NC30/5/1/1/2/13826 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 Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution ecological degradation or damage to the environment.

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

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation 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 requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in 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.
-

SCOPING REPORT

2. CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) Details of: Greenmined Environmental (Pty) Ltd

In terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA) the proponent must appoint an independent Environmental Assessment Practitioner (EAP) to undertake the environmental impact assessment (EIA) of any activities regulated in terms of the Act. K2022641005 (SOUTH AFRICA) (Pty) Ltd (hereinafter the “Applicant”) appointed Greenmined Environmental (Pty) Ltd (hereinafter “Greenmined”) to undertake the study needed. Greenmined has no vested interest in the Applicant or the proposed project and hereby declares its independence as required by the EIA Regulations, 2014 (as amended).

i) The EAP who prepared the report

Name of the Practitioner: Ms Christine Fouché (Senior Environmental Specialist)

Tel No: 021 851 2673 / 082 811 8514

Fax No: 086 546 0579

E-mail address: christine.f@greenmined.co.za

ii) Expertise of the EAP

(1) The qualifications of the EAP

(With evidence attached as **Appendix 1**)

Ms Fouché has a Diploma in Nature Conservation and a B.Sc. in Botany and Zoology. Full CV with proof of expertise is attached as Appendix 1.

(2) Summary of the EAP’s past experience

(Attach the EAP’s curriculum vitae as **Appendix 2**)

Ms Fouché has nineteen years’ experience in doing environmental impact assessments and mining related applications in South Africa. Ms Fouché is a registered Environmental Assessment Practitioner (registration no: 2019/1003) with EAPASA (Environmental Assessment Practitioners Association of South Africa) since 2019. See a list of past project attached as Appendix 2.

b) Description of the property

In this document any reference that is made to a specific farm includes all the relevant portions and remainders of that property unless otherwise noted.

<p>Farm Name:</p>	<ol style="list-style-type: none"> 1. Remaining Extent of the farm Botha No 313 2. Portion 1 of the farm Botha No 313 3. Remaining Extent of the farm Devon No 277 4. Portion 1 of the farm Devon No 277 5. Portion 4 of the farm Bermolli No 583 6. Portion 5 of the farm Bermolli No 583 7. Remaining Extent of the farm Engelsdraai No 221 8. Portion 1 of the farm Engelsdraai No 221 9. Remaining Extent of the farm Witdraai No 204 10. Portion 1 of the farm Witdraai No 204 11. Remaining Extent of the farm Vaalwater No 84 12. Portion 1 of the farm Vaalwater No 84 13. Portion 2 of the farm Vaalwater No 84 <p><i>(In this document any reference that is made to a specific farm includes all the relevant portions and remainders of that property unless otherwise noted.)</i></p>
<p>Application area (Ha)</p>	<p>15 602.0765 ha</p>
<p>Magisterial district</p>	<ul style="list-style-type: none"> ❖ Hay Administrative District, and ❖ Kuruman Administrative District
<p>Distance and direction from nearest town</p>	<p>Farms Botha No 313 and Devon No 277 are ±20 km east of Hotazel when travelling along the R380 in a south-eastern direction.</p> <p>Farms Bermolli No 583, Engelsdraai No 221, Witdraai No 204, and Vaalwater No 84 are between 30 km and 60 km south-west of Postmasburg when driving along the R383 in a southern direction.</p>
<p>21 digit Surveyor General Code for each farm portion</p>	<ol style="list-style-type: none"> 1. C04100000000031300000 2. C04100000000031300001 3. C04100000000027700000 4. C04100000000027700001 5. C03100000000058300004 6. C03100000000058300005 7. C03100000000022100000 8. C03100000000022100001 9. C03100000000020400000

	10. C03100000000020400001
	11. C03100000000008400000
	12. C03100000000008400001
	13. C03100000000008400002

c) Locality map

(show nearest town, scale not smaller than 1:250000 as **Appendix 3**)

The requested map is presented in the form of the Regulation 42 Project Map compiled in terms of the Mining Titles Registration Act, 1967, and the Regulation 2.2 Project Map compiled in terms of the MPRDA respectively attached as Appendix 3.1 and 3.2 to this document.

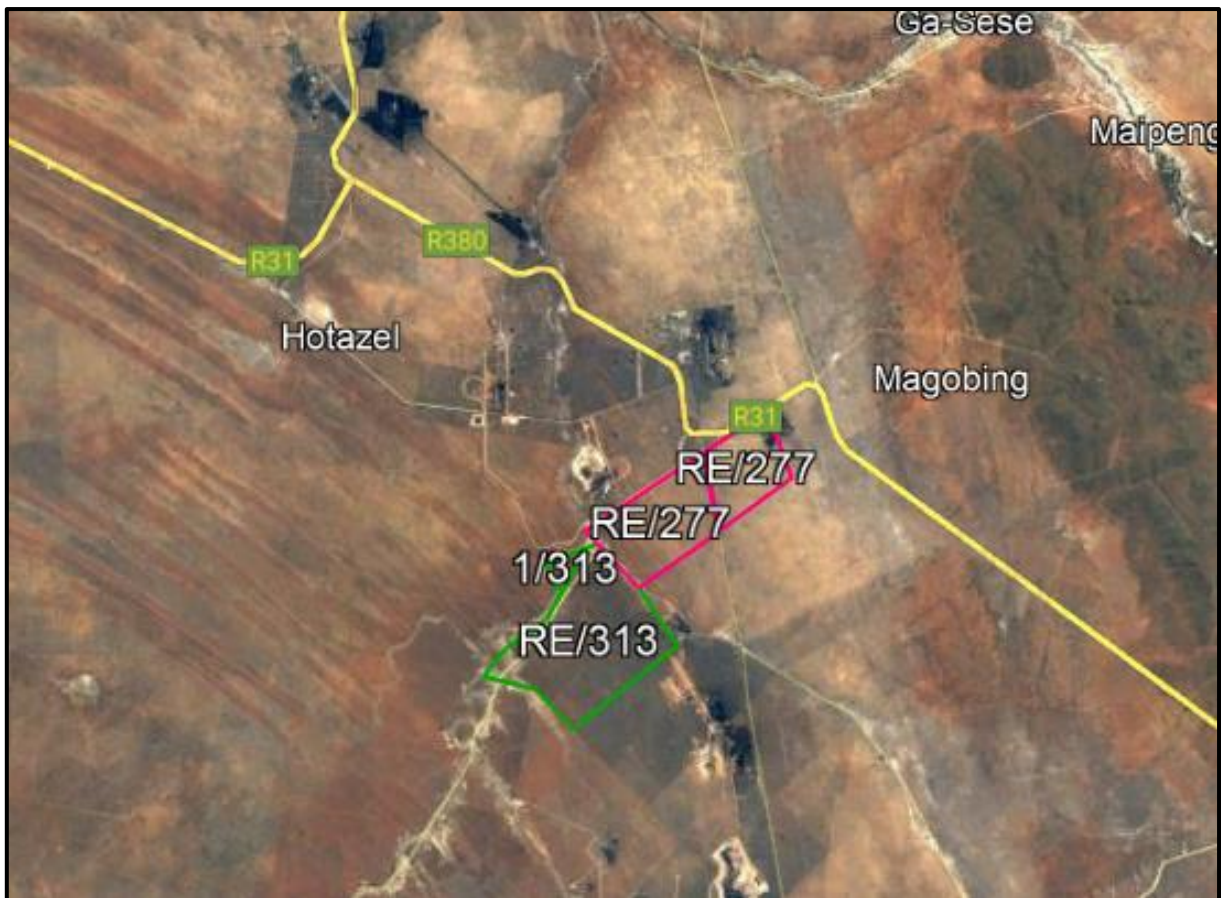


Figure 1: Satellite view showing the proposed prospecting right footprint over the farms Botha No 313 and Devon No 277. (Image obtained from Google Earth)

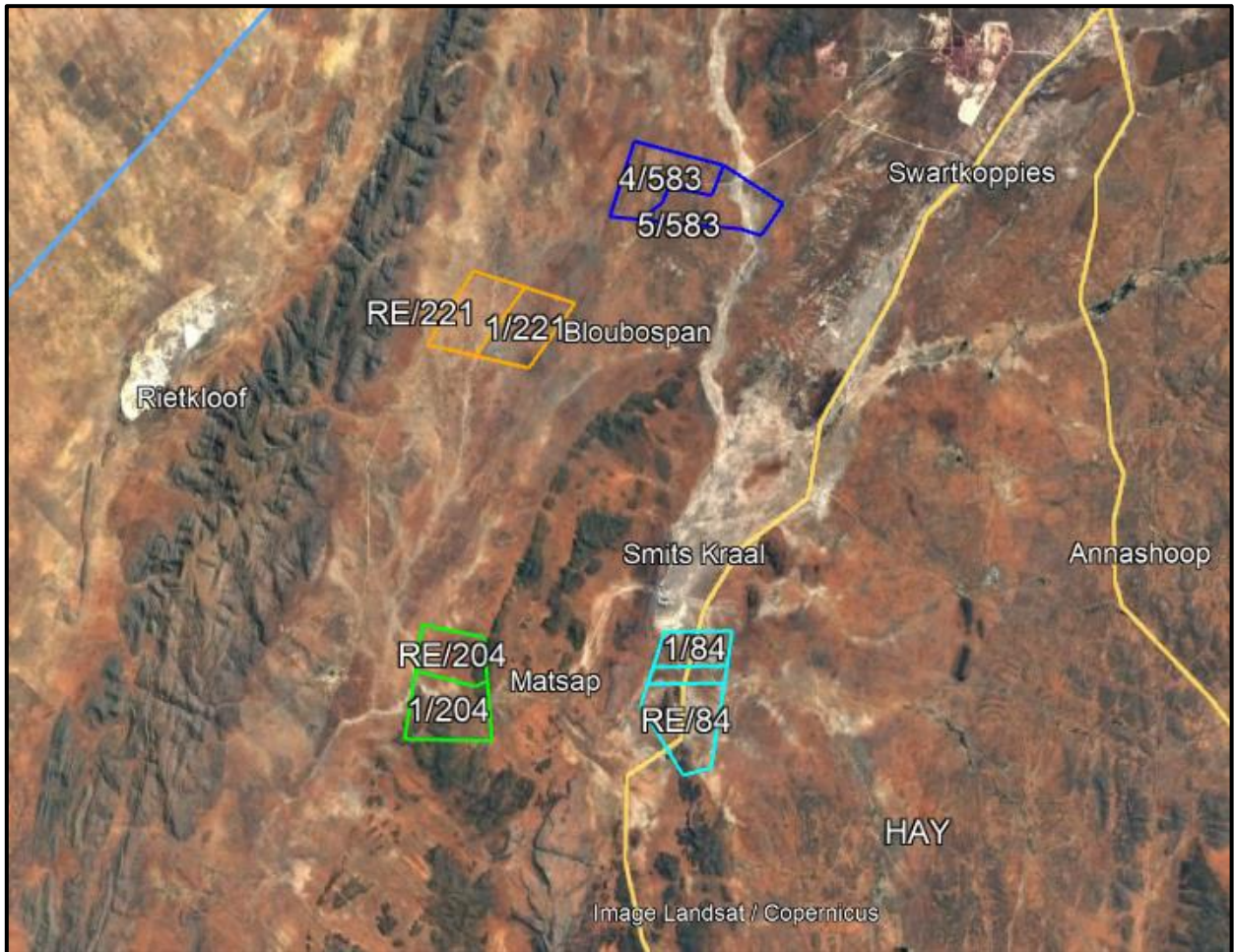


Figure 2: Satellite view showing the proposed prospecting right footprint over the farms Bermolli No 583, Engelsdraai No 221, Witdraai No 204, and Vaalwater No 84. (Image obtained from Google Earth)

d) Description of the scope of the proposed overall activity

i) Listed and specified activities

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1:10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as **Appendix 4**

The Applicant, K2022641005 (SOUTH AFRICA) (Pty) Ltd, applied for a prospecting right (PR) with bulk sampling, and environmental authorisation (EA) for diatomite ($\text{SiO}_2 \cdot n\text{H}_2\text{O}$) / diatomaceous earth / kieselguhr (hereafter referred to as kieselguhr) over 15 602.0765 ha that extends over the properties listed under (b) *Description of the Property* within the Hay and Kuruman Administrative Districts of the Northern Cape.

Should the relevant authorisations be granted, and the project commence the principal prospecting activities will entail the following:

- ❖ Non-Invasive Prospecting:
 - ◆ Desktop geological studies (Phase 1),
 - ◆ Geological field mapping (Phase 2),
 - ◆ Feasibility studies and target selection (Phase 4 & 6),

- ◆ Metallurgical Testing and Analysis (Phase 4),
- ❖ Invasive Prospecting (with bulk sampling):
 - ◆ Drilling and excavation of trenches, exploration pits and collecting of bulk samples (Phase 3 & 5),
 - ◆ Sloping, landscaping, and rehabilitation the affected areas (Phase 3 & 5).

The proposed project triggers listed activities (see following table) in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended) and therefore requires an environmental impact assessment (EIA) that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures in cooperation with specialists, to ultimately culminate in an environmental management programme (EMPR) that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation.

The site layout plan can only be compiled once the bulk sampling target areas were identified following the non-invasive prospecting phases. However, a schematic representation of the proposed prospecting activities are presented in this report under Figure 5, and the DEIAR will include a site sensitivity map highlighting areas where invasive prospecting is dissuaded.

Table 1: Listed and specified activities triggered by the proposed activities.

NAME OF ACTIVITY <small>(All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</small>	AERIAL EXTENT OF THE ACTIVITY Ha or m ²	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (GNR 324, GNR 325 OR GNR 327)/NOT LISTED
Phase 1: Non-Invasive Prospecting: Desktop Geological Study: Literature Survey / Review (All Farms)	N/A: Non-invasive Prospecting	N/A	Not listed.
Phase 2: Non-Invasive Prospecting: Geological Field Mapping (All Farms)	N/A: Non-invasive Prospecting		

**DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT**



NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
<p>Phase 3: Invasive Prospecting:</p> <p>Exploration pits and sampling, Slope, landscape, and rehabilitate the affected areas.</p>	<p>15 pits/trenches of 2 500 m² (62 500 m³)</p> <p>15 pits/trenches of 10 000 m² (300 000 m³)</p> <p>15 pits/trenches of 7 500 m² (187 500 m³)</p>	<p align="center">X</p>	<ul style="list-style-type: none"> ❖ GNR 517 Listing Notice 1 Activity 20 (as amended) ❖ GNR 517 Listing Notice 2 Activity 19 (as amended)
<p>GNR 517 Listing Notice 1 Activity 20 (as amended):</p> <p><i>Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the prospecting right.</i></p>			
<p>GNR 517 Listing Notice 2 Activity 19 (as amended):</p> <p><i>The removal and disposal of a mineral, which requires a permission ated in terms of section 20 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or Listing Notice 3 of 2014, required to exercise the permission.</i></p>			
<p>Phase 4: Non-Invasive Prospecting:</p> <p>Geological Feasibility, Target Selection, Metallurgical Testing and Analysis.</p>	<p align="center">N/A: Non-invasive Prospecting</p>	<p align="center">N/A</p>	<p>Not listed.</p>
<p>Phase 5: Invasive Prospecting:</p> <p>Exploration pits and sampling, Slope, landscape, and rehabilitate the affected areas.</p>	<p>15 pits/trenches of 2 500 m² (62 500 m³)</p> <p>15 pits/trenches of 10 000 m² (300 000 m³)</p> <p>15 pits/trenches of 7 500 m² (187 500 m³)</p>	<p align="center">X</p>	<ul style="list-style-type: none"> ❖ GNR 517 Listing Notice 1 Activity 20 (as amended) ❖ GNR 517 Listing Notice 2 Activity 19 (as amended)
<p>Phase 6: Non-Invasive Prospecting</p> <p>Analytical Desktop Pre-Feasibility Study.</p> <p>Feasibility Study and Mining Right Application (if applicable).</p>	<p align="center">N/A: Non-invasive Prospecting</p>	<p align="center">N/A</p>	<p>Not listed.</p>

ii) Description of the activities to be undertaken

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity)

BACKGROUND INFORMATION:

(Information obtained from the article by Hobart M. King: *Diatomite; The sedimentary rock used as a filter, absorbent, filler, abrasive and more.* <https://geology.com/rocks/diatomite.shtml>)

Kieselguhr, diatomaceous earth and diatomite are the names commonly used for remarkably light, dull white or pale-coloured, massive to finely laminated chalky-looking, highly porous sediment composed mainly of the minute hollow opaline protective shells of unicellular aquatic plants known as diatoms.

Diatomite (kieselguhr) is a very porous rock with a fine particle size and a low specific gravity. These properties make it useful as a filter media, an absorbent, and as a lightweight filler for rubber, paint, and plastics. Crushed diatomite is usually called "diatomaceous earth".

Diatoms are members of a large, diverse group of algae that drift freely in the waters of oceans and lakes. A few types of diatoms live on the bottom of these water bodies and in soils. Most diatoms are microscopic, but a few species are up to two millimetres in length. As a group, diatoms are unique because they are single-celled organisms that produce an external cell wall composed of silica, called a frustule. These frustules are very thin and have a delicate structure. (H.M. King).

Dr King further notes that when diatoms die, their siliceous frustules sink. If the associated sediment is composed of over 30% diatom frustules by weight, it would be called a "diatom ooze" or a "siliceous ooze." These are the sediments that are lithified into the rock known as diatomite.



Figure 3: Images of white diatomite (first frame), and in the second frame diatomaceous earth that is crushed diatomite. (Images from geology.com)

According to the U.S. Geological Survey (USGS), the production of diatomite in the USA in 2022 was estimated to be 1.1 million tons. Approximately 55% of the diatomite is used in filtration products, while the remaining 45% is used in absorbents, fillers lightweight aggregates and other applications. Less than 1% is used for specialized pharmaceutical and biomedical purposes. The



amount of domestically produced diatomite sold or used by USA producers in 2022 was 10% higher than that in 2021. The United States remained the leading global producer and consumer of diatomite. Filtration (including the purification of beer, liquors, and wine and the cleansing of greases and oils) continued to be the leading end use for diatomite. An important application for diatomite is the removal of microbial contaminants, such as bacteria, protozoa, and viruses in public water systems. Domestically, diatomite used in the production of cement was the second-ranked use. Other applications for diatomite include filtration of human blood plasma, pharmaceutical processing, and use as a nontoxic insecticide (Crangle, RD [(703) 648-6410, rcrangle@usgs.gov]).

PROJECT PROPOSAL:

The Applicant applied for a prospecting right (PR) for kieselguhr over 15 602.0765 ha of the properties listed under (b) *Description of the Property*. The following table lists the GPS coordinates of the proposed prospecting area as shown on the Regulation 2(2) Project Plan attached as Appendix 3.2.

Table 2: GPS Coordinates of the proposed prospecting footprint.

NUMBER	DEGREES, MINUTES, SECONDS		DECIMAL DEGREES	
	LAT (S)	LONG (E)	LAT (S)	LONG (E)
A	27°13'31.18"	22°59'27.07"	-27.225327°	22.990852°
B	27°14'43.45"	22°59'57.15"	-27.245403°	22.999209°
C	27°16'43.26"	22°56'51.27"	-27.278683°	22.947575°
D	27°17'46.13"	22°57'37.70"	-27.296147°	22.960471°
E	27°19'16.82"	22°55'30.37"	-27.321338°	22.925102°
F	27°18'33.13"	22°54'44.87"	-27.309202°	22.912464°
G	27°18'18.37"	22°53'40.54"	-27.305103°	22.894594°
H	27°17'48.10"	22°54'07.19"	-27.296695°	22.901997°
J	27°17'15.40"	22°54'57.90"	-27.28761°	22.916082°
K	27°16'42.75"	22°55'18.62"	-27.278541°	22.92184°
L	27°16'42.73"	22°55'07.54"	-27.278537°	22.918762°
M	27°16'16.44"	22°54'56.97"	-27.271234°	22.915825°
N	27°15'59.34"	22°55'46.17"	-27.266483°	22.929491°
P	27°15'40.10"	22°55'46.44"	-27.261138°	22.929568°
Q	28°25'57.52"	22°45'55.49"	-28.432645°	22.765414°
R	28°26'43.77"	22°49'07.10"	-28.445493°	22.818639°
S	28°27'56.46"	22°51'14.80"	-28.465682°	22.854112°
T	28°28'56.73"	22°50'27.64"	-28.482424°	22.84101°
U	28°28'43.96"	22°49'42.04"	-28.478879°	22.828344°
V	28°25'38.29"	22°45'02.11"	-28.472303°	22.750587°
W	28°30'09.44"	22°40'02.49"	-28.502623°	22.667358°
X	28°31'04.47"	22°43'45.64"	-28.517907°	22.729344°
Y	28°33'05.42"	22°42'04.99"	-28.551506°	22.701385°
Z	28°32'20.74"	22°38'27.75"	-28.539094°	22.641042°
1A	28°41'11.73"	22°38'12.14"	-28.686593°	22.636705°

NUMBER	DEGREES, MINUTES, SECONDS		DECIMAL DEGREES	
	LAT (S)	LONG (E)	LAT (S)	LONG (E)
1B	28°41'35.15"	22°40'26.40"	-28.693097°	22.673999°
1C	28°44'51.26"	22°40'39.46"	-28.747572°	22.677628°
1D	28°44'47.89"	22°37'32.40"	-28.746637°	22.625668°
1E	28°41'25.86"	22°46'55.75"	-28.690518°	22.782153°
1F	28°41'25.06"	22°49'19.54"	-28.690294°	22.822095°
1G	28°45'47.24"	22°48'34.62"	-28.763123°	22.809618°
1H	28°46'00.53"	22°47'33.77"	-28.766814°	22.792715°
1J	28°43'44.94"	22°46'02.74"	-28.72915°	22.767429°

Also refer to Figure 1 and 2 above for satellite images of the proposed prospecting area in relation to the surrounding landscape.

Should the PR be issued, and the activities be allowed, the proposed project will comprise of six phases that can be divided into non-invasive- and invasive prospecting as presented in the following table.

Table 3: Proposed prospecting activities to be implemented.

PHASE	ACTIVITY	SKILL(S) REQUIRED	TIMEFRAME	OUTCOME
1	Non-Invasive Prospecting Desktop Geological Study: Literature Survey / Review (All Farms)	Geologist	Month 1-6	Initial geological targeting report supported by historical records and existing data.
2	Non-Invasive Prospecting Geological Field Mapping (All Farms)	Geologist & Field Crew	Month 6-12	Detailed geological targeting report accompanied by maps & plans of ground truthing of initial geological targeting.
3	Invasive Prospecting Exploration pits and sampling Phase 1 – Bulk Sampling 50 000 m ³ @ density of 2.25	Geologist / Excavator Team / Field Crew / Laboratory Technicians	Month 12-36	Exploration pit data: lithological logs, geophysical exploration pit surveys, assay results for mineralized intercepts. Modelling of data. Interpretation and 3D modelling of potential deposits. Generation and ranking of mineralized targets.
4	Non-Invasive Prospecting Geological Feasibility Target Selection Metallurgical Testing	Geologist / Laboratory Technicians / Metallurgical Specialists	Month 36-42	Borehole data & RAB data: lithological logs, geophysical down hole surveys, assay results for mineralized intercepts, results for metallurgical testing and analysis.

PHASE	ACTIVITY	SKILL(S) REQUIRED	TIMEFRAME	OUTCOME
	and Analysis			
5	Invasive Prospecting Exploration pits and sampling Phase 2 Bulk Sampling 50 000 m ³ @ density 2.25	Geologist / Excavator Team / Field Crew / Laboratory Technicians	Month 36-54	Exploration pit data: lithological logs, geophysical exploration pit surveys, assay results for mineralized intercepts. Modelling of data. Interpretation and 3D modelling of potential deposits. Generation and ranking of mineralized targets. Resource estimation work producing a SAMREC Mineral Resource.
6	Non-Invasive Prospecting Analytical Desktop Pre-Feasibility Study. Feasibility Study and Mining Right Application.	Economic Geologist / Mining Engineer / Project Engineer / Consulting Company	Month 54-60	Geological and pre-feasibility reports, maps, and plans. Risk assessment study to determine if a full feasibility is warranted.

Invasive Prospecting (with bulk sampling):

(1) Site Commencement/Establishment Phase

Once the target areas were identified (during non-invasive prospecting) and the invasive prospecting commences (phase 3 & 5), site commencement/establishment will entail discussions with the landowners regarding access to the properties, the clearance of vegetation (where necessary) from the areas to be sampled, the stripping and stockpiling of the topsoil (where applicable), and the introduction of the prospecting equipment as detailed below.

Should this application be successful, and the invasive prospecting commence, the Applicant will engage the landowners of the PR footprint regarding technical arrangements for the co-existence of the applicable entities on the same land. These negotiations will in particular consider the mining related operations on the farms Devon No 277, Botha No 313, and Bermolli No 583 owned by mining companies.

❖ **Clearing of Vegetation**

The proposed footprint of a typical drill site will be ±200 m² in size, while a bulk sampling site will be between 2 500 m² (0.25 ha) and 10 000 m² (1 ha) as stated in Table 4. The prospecting contractor will need to remove the vegetation cover from the largest part of the earmarked area to allow the sampling activities. The vegetation cover will only be

removed from the exact area to be prospected and immediately prior to commencement, no blanket clearing will be allowed. The plant material that will be removed will be stockpiled with the topsoil (if any) to be returned during the rehabilitation of the area.

The draft environmental impact assessment report (DEIAR) that will follow the approval of this report (Scoping Report) will assess the site specific land use, fauna, and flora of the study area as part of the EIA process. The flora-part of the assessment will inform on the occurrence of possible endangered plant communities and red data plant species, identify areas of concern to be excluded from the prospecting footprint, instruct on the management of red data species, identify the presence and distribution of threatened plants, determine the impact that the proposed activity may have on the conservation status of natural vegetation, and propose management and mitigation measures for identified impacts. The intention is to minimize the removal of natural vegetation, and to in the end restore the footprint area to land suitable for continued agricultural or mining use whichever where applicable prior to prospecting.

❖ **Topsoil Stripping**

Although kieselguhr usually extends up to surface level, it is proposed that any available topsoil in the earmarked areas will be stripped and stockpiled for the duration of the activities. Topsoil removal will be restricted to the exact footprint of each prospecting site during the invasive phases of the activity. The topsoil will be stockpiled at a designated signposted area to be replaced during the rehabilitation of the area. It will be the responsibility of site management to prevent the mixing of topsoil heaps with overburden/other soil heaps. The complete A-horizon (the top 100 – 200 mm of soil which is generally darker coloured due to high organic matter content) will be removed when present. If it is unclear where the topsoil layer ends the top 300 mm of soil will be stripped. The topsoil berm will measure a maximum of 2 m in height to preserve micro-organisms within the topsoil.

❖ **Access Roads**

Access to the prospecting areas will, as far as possible, follow the existing internal farm roads. The farm roads will be upgraded where necessary to allow the comfortable movement of the prospecting machinery/vehicles. Where needed jeep-tracks will be opened from the main farm road to the specific prospecting sites in agreement with the landowners. These tracks will be temporary and will be rehabilitated once prospecting ceases and if the landowner do not wish the track to remain. The jeep-track route will as

far as possible avoid sensitive vegetated areas (to be identified by an ecologist), watercourses, and cultivated area and must be approved by the ECO prior to use. Presently the maximum width of a track is expected to be ± 5 m.

❖ **Establishment of Site Equipment/Infrastructure**

The prospecting activities does not require the use of any permanent equipment/infrastructure. A central site camp (with an approximate footprint of 3 ha) will be established at an area agreed to by each landowner where mobile containers will be used as office space and for storage. Chemical ablutions will be established, and the site camp will be fenced to control access. No bulk storage of fuel (>30 000 l) will be necessary. All chemicals/hydrocarbons will be kept in the storage containers or bunded areas with impermeable surfaces.

Presently, it is proposed that a typical drill site will entail the following:

- ◆ Drill rig,
- ◆ Sample laydown area,
- ◆ Water evaporation sump,
- ◆ Chemical toilet,
- ◆ Refuse bins and bunded area for applicable chemicals.

A typical bulk sampling site will entail the following:

- ◆ Site camp with approximately three container offices, a generator, and a 5 000 l fuel bowser,
- ◆ Earthmoving equipment including a 30 ton excavator, two front-end-loaders (FEL) and a 30 ton tipper truck,
- ◆ Crushing and milling plant to size the samples,
- ◆ Tipper trucks transporting samples,
- ◆ Chemical toilet,
- ◆ Refuse bins and bunded area for applicable chemical storage.

(2) Operational Phase (Trenching and Sampling Pits)

The targeting of all drilling and/or trenching activities will be dependent on the results obtained during the preceding non-invasive phases of prospecting, namely geological mapping. As such it is currently not possible to include a finalized surface plan showing the intended location, extent, and depth of boreholes/exploration pits to be prospected.

The initial planned invasive exploration activities will consist of exploration drilling, trenches, and pits to appropriate depths to target anomalies and testable material identified during Phases 1 & 2 of the non- invasive prospecting. Down the hole geophysical surveying will take place upon completion of the exploratory trenching and pits along with ground surveys to determine positions of geological materials.

The work will consist of:

- ◆ Trenching and sample pits,
- ◆ Sampling and assaying,
- ◆ Quality assurance and quality control programs,
- ◆ Metallurgical test work,
- ◆ Rehabilitation of drill and trenching/pit sites, and
- ◆ Recording and integration of data.

The following table describes the bulk sampling activities to be undertaken.

Table 4: Bulk Sampling Activities.

ACTIVITY		DETAILS		
Number of pits/trenches planned		±90		
Dimensions of pits/trenches, per pit/trench	Number of pits/trenches	Length	Breath	Depth
	30	50 m	50 m	25 m
	30	100 m	100 m	30 m
	30	150 m	50 m	25 m
Volume Overburden (Waste)		30 000 m ³		
Volume Ore		100 000 m ³		
Density Overburden		1.68		
Density Ore		2.25		
Phase(s) when bulk sampling will be required		Phases 3 & 5		

ACTIVITY	DETAILS
Timeframe(s)	Months 12 - 54



Figure 4: Example of a typical drill site.

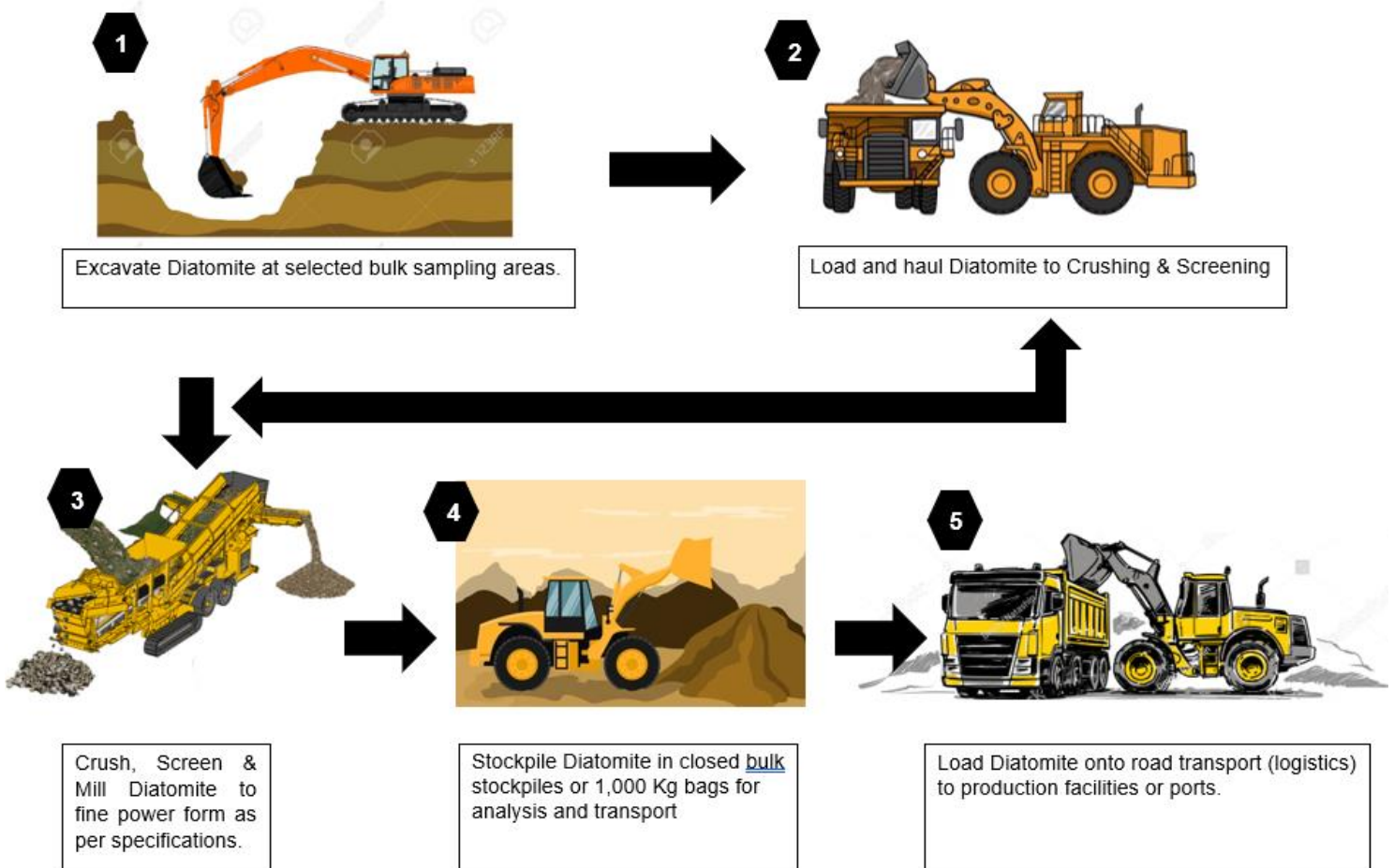


Figure 5: Schematic diatomite bulk sampling flow diagram.

❖ **Assaying:**

Rock chip / soil samples will be send to a laboratory of the Applicant's choice (off-site) to be crushed, split, pulverized, and assayed. Samples from the drill cores will be split using a core cutter before it is sent to the laboratory for analysis.

❖ **Metallurgical Test Work:**

Metallurgical test work will start during Phase 4 of the prospecting activities. These tests will be done off-site by and in consultation with a preferred and accredited Laboratory of the Applicant's choice. No metallurgical work will be done at the prospecting areas and/or site camp.

❖ **Electricity Need**

The prospecting activities does not require electricity as all equipment will be powered with generators.

❖ **Water Use**

The drilling operation requires $\pm 1\ 000$ l of water day while the bulk sampling activities will necessitate $\pm 10\ 000$ l/day. Water will be used for dust suppression at the prospecting sites and access roads. Potable water will daily be transported to site by the employees, while the process water will be bought from a local sources (to be identified) in the vicinity of the prospecting activities and transported to site in a water truck(s).

❖ **Waste Handling**

Due to the nature of the project, the small scale of each prospecting site, and the fact that maintenance work will be done off-site, very little general waste will be generated as a direct result of the prospecting activities. All the general waste generated at the prospecting sites will be transported to the site camp where it will be contained in refuse bins. Once full the refuse bins will be emptied, and the waste will be disposed of at a registered landfill site in the vicinity of the project. Proof of safe disposal will be filed for auditing purposes.

Hazardous waste will mainly be the result of accidental spillages or breakdowns. Such contaminated areas will be cleaned up immediately (within two hours of the occurrence) and the contaminated soil will be contained in designated hazardous waste containers to be removed daily to the hazardous waste storage area at the site camp. A registered contractor will be appointed to collect and dispose of the hazardous waste at a registered

hazardous waste handling facility and the site will file the proof of safe disposal for auditing purposes.

The chemical toilets will weekly be serviced by an appropriately qualified sewerage handling contractor who will furnish the site with proof of safe disposal.

❖ **Traffic Requirements**

The prospecting operations will daily be visited by approximately ten (10) vehicles. The bulk sampling activities will require approximately four 30 ton flatbed trucks to transport the material from the farm to the port, Johannesburg, or various other production facilities.

❖ **Servicing and Maintenance**

No workshop, wash bay or service areas will be established at the prospecting sites and/or site camp. When needed maintenance/servicing of the equipment will be performed at the contractor's off-site workshop.

(3) Decommissioning phase

Rehabilitation will include activities that can be divided into medium- and long term categories. In the medium term, rehabilitation will entail the continuous reinstatement of prospected areas, and the management of invasive plant species and/or erosion. In the long term, rehabilitation will involve the reinstatement of the remaining disturbed areas (not yet reinstated), prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE). The PR holder will further be responsible for the seeding of all rehabilitated areas should vegetation not establish through succession within the first six months.

At this stage the following baseline rehabilitation actions are proposed from which a detailed Closure Plan will be developed (to be approved as part of the EIA process):

- ❖ Rehabilitation of all the disturbed surface areas shall entail landscaping, levelling, sloping, top dressing, land preparation, seeding (if required), and invasive plant clearing.
- ❖ All unwanted infrastructures, equipment, and other items used during the prospecting period will be removed from the site in accordance with section 44 of the MPRDA, 2002.
- ❖ Waste material of any description, including receptacles, scrap, rubble, and tyres, will be removed entirely from the prospecting area, and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site.
- ❖ The rehabilitation area will be cleared of invader plant species. Priority will be given to species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National

Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto).

Once the full prospecting area was rehabilitated the PR holder is required to submit a closure application to the Department of Mineral Resources and Energy in accordance with section 43(4) of the MPRDA, 2002 that states: “An application for a closure certificate must be made to the Regional Manager in whose region the land in question is situated within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion contemplated in subsection (3) and must be accompanied by the prescribed environmental risk report”. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998.

e) Policy and Legislative Context

Table 5: Applicable legislation and guidelines used to compile the report.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process).	REFERENCE WHERE APPLIED
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983).	Assessment of biophysical environment and current land use.
Guideline on Need and Desirability	The need and desirability of the project was assessed in accordance with these guidelines.
Mine Health and Safety Act, 1996 (Act No. 29 of 1996) read together with applicable amendments and regulations thereto including relevant OHSA regulations.	The mitigation measures proposed for the site consider the MHSA, 1996.
Section 16 and 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) read together with applicable amendments and regulations thereto.	Application for a prospecting right with bulk sampling. Reference number: NC30/5/1/1/2/13826PR
National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended): ❖ GNR 517 Listing Notice 1 Activity 20 (as amended)	Application for environmental authorisation. Reference number: NC30/5/1/1/2/13826PR

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
❖ GNR 517 Listing Notice 2 Activity 19 (as amended)	
National Environmental Management: Air Quality Control Act, 2004 (Act No. 39 of 2004) read together with applicable amendments and regulations thereto specifically the National Dust Control Regulations, GN No R827.	The mitigation measures proposed for the project consider the NEM:AQA, 2004 and the National Dust Control Regulations.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) read together with applicable amendments and regulations thereto.	Assessment of biophysical environment.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) read together with applicable amendments and regulations thereto. NEM:WA, 2008: National norms and standards for the storage of waste (GN 9260).	The mitigation measures proposed for the site consider the NEM:WA.
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	Assessment of the cultural and heritage environment.
National Road Traffic Act, 1996 (Act No. 93 of 1996)	The mitigation measures proposed for the project consider the NRTA, 1996.
National Water Act, 1998 (Act No. 36 of 1998) read together with applicable amendments and regulations thereto. Department of Water Affairs and Forestry Best Practice Guideline Series (2007).	Prospecting within proximity to watercourses may require a water use authorisation in terms of Section 39 of the NWA, 1998 for water uses as defined in section 21 of the Act. However, the proposed activities are not currently expected to need authorisation in terms of the NWA. Once the prospecting plan was finalised, and should such application be needed, the Applicant will enter discussions with the DWS to determine the relevant requirements.
Northern Cape Nature Conservation Act, 2009 (Act No 9 of 2009) read together with applicable amendments and regulations thereto.	Assessment of biophysical environment.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
Public Participation Guideline in terms of the NEMA EIA Regulations.	The guidelines were used during the public participation process.
The South African Constitution.	To be upheld throughout the EIA assessment, planning-, construction-, operational- and decommissioning phases.

f) Need and desirability of the proposed activities.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

As mentioned earlier, kieselguhr is a highly sought after mineral in the absorbent, cement, filtration, medical, and other industries. Other uses of kieselguhr include animal feed applications, natural dewormer for animals, insect, and ant killer. Kieselguhr also has wide application for an anti-caking agent in grain storage as well as mixed feeds.

❖ **Filter Media**

Kieselguhr is used at drinking water treatment plants, swimming pools, breweries, wineries, chemical plants, and where juices and syrups are made. These fluids are forced through a layer of wet diatomaceous earth, and suspended particles are trapped because it cannot fit through the pores.

❖ **Cement Additive**

Kieselguhr is often used as an additive in the manufacture of portland cement. High-quality kieselguhr contains over 80% silica, and it is added to the cement-making process to boost the silica content of the product.

❖ **Filler**

Diatomaceous earth is used as a lightweight, inert filler in some manufactured products. It is added to paint as a whitening agent and extender. It is added to plastics as a lightweight filler. It is used as a filler and anti-stick agent in asphalt shingles and to improve adhesion resistance in many rubber products.

❖ **Absorbent**

If dry diatomaceous earth is placed on a liquid spill, it can absorb and hold an amount of liquid equivalent to its own weight. This absorption facilitates containment, cleanup, and removal. These same properties make diatomaceous earth able to absorb skin oils when used in cosmetics and facial masks. Diatomaceous earth is an absorbent ingredient of some kitty litters. It is also used as a soil treatment to absorb and hold water.

❖ **Mild Abrasive**

Diatomaceous earth is used as a mild abrasive in some toothpastes, facial scrubs, and metal polishes. Its silica particles are small, friable, have a high surface area, and are angular in shape. These are properties that help it perform well as a mild abrasive.

❖ **Gardening**

Diatomaceous earth is used as a growing medium in hydroponic gardens. It is inert, holds water, and has a porosity that allows the soil to breathe. To help grain and other seeds from sticking together and remain dry, they are dusted with diatomaceous earth.

❖ **Insect and Slug Control**

Diatomaceous earth is an abrasive and an absorbent. These properties make it effective in controlling slugs and certain insects.

❖ **Flea and Tick Control**

Dogs and cats can be treated with food-grade diatomaceous earth to control fleas and ticks.

Within the Griqualand West area, kieselguhr appear to overlay either lava of the Ongeluk Sub-Group, or Dwyka shale (Base Kalahari Formation) along ancient water courses and paleo-marshes. This prospecting right application intends to identify feasible kieselguhr sources in the Northern Cape that can economically be exploited and contribute to the economy of the region.

The proposed labour component of the proposed project will be ±15 to 20 labourers that will be hired from the local communities.

The need and desirability of the proposed operation was assessed in terms of the National Department of Environmental Affairs' Guideline on Need and Desirability (first version published in terms of section 24J of the NEMA in 2014, and second version in 2017). The following table shows the questions that were considered in this regard.

Table 6: Need and desirability determination.

1. SECURING ECOLOGICAL SUSTAINABLE DEVELOPMENT AND USE OF NATURAL RESOURCES		
<u>How will this development impact on the ecological integrity of the area?</u>		
Question	Response	Level of Desirability
How were ecological integrity considerations considered?	As discussed under Heading 2(h)(iv)(1)(a) <i>Type of environment affected by the proposed activity</i> , the DFFE Screening Report indicates various ESA and CBA's over the earmarked properties. Various watercourses cross the properties and pans occur on especially Vaalwater No 84. The farms Bermolli No 583 and Engelsdraai No 221 are within FEPA's. The vegetation types of the study area include at least seven different types all of which have a conservation status of Least Threatened.	Need and desirability to be defined during the following EIAR phase.
How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity?	<p>Following the DSR commenting period, it was submitted by CDH (on behalf of SIOC) that Bermolli No 583 (Portion 4 and 5) forms part of the proposed Kolomela Biodiversity Off-Set Area to be declared a nature reserve once the required administrative processes have been completed.</p> <p>Presently, the vegetation of the farms are intact and natural to near natural except for some previously mined areas and developed farmyards. The DEIAR will assess the fauna and flora of the study area as part of the EIA process. The flora-part of the assessment will consider the various plant communities, inform on the occurrence of endangered plant communities and red data plant species, identify areas of concern to be excluded from the prospecting footprint, instruct on the management of red data species, identify the presence and distribution of threatened plants present in the study area, determine the impact that the proposed activity will have on the conservation status of natural vegetation, and propose management and mitigation measures for identified impacts. The intention is to minimize the removal of natural vegetation, and to in the end restore the footprint area to land suitable for agricultural purposes upon closure of each sampling site.</p>	
How will this development pollute and/or degrade the biophysical environment?	Due to the small scale and nature of the proposed activity the pollution potential is of low significance. The prospecting method proposes continued reinstatement of the prospected areas, thereby keeping the impact on the receiving environment as low as possible. The potential of the proposed activity degrading the biophysical environment will be determined once the findings of the specialists were received.	
What waste will be generated by this development?	Due to the nature of the project, very little general waste is expected to be generated as a direct result of the prospecting activities. The general waste will mainly consist of paper, plastic, glass, metal and potentially tin that will be contained in sealable refuse bins at the site camp from where it will be removed to a registered landfill site when the capacity of the containers is reached.	Highly Desirable

1. SECURING ECOLOGICAL SUSTAINABLE DEVELOPMENT AND USE OF NATURAL RESOURCES

How will this development impact on the ecological integrity of the area?

Question	Response	Level of Desirability
	<p>Likewise, very little generation of hazardous waste is expected. Hazardous waste will mainly be the result of accidental spillages/breakdowns. The hazardous waste to be generated will be kept in designated hazardous waste containers to be removed from the site by a registered hazardous waste handling contractor.</p> <p>Chemical ablation facilities will be available to the employees that will weekly be serviced by a registered contractor.</p> <p>No waste will be disposed of or treated on the farms.</p>	
<p>How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage?</p>	<p>An archaeologist and palaeontologist will be appointed to assess the cultural importance of the proposed areas. The findings of the specialist study will be incorporated into the DEIAR.</p>	<p>Need and desirability to be defined during the following EIAR phase.</p>
<p>How will this development use and/or impact on non-renewable natural resources?</p>	<p>The Applicant proposes to collect ±100 000 m³ of kieselguhr samples across the entire 15 602 ha application area. Considering this, the potential impact of the proposed activity on non-renewable natural resources is deemed negligible.</p>	<p>Highly Desirable</p>
<p>How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part?</p>	<p>The proposed activity will make use of generators to power the site infrastructure and obtain water from legal sources. The water will mainly be needed for dust suppression purposes and a maximum use of 10 000 l/day is anticipated.</p>	<p>Highly Desirable</p>
<p>How were a risk-averse and cautious approach applied in terms of ecological impacts?</p>	<p>The findings of the specialists will be assessed during the EIA phase and if needed alternatives will be considered to minimise the impact of the activity on biological sensitive areas.</p>	<p>Need and desirability to be defined</p>



1. SECURING ECOLOGICAL SUSTAINABLE DEVELOPMENT AND USE OF NATURAL RESOURCES

How will this development impact on the ecological integrity of the area?

Question	Response	Level of Desirability
<p>How will the ecological impacts resulting from this development impact on people's environmental right?</p>	<p>The proposed activity will be managed in accordance with the agricultural practices of the farms and/or other land uses. As mentioned in Heading 3(j)(1) <i>Impact on the socio-economic condition of any directly affected person</i>, the activity may have an impact on the land use, visual characteristics of the surrounding environment and may potentially affect air quality and possibly the noise ambiance of the study area. The degree and significance of the listed impacts will be assessed during the following EIA phase. By nature these impacts require constant monitoring to be implemented throughout the operational-, and decommissioning phases of the project.</p>	<p>during the following EIAR phase.</p>
<p>Describe the linkages and dependencies between human wellbeing, livelihoods, and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts.</p>	<p>The Applicant is in discussions with the landowners of the earmarked properties and will engage the landowners on co-existence agreements during the planning stage prior to the commencement of invasive prospecting. As mentioned earlier, the potential impact of the proposed activity on the receiving environment will be assessed, as well as any other impacts to be identified during the EIA phase.</p> <p>Further to this, the landowners will be compensated for the use of their properties, and the mine intends to employ between 15 and 20 residents from the community.</p>	<p>Need and desirability to be defined during the following EIAR phase.</p>
<p>Based on all the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?</p>	<p>The findings of the specialists will be assessed and if needed various alternatives will be considered to minimise the impact of the activity on biological sensitive areas. These findings will be collated into the draft EIAR that will be distributed for public perusal and commenting. Following the commenting period, the project proposal will be finalised.</p>	<p>Need and desirability to be defined during the following EIAR phase.</p>
<p>Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified, resulted in the selection of the "best practicable environmental option" in terms of ecological considerations</p>		



2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
What is the socio-economic context of the area?	Please refer to Heading 2(h)(iv)(1)(a) Socio-economic Environment.	Need and desirability to be defined during the following EIAR phase.
Considering the socio-economic context, what will the socio-economic impacts be of the development, and specifically also on the socio-economic objectives of the area?	<p>As mentioned in Heading 3(j)(1) <i>Impact on the socio-economic condition of any directly affected person</i>, the activity may have an impact on the visual characteristics of the surrounding environment and may potentially affect air quality and possibly the noise ambiance of the study area. The proposed invasive prospecting of the earmarked area may further impact the land use of the properties in particular those owned and/or mined by mining right holders. The degree and significance of the listed impacts will be assessed during the following EIA phase.</p> <p>If the PR application is approved, the Applicant entered a partnership with an international company for the metallurgical testing of the kieselguhr samples and should the results be favourable the project may lead to a mining right application that could establish South Africa in the international kieselguhr market.</p> <p>The project will further contribute directly to the greater society through the employment of 15 to 20 residents as well as compensating the landowners for the use of their land.</p>	
How will this development address the specific physical, psychological, developmental, cultural, and social needs and interests of the relevant communities?	<p>The project proposes prospecting activities to determine kieselguhr resources in the Hay and Kuruman Districts. The potential impact of the proposed activity on the physical, psychological, cultural, or social needs of the community will be assessed as part of the following EIA phase.</p> <p>Also refer to the discussion under Heading 2(k) <i>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.</i></p>	

2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
Will the development result in equitable impact distribution, in the short- and long-term?	The Applicant intends to employ 15 to 20 people from the local community for the duration of the prospecting right (± 5 years). This is of crucial importance in municipal areas with very high unemployment rates.	Highly Desirable
In terms of location, describe how the placement of the proposed development will contribute to the area.	The project was initiated to identify the kieselguhr resources in the earmarked area. As mentioned earlier, positive outcomes could contribute to the export of kieselguhr from South Africa. Due to the nature of invasive prospecting activities, the location of drill holes and sampling sites can to a certain extent be moved to avoid structures and/or sensitive areas where possible. The landowners will also be compensated for the use of their land.	Highly Desirable
How were a risk-averse and cautious approach applied in terms of socio-economic impacts?	<p>The mitigation measures proposed in this report, but more importantly those of the final EIAR and EMPR (to be drafted), are compiled in consultation with the specialists to reduce the potential impact that the proposed activity may have on the receiving environment. Once approved, the management outcomes are legally binding, and to be implemented by site management for the duration of the site establishment-, operational- and decommissioning phases.</p> <p>The Applicant will also engage the landowners of the PR footprint regarding technical arrangements for the co-existence of the applicable entities on the same land. These negotiations will in particular consider the mining operations on the farms Devon No 277, Botha No 313, and Bermolli No 583 owned by mining companies.</p>	Desirable
How will the socio-economic impacts resulting from this development impact on people's environmental right?	As mentioned in Heading 3(j)(1) <i>Impact on the socio-economic condition of any directly affected person</i> , the activity may have an impact on the visual characteristics of the surrounding environment and may potentially affect air quality and possibly the noise ambiance of the study area. The degree and significance of the listed impacts will be assessed during the following EIAR phase. By nature these impacts require constant monitoring to be implemented throughout the operational-, and decommissioning phases of the project.	Need and desirability to be defined during the following EIAR phase.



2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
<p>Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts?</p>	<p>The Applicant is in discussions with the landowners of the earmarked properties. As mentioned earlier, the potential impact of the proposed activity on the receiving environment will be assessed, as well as any other impacts to be identified during the EIA phase.</p> <p>Further to this, the landowners will be compensated for the use of their properties, and the mine intends to employ 15 - 20 residents from the community.</p>	<p>Need and desirability to be defined during the following EIAR phase.</p>
<p>What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?</p>	<p>The findings of the specialists will be assessed, and if needed various alternatives will be considered to minimise the impact of the activity on biophysical/culturally sensitive areas. These findings will be collated in the draft EIAR that will be distributed for public perusal and commenting. Following the commenting period, the project proposal will be finalised.</p>	
<p>What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons?</p>		
<p>What measures were taken to pursue equitable access to environmental resources, benefits, and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by</p>	<p>Prospecting will operate in accordance with, amongst others, the following:</p> <ul style="list-style-type: none"> ❖ CARA, 1983 – to ensure agriculture related compliance; ❖ Financial Provision Regulations, 2015 – to ensure compliance in terms of rehabilitation; ❖ Mine Health and Safety Act, 1996 (as amended) – to ensure employee safety; ❖ MPRDA, 2002 (as amended) – to ensure prospecting related compliance; ❖ NEM:AQA, 2004 – to ensure air quality related compliance; 	<p>Highly Desirable</p>

2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
<p>categories of persons disadvantaged by unfair discrimination?</p> <p>What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?</p>	<ul style="list-style-type: none"> ❖ NEM:BA, 2004 – to ensure biodiversity related compliance; ❖ NEM:WA, 2008 – to ensure waste related compliance; ❖ NEMA, 1998 (as amended) – to ensure environmental related compliance; <p>Should the proposed application be approved, the prospecting areas will also be subject to compliance with the above listed. As mentioned earlier, the Applicant will engage the landowners of particularly Devon No 277, Botha No 313, and Bermolli No 583 regarding technical arrangement for the co-existence of separate entities on the same land.</p>	
<p>Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community that is consistent with the priority needs of the local area.</p>	<p>The Northern Cape is well known for its rich mineral deposits. Prospecting for kieselguhr will contribute to the mineral wealth of the province and could assist landowners to extend the land use of their properties.</p>	<p>Highly Desirable</p>
<p>What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected.</p>	<p>The activities must operate in accordance with the specifications of the Mine Health and Safety Act, 1996 (MHSA). Site management will have daily discussions with the staff regarding the work to be performed and the environment in which the work will take place. Grievances/concerns can be lodged during the daily site meetings. The MHSA further requires the submission of quarterly occupational hygiene reports that record site specific occupational hygiene exposure assessments.</p>	<p>Highly Desirable</p>
<p>Describe how the development will impact on job creation in terms of, amongst other aspects?</p>	<p>The Applicant intends to appoint 15 - 20 employees should the project advance to the invasive prospecting phases. These employees will be sourced from the local community.</p>	<p>Highly Desirable</p>



2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
<p>What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage.</p>	<p>The proposed activity will operate under a valid environmental authorisation and prospecting right to be issued by the DMRE-NC. Compliance of the site with the approved EMPR and EA conditions will be reported on as per departmental specification. Considering this, the proposed activity will take place in an environmentally sustainable manner with the least possible impact on the receiving environment.</p>	<p>Highly Desirable</p>
<p>Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left.</p>	<p>It is believed that the preliminary list of mitigation measures proposed in this document is realistic and can be implemented (when needed). Should the prospected areas be rehabilitated successfully, no long-term management burden will be left behind.</p>	<p>Highly Desirable</p>
<p>What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution environmental damage or adverse health effects will be paid for by those responsible for harming the environment.</p>	<p>In terms of Section 41 of the MPRDA, 2002 a prospecting right holder must submit a financial provision to the DMRE that is sufficient to rehabilitate or manage the negative environmental impacts related to the activity. Upon approval of this application, the Applicant will lodge a financial guarantee with the DMRE that will be deemed sufficient to cover the financial provision amount needed to rehabilitate the affected areas. The environmental liability of the operation will annually be reviewed and if a shortfall is indicated, the guarantee will be accordingly adjusted.</p>	<p>Highly Desirable</p>
<p>Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified, resulted in the selection of the best practicable environmental option in terms of socio-economic considerations</p>	<p>The findings of the specialists will be assessed and if needed various alternatives will be proposed to minimise the impact of the activity on biophysical sensitive areas. These findings will be collated in the draft EIAR that will be distributed for public perusal and commenting. Following the commenting period, the project proposal will be finalised.</p>	<p>Need and desirability to be defined during the following EIAR phase.</p>



2. PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT

What is the socio-economic context of the area?

Question	Response	Level of Desirability
Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area.		

g) Period for which the environmental authorization is required.

The Applicant requests that the Environmental Authorisation (EA) be valid for at least the duration of the prospecting right.

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

NB!! This section is not about the impact assessment itself, It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.

i) Details of all alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity

a) The property on which, or location where, it is proposed to undertake the activity.

Presently, the project proposal entails the prospecting of 15 602.0765 ha area over the properties listed in section *b) Description of the Property* and presented in Figures 1 and 2.

Applicants can only apply for prospecting rights within areas where such rights are not yet held by other companies/applicants. Furthermore, the prospecting activities are dependent upon the presence of the desired minerals which are again dependent upon geological formations. As the intention of the proposed prospecting operations is to determine the presence of economically viable kieselguhr deposits in the Northern Cape, an area known/expected to contain these resources needs to be selected. Within the Griqualand West area, the diatoms appear to overlay either lava of the Ongeluk Sub-Group, or Dwyka shale (Base Kalahari Formation) along ancient water courses and paleo-marshes. The lava of the Ongeluk Sub-Group covers a substantial area along the Ongeluk-Witwater and Demoten synclines. The rock formation is also present along a thrust nape to the west of the Maremane dome. Considering this, the proposed footprint of the PR application was based on the available geological information which is of interest to kieselguhr.

b) Type of activity to be undertaken

The proposed activity entails prospecting with bulk sampling. Presently it is proposed that prospecting will be conducted using a combination of non-invasive and invasive activities. The invasive prospecting will include drilling and trenching that will entail the collection of large samples ($\pm 50\,000\text{ m}^3$ per phase) that constitutes bulk sampling. The proposed bulk sampling methods have been developed over many years by the mining industry and are the preferred method for resource estimation. These methods cannot easily be replaced by other methods.

The only other alternative would be to prospect the area without bulk sampling. However, the Applicant entered a partnership with an international firm regarding the testing of the kieselguhr

samples for metallurgical and production compatibility with their production plants. The company requires bulk samples of at least 20 000 ton (per sample) to facilitate the metallurgical and production compatibility testing. Should bulk sampling be excluded from the project proposal the prospect of a possible international market for South African kieselguhr (should a mining right be considered) will remain unexploited. Further to this, kieselguhr has varying qualities and thus the samples must be distributed to a wide range of prospective clients from cement manufactures, paint manufacturers, filtration specialists etc. that requires the collection of large samples.

c) Design and layout of the activity.

The Applicant indicated that sensitive areas and areas of conservation importance will be avoided by the proposed activities, and that a 110 m buffer will be maintained around the railway line on Portion 1 of Devon No 277. The preferred drilling, trenching and pitting locations will be determined following the outcome of phases 1 & 2 and the mapping of geological survey data. The EIAR will include a list of areas (identified by specialists) that must be avoided and where no prospecting may be allowed. This list will be expanded on upon consultation with the stakeholders.

During the DSR commenting period, CDH (on behalf of SIOC) submitted that Portion 4 and 5 of Bermolli No 583 forms part of the proposed Kolomela Biodiversity Off-Set Area to be declared a nature reserve once the required administrative processes have been completed. CDH further submitted letters from the DFFE and DAERL objecting a mining right application submitted by Wadala Mining and Consulting (Pty) Ltd in relation to Portion 5 of Bermolli No 583 on the basis that the property was presented as a “candidate” offset receiving area and accepted for declaration as part of a Nature Reserve. DFFE and DAERL mentioned in the said correspondence that the property must be regarded as a no-go zone for mining and prospecting applications. Following receipt of this correspondence, the Applicant and project team (including specialists) will consider the matter during the EIA phase and contemplate design/layout alternatives. This will be assessed and discussed in detail in the DEIAR.

As some of the proposed properties are actively mined/earmarked for mining, additional design/layout alternatives that takes the current land uses into account will be considered, discussed, and assessed during the EIA phase.

d) Technology to be used in the activity.

Although several types of drilling tools and machinery exists for prospecting, the Applicant proposes to use air drills for RAB (rotary air blast) drilling and reverse circulation drilling; diamond drill rigs will be used for core drilling. Geophysical equipment will be needed for ground electro-magnetic, magnetic and gravity surveys.

The bulk sampling trenches/pits will be dug by excavator, upon which the loosened material will be moved by FEL to the crushing/milling plant. The material will be crushed, screened, and sized to product stockpiles from where it will be transported off-site by trucks.

Although sample collection will require various mechanical equipment to be on site, the process do not require highly specialised technology as secondary processing and metallurgical testing will occur off-site. Therefore no technology alternatives were deemed viable for this project.

e) Operational aspects of the activity.

The operational aspects of the activity will be based on the non-invasive prospecting results. The project allows some flexibility in terms of when, where, and how the sampling and surveying is conducted. For instance, the site camp location and jeep-track routes will be determined in accordance with the landowner agreement and identified sensitive areas that must be avoided. The project can also consider mitigating impacts such as dust generation, prospecting during agriculturally important seasons etc. The DEIAR will expand on the operational aspects of the project upon receipt of the specialist studies.

f) Option of not implementing the activity (No-go Alternative)

The no-go alternative entails no change to the *status quo* and is therefore a real alternative that needs to be considered. If the no-go alternative is implemented the land in question cannot be prospected for kieselguhr, which may result in a loss of an economically viable natural resource that can be used in a variety of industries. The no-go option will further entail a loss of employment opportunities, as well as socio-economic benefits and growth development opportunities. Given the high level of unemployment and poverty in the Hay and Kuruman Magisterial Districts the loss of such opportunities is considered significant.

The positive implications of the no-go alternative are that there will be no impact on the current land use, bio- and geophysical environment of the earmarked areas.

ii) Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

The relevant landowners, stakeholders and I&AP's were informed of the prospecting right application by means of an advertisement in the Noordkaap Bulletin, and on-site notices that were placed at conspicuous places. A notification letter inviting comments on the DSR over a 30-days commenting period (ending 25 March 2024) was sent to the landowners, lawful occupier, neighbouring landowners, stakeholders, and any other I&AP that may be interested in the project.

Further to this an advertisement was placed in the Noordkaap Bulletin inviting the surrounding landowners whose contact details could thus far not be obtained to register on the project. All the notices and advertisements were available in both Afrikaans and English. The comments received on the DSR were incorporated into this report the final Scoping Report (FSR) to be submitted to the DMRE for consideration. Also refer to Appendix 5 for proof of the public participation process.

The following table provides a list of the I&AP's and stakeholders that were informed/invited to comment/register on the project:

Table 7: List of the landowners, I&AP's and stakeholders that were informed/invited to comment/register on the project.

LANDOWNERS	SURROUNDING LANDOWNERS
<p><u>Landowner:</u></p> <ol style="list-style-type: none"> 1. United Manganese of Kalahari (Pty) Ltd Remaining Extent of the farm Botha No 313 Portion 1 of the farm Botha No 313 2. Kudumane Manganese Resources (Pty) Ltd Remaining Extent of the farm Devon No 277 3. Transnet Ltd Portion 1 of the farm Devon 277 4. Mr PJ van der Byl Lambrechts Portion 4 of the farm Bermolli No 583 5. Sishen Iron Ore Company (Pty) Ltd Portion 5 of the farm Bermolli No 583 6. Me VMH Sieberhagen Remaining Extent of the farm Engelsdraai No 221 7. Van der Byl Boerdery (Pty) Ltd Portion 1 of the farm Engelsdraai No 221 8. Me EGA Maritz Remaining Extent of the farm Witdraai No 204 9. KG Mining (Pty) Ltd Portion 1 of the farm Witdraai No 204 10. Abraham Willem Adriaan van Wyk Testamentêre Trust & Me TJ van Wyk Remaining Extent of the farm Vaalwater No 84 11. Me M and Mr PJ van Biljon Portion 1 of the farm Vaalwater No 84 	<p><u>Surrounding Landowners and I&AP's:</u></p> <ul style="list-style-type: none"> ❖ J&B van Wyk Familie Trust Remaining Extent of Moodraai No 310 ❖ Amari Manganese (Pty) Ltd Portion 1 of Kongoni No 311 ❖ Assmang Ltd Remaining Extent of Telele No 312 ❖ Mr GA Coetsee Remaining Extent of Roldraai No 333 ❖ Me AS Anthonissen Remaining Extent of Perth No 276 ❖ United Manganese of Kalahari (Pty) Ltd Remaining Extent of Smartt No 314 ❖ Saltrim Ranches (Pty) Ltd Remaining Extent of Middelplaats No 332 ❖ Kudumane Manganese Resources (Pty) Ltd Portion 2 of York A No 279, Portion 11 of York A No 279, Portion 1 of Telele No 312 ❖ Mr DH Fourie Remaining Extent of Annex Langdon No 278 ❖ Mr JP Jansen Remaining Extent of York A No 279

LANDOWNERS	SURROUNDING LANDOWNERS
<p>Portion 2 of the farm Vaalwater No 84</p>	<ul style="list-style-type: none"> ❖ DP World (formerly known as Imperial Logistics South Africa Group (Pty) Ltd) Portion 13 of York A No 279 ❖ Transnet Ltd Portion 1 of Perth No 276, Portion 3 of York A No 279 ❖ Mr CH Kotze Remaining Extent of Farm No 231 ❖ Kriel Boerdery Trust Remaining Extent of Farm No 228, Portion 1 of Farm No 228 ❖ Mr HT Snijman & Hennie Tjaart Snijman Testamentêre Trust Remaining Extent of Watervlak No 585, Portion 2 of Watervlak No 60 ❖ Floradale Boerdery CC Remaining Extent of Farm No 230 ❖ Sishen Iron Ore Company (Pty) Ltd Remaining Extent of Farm No 542, Portion 2 of Farm No 542, Portion 3 of Farm No 543 ❖ Mr TJ Snyman Remaining Extent of Gras Vlakte No 61, Remaining Extent of Farm No 223 ❖ Me VMH Sieberhagen Remaining Extent of Farm No 218 ❖ Van der Byl Boerdery (Pty) Ltd Portion 2 of Farm No 218 ❖ Pieter Bredenkamp Trust Remaining Extent of Farm No 222 ❖ Coeta-M Trust Remaining Extent of Farm No 224 ❖ QCK Lezmin 4677 (Pty) Ltd Portion 3 of Gekonsolideerde Plaas No 210 ❖ KG Mining (Pty) Ltd Portion 1 of Farm No 203 ❖ Me EGA Maritz

LANDOWNERS	SURROUNDING LANDOWNERS
	<p>Portion 2 of Farm No 203</p> <ul style="list-style-type: none"> ❖ Mr JH Coetzee Remaining Extent of Paauwvontein No 209, Portion 1 of Gekonsolideerde Plaas No 210 ❖ Mr MC Lambrechts Remaining Extent of Farm No 200, Portion 1 of Farm 200, Remaining Extent of Farm No 201, Portion of Farm No 201, Portion 1 of Farm No 202, Remaining Extent of Farm No 203, Remaining Extent of Oudemeideskloof No 205 ❖ Mr AJC van Wyk Remaining Extent No 82 ❖ Me DGS Murray Remaining Extent of Zaai Plaats No 83 ❖ Mr PK van Zyl Remaining Extent of Kopje No 85 ❖ Mr FP van der Schyff Remaining Extent of Dell No 92, Remaining Extent of Range No 93 ❖ Abraham Willem Adriaan Van Wyk Testamentêre Trust Remaining Extent of Farm No 570 ❖ Mr JW van Niekerk Remaining Extent of Matsap No 81, Remaining Extent of Farm No 79 ❖ Oberholster Anna Gertruida B/E & Oberholster Anna Gertruida Trust Bergenaars Pad No 225, Remaining Extent of Farm No 220 ❖ Mr RJ Coetzee Paardekloof No 219

STAKEHOLDERS
<ul style="list-style-type: none"> ❖ Department of Agriculture, Environmental Affairs, Rural Development and Land Reform; ❖ Department of Agriculture, Land Reform and Rural Development; ❖ Department of Economic Development and Tourism; ❖ Department of Labour;

STAKEHOLDERS

- ❖ Department of Roads and Public Works;
- ❖ Department of Water and Sanitation;
- ❖ Eskom;
- ❖ Joe Morolong Local Municipality;
- ❖ Joe Morolong Local Municipality (Ward 4);
- ❖ John Taolo Gaetsewe District Municipality;
- ❖ Pixley ka Seme District Municipality;
- ❖ Postmasburg Boerevereniging;
- ❖ Siyancuma Local Municipality;
- ❖ Siyancuma Local Municipality (Ward 1);
- ❖ Siyancuma Local Municipality (Ward 7);
- ❖ South African Heritage Resources Agency;
- ❖ Tsantsabane Local Municipality;
- ❖ Tsantsabane Local Municipality (Ward 7);
- ❖ ZF Mgcawu District Municipality.

The following table presents a list of stakeholders, landowners, and/or I&AP's that commented/registered on the project thus far.

Table 8: List of the landowners, I&AP's and stakeholders that comment/register on the project.

REGISTERED STAKEHOLDERS, LANDOWNERS AND/OR I&AP'S

- ❖ Blackrock Mine Operations;
- ❖ Kudumane Manganese Resources (Pty) Ltd & Malan Scholes Incorporated (MSI);
- ❖ Mr A Williams (Agri Postmasburg);
- ❖ Me C Lambrechts (Portion 4 of Bermolli No 583);
- ❖ Mr J Bredenkamp (Portion 3 of Gekonsolideerde Plaas No 210);
- ❖ Mr W Pretorius (DP World formerly known as Imperial Logistics South Africa Group (Pty) Ltd / Portion 13 of York No 279);
- ❖ Sishen Iron Ore Company (SIOC) & Cliffe Dekker Hofmeyr (CDH);
- ❖ Transnet SOC Ltd; and
- ❖ United Manganese of Kalahari (Pty) Ltd.

Upon approval of the Final Scoping Report the Draft Environmental Impact Assessment Report will be compiled and circulated for public comment for a 30-day commenting period. Finally the comments received on the draft EIA & EMPR will be incorporated into the final EIA & EMPR to be submitted for decision making to the DMRE.

iii) Summary of issues raised by I&APs

(Complete the table summarizing comments and issues raised, and reaction to those responses)

Table 9: Summary of issues raised by I&AP's and stakeholders.

Interested and Affected Parties		Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted				
AFFECTED PARTIES		-	-	-
Landowner/s	X	-	-	-
United Manganese of Kalahari (Pty) Ltd (UMK) ❖ Remaining Extent of Botha No 313	X	15/02/2024 & 19/02/2024	Mr Phayane registered as the representative of UMK, following which Mr Mudau requested to be registered as an I&AP on behalf of UMK on 19 February 2024.	Greenmined acknowledged both registrations and supplied Mr Mudau with a copy of the Regulation 2.2 Project Map. Both parties were invited to comment on the DSR. To date no additional comments were received from UMK.
United Manganese of Kalahari (Pty) Ltd ❖ Portion 1 of Botha No 313	X			
Kudumane Manganese Resources (Pty) Ltd (KMR) ❖ Remaining Extent of Devon No 277	X	13/02/2024 & 27/02/2024 & 25/03/2024 & 26/03/2024	KMR registered (13 February 2024) as I&AP's on the project and noted that as surface right holder, they appeal the application.	Greenmined acknowledged the registration and appeal of KMR. KMR was invited to comment on the DSR.
<p>On 27 February 2024 Me Ramsay of Malan Scholes Incorporated informed that as KMR is a holder of a mining right (NC 30/5/1/2/2/10053 MR) on the farm Devon No 277 the company is an I&AP and would therefore like to be register on the project. Me Ramsay also enquired/requested the following:</p> <ol style="list-style-type: none"> confirmation as to whether the Prospecting Right application lodged by K2022641005 (South Africa) Proprietary Limited, has been accepted; if the Prospecting Right Application has been accepted, please provide a copy of the letter recording the acceptance by the Regional Manager of the Prospecting Right Application; and a copy of the Scoping Report (and any other relevant documents) prepared by Greenmined Environmental (Pty) Ltd. 				
<p>On 28 February 2024, Greenmined acknowledged that KMR is registered as I&AP on the project. Greenmined also responded as follows to the query/request of Me Ramsay:</p> <ol style="list-style-type: none"> "The application was accepted by the DMRE on 13 December 2023; Attached (to the response email) please receive a copy of the said acceptance letter; A copy of the draft Scoping Report is available on our website at www.greenmined.com/prospecting-rights/ under the heading <i>K2022641005(South Africa) (Pty) Ltd, NC 30/5/1/1/2/13826 PR</i>. However, should you not be able to download the report from the website please let me know and I will gladly supply you with a WeTransfer link to the document. Please note the commenting period on the DSR expires on 25 March 2024 as we have to prepare the Final Scoping Report for timeous submission to the DMRE." 				

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
<p>Additional comments received from Malan Scholes Incorporated on behalf of KMR:</p> <p>"1.1 We act for Kudumane Manganese Resources Proprietary Limited ("KMR").</p> <p>1.2 We refer to your notice dated 22 February 2024 ("22 February Notice"), which enclosed a link containing, inter alia, the draft scoping report ("Draft Scoping Report") prepared by Greenmined Environmental Proprietary Limited ("Greenmined"), the environmental assessment practitioner ("EAP") appointed by K2022641005 (South Africa) Proprietary Limited (the "Applicant"), for purposes of the Applicant's application for an environmental authorisation ("EA Application") in terms of part 3 of Chapter 4 of the Environmental Impact Assessment Regulations, 2014 (GNR 982 of 4 December 2014), as amended ("EIA Regulations"), published in terms of the provisions of the National Environmental Management Act, 107 of 1998, as amended ("NEMA"). A copy of the 22 February Notice is attached hereto as Annexure "A".</p> <p>1.3 The EA Application has been submitted by the Applicant in pursuance of a prospecting right ("Prospecting Right Application") with Department of Mineral Resources and Energy ("DMRE") reference number: NC 30/5/1/1/2/13826 PR in accordance with section 16 of the Mineral and Petroleum Resources Development Act, 28 of 2002, as amended ("MPRD Act"), inclusive of bulk sampling, for the minerals diatomite, diatomaceous earth and kieselguhr in respect of the following farms –</p> <p>1.3.1 in the Kuruman District –</p> <p>1.3.1.1 Portion 1 and the Remaining Extent of the farm Botha No 313; and</p> <p>1.3.1.2 Portion 1 and the Remaining Extent of farm Devon No 277 (the "Farm Devon");</p> <p>1.3.2 in the Hay District –</p> <p>1.3.2.1 Portions 4 and 5 of the farm Bermolli No 583;</p> <p>1.3.2.2 Portion 1 and the Remaining Extent of farm Engelsdraai No 221;</p> <p>1.3.2.3 Portion 1 and the Remaining Extent of the farm Witdraai No 204; and</p> <p>1.3.2.4 Portions 1, 2 and the Remaining Extent of the farm Vaalwater No 84;</p> <p>all situated within the Northern Cape Province ("Prospecting Right Area").</p> <p>1.4 The purpose of this letter is to provide comments, in terms of regulation 43 of the EIA Regulations, by KMR (being a registered interested and affected party ("I&AP")), in the form of an objection and to bring specific issues to the attention of, inter alia, Greenmined and the DMRE. The comments and objections submitted by KMR are set out in paragraph 2 below.</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP’s response to issues raised by the Applicant</p>
<p>1.5 On 12 February 2024, Tshifhiwa Nemakhavhani (“Nemakhavhani”), a SHERQ Manager employed by KMR, came across the Prospecting Right Application notification (“Prospecting Right Application Notification”) advertised alongside the main entrance gate of the Farm Devon. The Prospecting Right Application Notification advised I&APs of the Applicant’s Prospecting Right Application for the minerals diatomite, diatomaceous earth and kieselguhr, in respect of the Prospecting Right Area. A photograph of the Prospecting Right Application Notification taken by Nemakhavhani on 12 February 2024 is attached hereto as Annexure “B”.</p> <p>1.6 Subsequent to KMR becoming aware of the Applicant’s Prospecting Right Application and on 13 February 2024, Baratang Mothobi (“Mothobi”) of KMR, registered KMR as an I&AP. A copy of the email trail in which Mothobi registered KMR as an I&AP as well as confirmation of registration from the EAP, is attached hereto as Annexure “C”.</p> <p>1.7 In terms of the Prospecting Right Application Notification, Greenmined advised that the “[D]raft Scoping Report (DSR) will be available for public comment from 22 February 2024”. On 22 February 2024, KMR received an email (“22 February Email”) from the EAP in which to notify KMR that the Draft Scoping Report was now available for comment. A copy of the 22 February Email is attached hereto as Annexure “D”.</p> <p>1.8 In light of the fact that KMR was notified in the 22 February Email that the Draft Scoping Report was available for comment from 22 February 2024, KMR’s comments are submitted on 25 March 2024, being within the prescribed 30-day period.</p> <p>1.9 KMR is the Holder, as defined in section 1 of the MPRD Act, of a Mining Right (“KMR Mining Right”) for “Manganese Ore” in respect of, inter alia, the Farm Devon 227, situated in the Magisterial District of Kuruman, Northern Cape (“KMR Mining Right Area”). The KMR Mining Right commenced on 20 January 2017 and will continue to be in force for a period of 20 years, ending on 19 January 2037. A copy of the KMR Mining Right is attached hereto as Annexure “E”.</p> <p>1.10 KMR subsequently applied for and was granted consent in terms of section 102 of the MPRD Act (“Section 102 Amendment”) to include the minerals “[B]ended Iron Formation, Calcrete and Wesselite” in the KMR Mining Right. A copy of the Section 102 Amendment is attached hereto as Annexure “F”.</p> <p>1.11 In addition to being the Holder of the KMR Mining Right, KMR owns the following properties –</p> <p>1.11.1 Portion 1 and the Remaining Extent of the Farm Devon (which fall within the Applicant’s Prospecting Right Area);</p> <p>1.11.2 Portions 2 and 11 of the Farm York A 279; and</p> <p>1.11.3 Portion 1 of the farm Telele 312.</p> <p>1.12 In accordance with the KMR Mining Right, KMR -</p> <p>1.12.1 is currently conducting opencast Mining Operations on the farm Hotazel 280;</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP’s response to issues raised by the Applicant</p>
<p>1.12.2 is engaged in an exploration campaign which seeks to optimise opencast resources and thereby increase the overall life of mine on the farm Kipling 271</p> <p>1.12.3 intends to establish a Waste Dump on the Western side of the farm Devon (“Waste Dump”). The Waste Dump is an authorised facility;</p> <p>1.12.4 intends to conduct concurrent rehabilitation activities at the Devon pit located on the farm Devon;</p> <p>1.12.5 intends to expand mining operations to the orebody on the farm Devon (including underground mining); and</p> <p>1.12.6 intends to develop a blasting contractor site on the Eastern side of the farm Devon.</p> <p>1.13 In addition to being the Holder of the KMR Mining Right in respect of the KMR Mining Area, KMR is the Holder of a Mining Right for “Manganese Ore” (“York Mining Right”) in respect of the “Remainder and Portion 1 of the farm Telele No 312, Remainder and Portion 2 of the farm York” situated in the Magisterial District of Kuruman, Northern Cape Province (“York Mining Right Area”). A copy of the York Mining Right is attached hereto as Annexure “G”.</p> <p>1.14 It is evident from the plan attached to the KMR Mining Right, that the KMR Mining Area and the York Mining Area are situated directly opposite one another. In accordance with both the KMR Mining Right and the York Mining Right, KMR intends to –</p> <p>1.14.1 commence with underground Mining Operations which is intended to stretch from the farm Devon to the farm York; and</p> <p>1.14.2 migrate the waste collected at the farm York to the farm Devon, once the Waste Dump has been established by KMR.</p> <p>1.15 Importantly, the underground mining activities on the farm Devon are authorised in KMR’s existing approvals.</p> <p>2 Comments and Objections in respect of the Draft Scoping Report</p> <p>2.1 Premature submission of the EA Application</p> <p>2.1.1 According to page 134 of the Applicant’s Draft Scoping Report – “[T]he environmental authorization- and prospecting right application in terms of the NEMA: EIA Regulations, 2014 (as amended) and the MPRDA, 2002 respectively <u>were submitted to the DMRE on 12 October 2023 and accepted on 13 December 2023 [our emphasis].</u>”</p> <p>2.1.2 It therefore appears that the Applicant submitted the Prospecting Right Application and the EA Application simultaneously on 12 October 2023.</p> <p>2.1.3 Regulation 16 (2)(a) of the EIA Regulations prescribes that –</p> <p><u>“[A]n application for an environmental authorisation may – (a) where applicable, only be submitted after the acceptance of an application for any right, permission, permit or consent in terms of the Mineral and Petroleum Resources Development Act, 2002 [our emphasis].”</u></p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP’s response to issues raised by the Applicant</p>
<p>2.1.4 The EIA Regulations clearly provide that the Applicant could only submit its EA Application <u>after</u> the acceptance of the Prospecting Right Application by the Regional Manager. Yet, it is clear from the Prospecting Right Application acceptance letter (“Acceptance Letter”), that the Regional Manager only accepted the Applicant’s Prospecting Right Application on 13 December 2023, being some 2 months after the EA Application was submitted by the Applicant. A copy of the Acceptance Letter dated 13 December 2023, is attached hereto as Annexure “H”.</p> <p>2.1.5 In light of the above, it is clear that the Applicant failed to comply with the provisions of regulation 16 of the EIA Regulations. Accordingly, KMR is of the view that the EA Application by the Applicant must be withdrawn and resubmitted by following the appropriate procedure provided for in the EIA Regulations.</p> <p>2.2 Socio-economic Impacts and Benefits</p> <p>2.2.1 In motivating for the need and desirability of the proposed Prospecting Operations by the Applicant, Greenmined on page 35 of the Draft Scoping Report states that the “proposed labour component of the proposed project will be ±15 to 20 labourers that will be hired from the local communities.” Greenmined goes further on page 39 of the Draft Scoping Report to state that “[T]his is of crucial importance in municipal areas with very high unemployment rates.”</p> <p>2.2.2 Appendix 2 to the EIA Regulations outlines the objective of the scoping process contemplated in regulation 21 of the EIA Regulations. Appendix 2 provides that a Scoping Report must “motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location”.</p> <p>2.2.3 Yet, the Draft Scoping Report provides no detail regarding how the Applicant intends on creating employment opportunities and how the employment of the “±15 to 20 labourers” will in fact benefit the local community.</p> <p>2.2.4 In respect of the “[O]ption of not implementing the activity (No-go Alternative)”, on page 46 of the Draft Scoping Report, Greenmined states that –</p> <p>“If the no-go alternative is implemented the land in question cannot be prospected for kieselguhr, which may result in a loss of an economically viable natural resource that can be used in a variety of industries. <u>The no-go option will further entail a loss of employment opportunities, as well as socio-economic benefits and growth development opportunities.</u> Given the high level of unemployment and poverty in the Hay and Kuruman Magisterial Districts the loss of such opportunities is considered significant [our emphasis].”</p> <p>2.2.5 Without disclosing the anticipated economic, social and growth development opportunities of the project, it impossible to ascertain whether or not proceeding with the proposed Prospecting Operations is preferred over alternative uses of the properties.</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>2.2.6 In the absence of the aforementioned details, the Applicant has simply failed to motivate the need and desirability of the proposed Prospecting Operations, as required in Appendix 2.</p> <p>2.2.7 Considering that the proposed Prospecting Operations and possible future Mining Operations are invasive in nature and will result in significant environmental impacts, the Draft Scoping Report must specify, in detail, that the actual anticipated socio-economic benefits, despite the potential environmental impacts, outweigh other possible land uses. This is particularly so considering KMR's existing rights in respect of the Farm Devon. This is addressed in further detail below.</p> <p>2.3 Impact of the Applicant's Prospecting Operations on KMR</p> <p>2.3.1 As indicated in paragraph 11.12 above, in accordance with the KMR Mining Right, KMR –</p> <p>2.3.1.1 intends to establish the Waste Dump on the Western side of the farm Devon;</p> <p>2.3.1.2 intends to conduct concurrent rehabilitation activities at the Devon pit located on the farm Devon;</p> <p>2.3.1.3 intends to expand mining operations to the orebody on the farm Devon;</p> <p>2.3.1.4 intends proceeding with underground mining on the farm Devon; and</p> <p>2.3.1.5 intends to develop infrastructure in respect of the proposed underground mining activities on the Eastern side of the farm Devon.</p> <p>2.3.2 On page 3 of the Draft Scoping Report, Greenmined states that – “[T]he proposed activity entails prospecting with bulk sampling. <u>Prospecting will be conducted using a combination of non-invasive and invasive activities. The invasive prospecting will include drilling and trenching.</u> The only other alternative would be to prospect the area without bulk sampling [our emphasis].”</p> <p>2.3.3 Greenmined goes further on page 4 of the Draft Scoping Report to state that – “[T]he Applicant proposes to use <u>air drills for RAB (rotary air blast) drilling and reverse circulation drilling and diamond drill rigs will be used for core drilling.</u> Geophysical equipment will be needed for ground electro-magnetic, magnetic and gravity surveys.</p> <p>The <u>bulk sampling trenches/pits will be dug by excavator,</u> upon which the loosened material will be moved by FEL to the crushing/milling plant. The material will be crushed, screened, and sized to stockpiles from where it will be transported off-site by trucks [our emphasis].”</p> <p>2.3.4 It is therefore clear that the proposed Prospecting Operations by the Applicant will directly impact on KMR's existing and future operations on the Farm Devon.</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>2.3.5 On page 40 of the Draft Scoping Report, Greenmined states that – “[D]ue to the nature of invasive prospecting activities, the location of drill holes and sampling sites can to a certain extent be moved to avoid structures and/or sensitive areas where possible.”</p> <p>2.3.6 Yet, Greenmined fails to provide I&APs with any drill site coordinates in respect of the Prospecting Right Area. Considering that the Applicant’s EA Application Area relates to, inter alia, Portion 1 and the Remaining Extent of the Farm Devon, it is inevitable that the proposed drillholes will be located within the KMR Mining Right Area.</p> <p>2.3.7 In fact, on page 131 of the Draft Scoping Report, Greenmined states that the “preferred drilling, trenching and pitting locations will be determined following the outcome of phases 1 & 2 and the mapping of geological survey data.” It is submitted that the DMRE cannot make an informed decision on the Applicant’s EA Application or the Prospecting Right Application if the proposed drill site coordinates are not provided to both the DMRE and I&APs. The drill site coordinates cannot be determined subsequent to the granting of the EA Application to the Applicant.</p> <p>2.3.8 KMR, as an I&AP, is entitled to all the information relating to the proposed Prospecting Operations by the Applicant, which includes KMR being provided with the exact coordinates at which the Applicant intends on conducting Prospecting Operations.</p> <p>2.3.9 It is self-evident that drilling activities cannot be permitted above the areas where KMR will be conducting (authorised) underground mining and / or in close proximity to the Waste Dump and KMR’s surface infrastructure. The health, safety and environmental impacts of any simultaneous operations must be considered by the Applicant in its EA Application. It appears that the Applicant has no intention of assessing these impacts.</p> <p>2.3.10 The failure by Greenmined and the Applicant to provide KMR with the necessary information relating to the intended prospecting activities by the Applicant, means that KMR cannot assess the potential impacts of the proposed Prospecting Operations and bulk sampling on KMR, both as the Holder of the KMR Mining Right and the owner of Portion 1 and the Remaining Extent of the Farm Devon.</p> <p>2.3.11 It is submitted by KMR that it would be impossible for KMR to conduct its intended future operations on the Farm Devon and the farm York in circumstances where the Applicant is conducting drilling and bulk sampling.</p> <p>2.4 Failure to apply for a Waste Management Licence in terms of the National Environmental Management: Waste Act, 29 of 2008, as amended (“NEM:WA”)</p> <p>2.4.1 On the cover page (page 13) of the Draft Scoping Report, Greenmined states that the EA Application is submitted by the Applicant in terms of NEMA and in terms of the provisions of NEM:WA. It is clear that Greenmined intends to submit the EA Application on behalf of the Applicant as an integrated environmental authorisation application.</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>2.4.2 In terms of section 24L (1) of NEMA – “[A] competent authority empowered under Chapter 5 to issue an environmental authorisation and any other authority empowered under a specific environmental management Act may agree to issue an <u>integrated environmental authorisation</u> [our emphasis].”</p> <p>2.4.3 Yet, despite referring to an integrated environmental authorisation on the cover page of the Draft Scoping Report, no further references are made to an integrated environmental authorisation application by Greenmined.</p> <p>2.4.4 In fact, on page 20 to 21 of the Draft Scoping Report in highlighting the “[L]isted and specified activities triggered by the proposed activities”, Greenmined fails to refer to which activities listed in the List of waste management activities that have, or are likely to have, a detrimental effect on the environment (GN 921 of 29 November 2013) (“List of Waste Management Activities”), will be triggered as a result of the proposed Prospecting Operations and bulk sampling by the Applicant.</p> <p>2.4.5 On page 26 of the Draft Scoping Report, Greenmined states that - “any available topsoil in the earmarked areas will be <u>stripped and stockpiled for the duration of the activities</u>. Topsoil removal will be restricted to the exact footprint of each prospecting site during the invasive phases of the activity. <u>The topsoil will be stockpiled at a designated signposted area to be replaced during the rehabilitation of the area</u> [our emphasis].”</p> <p>2.4.6 Further on page 45 of the Draft Scoping Report, Greenmined states that – “[T]he bulk sampling trenches/pits will be dug by excavator, upon which the loosened material will be moved by FEL to the crushing/milling plant. The material will be <u>crushed, screened, and sized to stockpiles from where it will be transported off-site by trucks</u> [our emphasis].</p> <p>2.4.7 In the context of NEM:WA, a residue stockpile is defined as “any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, beneficiation plant waste, ash or any other product derived from or incidental to a mining operation and which is stockpiled, stored or accumulated for potential re-use, or which is disposed of, by the holder of a mining right, mining permit, production right or an old order right [our emphasis]”.</p> <p>2.4.8 Considering the broad definition of residue stockpile, it is clear that the stockpiles referred to in the Draft Scoping Report will trigger the listed activity relating to the establishment of a residue stockpile referenced in NEM:WA and its relevant listing notice. KMR therefore submits that Greenmined and the Applicant are required to apply for a waste management licence and are required to do so simultaneously with the EA Application.</p> <p>2.5 Failure to apply for a water use licence (“WUL”) in terms of the National Water Act, 36 of 1998, as amended (“NWA”)</p> <p>2.5.1 On page 106 of the Draft Scoping Report, Greenmined states as follows – “[A] hydrologist will be contracted to undertake a desktop Freshwater Assessment (wetland and aquatic) of the study area during the EIA process. The scope of work includes a desktop based investigation of the watercourses and wetlands within the study area supported by</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>a site verification visit...The report will be compiled in accordance with the requirements in the latest NEMA Minimum Requirements and Protocol for Specialist Aquatic Biodiversity Impact Assessment as contained in the “Procedures to be followed for the assessment and minimum criteria for reporting of identified environmental themes of Section 45 (a) and (h) of the National Environmental Management Act, 1998, when applying for Environmental Authorization”, contained in Government Gazette No. 43855 (30 October 2020) and the requirements of the <u>Department of Water & Sanitation for Water Use Licensing, as outlined in the ‘Regulations Regarding the Procedural Requirements for Water Use License Applications and Appeals’ contained in the Government Gazette No. 40713 of 24 March 2017 [our emphasis].”</u></p> <p>2.5.2 It is further stated on page 124 of the Draft Scoping Report that – “[S]hould a water use authorisation be applicable to the project, the PR Holder must always adhere to the conditions thereof.”</p> <p>2.5.3 Significantly, in paragraph 2(b) of the Acceptance Letter (attached hereto as Annexure “H”), the Regional Manager directs the Applicant to “[L]odge an application in terms of the National Water Act No.36 of 1998 with the Department of Water Affairs with immediate effect”. Despite being directed to apply for a WUL in terms of the NWA “with immediate effect”, KMR has not been notified of any such WUL application.</p> <p>2.5.4 On page 30 of the Draft Scoping Report states that – “[T]he drilling operation requires ±1 000 l of water day while the bulk sampling activities will necessitate ±10 000 l/day. Water will also be used for dust suppression at the prospecting sites and access roads. <u>Potable water will daily be transported to site by the employees, while the process water will be bought from a local sources (to be identified) in the vicinity of the prospecting activities and transported to site in a water truck(s) [our emphasis].”</u></p> <p>2.5.5 The Draft Scoping Report fails to specify –</p> <p>2.5.5.1 which local “source” the Applicant intends to make use of; and</p> <p>2.5.5.2 if the local source is able to meet the water quality and quantity required by the Applicant.</p> <p>3 Conclusion</p> <p>3.1 It is evident from the comments in paragraph Error! Reference source not found. That the Applicant’s EA Application and the Draft Scoping Report are flawed due to a failure to comply with the EIA Regulations and to disclose critical information to I&APs. It is submitted by KMR that the Draft Scoping Report should be rejected by the DMRE.</p> <p>3.2 As provided in regulation 44 of the EIA Regulations, these comments must be recorded in the reports and plans to be submitted to the competent authority pursuant to the EA Application.</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>3.3 If the Draft Scoping Report is accepted by the DMRE (which decision would, in KMR's view, be unlawful), KMR reserves the right to challenge such decision and to comment on any environmental impact assessment report and environmental management programme relating to the EA Application."</p>			
<p>Greenmined responded (26 March 2024) to the comments received from Malan Scholes Incorporated as follows:</p> <p>"Greenmined herewith acknowledge receipt of your correspondence dated 25 March 2024 on behalf of KMR regarding the prospecting right application submitted by K2022641005 (South Africa) (Pty) Ltd over various properties in the Hay and Kuruman Districts. We thank you for taking part in the public participation process and the comments submitted on the draft scoping report (DSR).</p> <p>We take note of your concerns, and incorporated the comments into the Final Scoping Report that will be submitted to the Department of Mineral Resources and Energy (DMRE) for consideration. All comments/objections will be discussed with the Applicant, and specialists of the project team for their perusal and input. The comments/objections will further be assessed and responded to in the Draft Environmental Impact Assessment Report. All comments, concerns and/or objections received as part of the public participation process will be listed in the EIA documents to be submitted to the DMRE for consideration."</p>			
<p>Additional response to the above-mentioned comments of Malan Scholes Incorporated are listed below:</p> <p><i>Paragraph 2.1.1 – 2.1.5 Premature submission of the EA Application:</i></p> <p>Since the One Environmental System came into effect on 08 December 2014, the Ministers of the Mineral Resources and Energy, Environmental Affairs, and Water agreed to streamline the environmental approvals, monitoring, and enforcement for mining related applications. A key feature of the OES is that the Minister of Mineral Resources is the competent authority under NEMA for the issuing of EAs to authorise listed activities that is directly related to a) prospecting or exploration of a mineral; or b) extraction and primary processing of a mineral. Subsequently, the DMRE requires all applicants to submit the EA Application simultaneously with the Prospecting/Mining Right Application on the departmental online platform known as SAMRAD. Prospecting/Mining Right applications that are not accompanied by an EA Application is deemed incomplete. Therefore, in terms of the DMRE requirements, there is no grounds for the claim that the EA Application was submitted prematurely, and or wrongfully accepted by the DMRE.</p> <p><i>Paragraph 2.2.1 – 2.2.7 Socio-economic Impacts and Benefits; and Paragraph 2.3.1 – 2.3.11 Impact on the Applicant's Prospecting Operations on KMR:</i></p> <p>To give meaningful response the results of the specialist studies are needed and therefore all inputs received during the public participation process will be assessed and/or responded to in the DEIAR. The aim of the scoping report is to identify the aspects to be evaluated in the assessment phase. The aim of the EIAR, in contrast, is to determine</p>			



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
<p>the nature, significance, consequence, extent, duration, and probability of the impacts occurring to inform identified preferred alternatives, and the degree to which these impacts can be reversed, avoided, managed, or mitigated.</p>			
<p>As mentioned earlier, should this application be successful, and the invasive prospecting commence, the Applicant will engage the landowners of the PR footprint regarding technical arrangements for the co-existence of the applicable entities on the same land. These negotiations will in particular consider the mining operations on the farms Devon No 277, Botha No 313, and Bermolli No 583 owned by mining companies.</p>			
<p><i>Paragraph 2.4.1 – 2.4.8 Failure to apply for a Waste Management Licence in terms of the NEM:WA:</i></p>			
<p>Page 14 of the Scoping Report (DSR & FSR) notes that: <i>“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 authorisation for listed activities triggered by an application for a right or permit <u>are submitted in the exact format of and provide all the information required in terms of this template.</u> 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 requirements of the Regulation and will lead to the Environmental Authorisation being refused.”</i></p>			
<p>Considering this, the Scoping Report format is prescribed by the DMRE and may not be altered by the EAP. The cover page (page 13) referred to by Malan Scholes Incorporated is part of the prescribed DMRE scoping report format for applications in terms of the NEMA, and/or NEM:WA in respect of listed activities that have been triggered in terms of the MPRDA. The proposed prospecting right application does not trigger listed activities in terms of the NEM:WA nor is there a need for an integrated environmental authorisation and therefore the EA Application did not consider such listed activities.</p>			
<p><i>Paragraph 2.5.1 – 2.5.5.2 Failure to apply for a water use licence in terms of the NWA:</i></p>			
<p>Presently it is not expected that the proposed prospecting activities will trigger listed activities in terms of the NWA should the mitigation measures, buffer zones and recommendations of the specialists (to be incorporated into the DEIAR) be implemented. The mitigation measures of the DEIAR will elaborate on the water use of the proposed activities to ensure compliance of the project with the relevant legislation.</p>			
<p>On 26 March 2024 Malan Scholes Incorporated notified Greenmined that KMR intends to lodge an appeal to the Director-General of the DMRE as well as the Regional Manager of the DMRE-NC in accordance with the provisions of section 96 of the MPRDA as read with regulation 94 of the regulations promulgated under the MPRDA (as amended) against the acceptance of the Applicant's prospecting right application. Said appeal was submitted to the relevant parties on the same day.</p>			



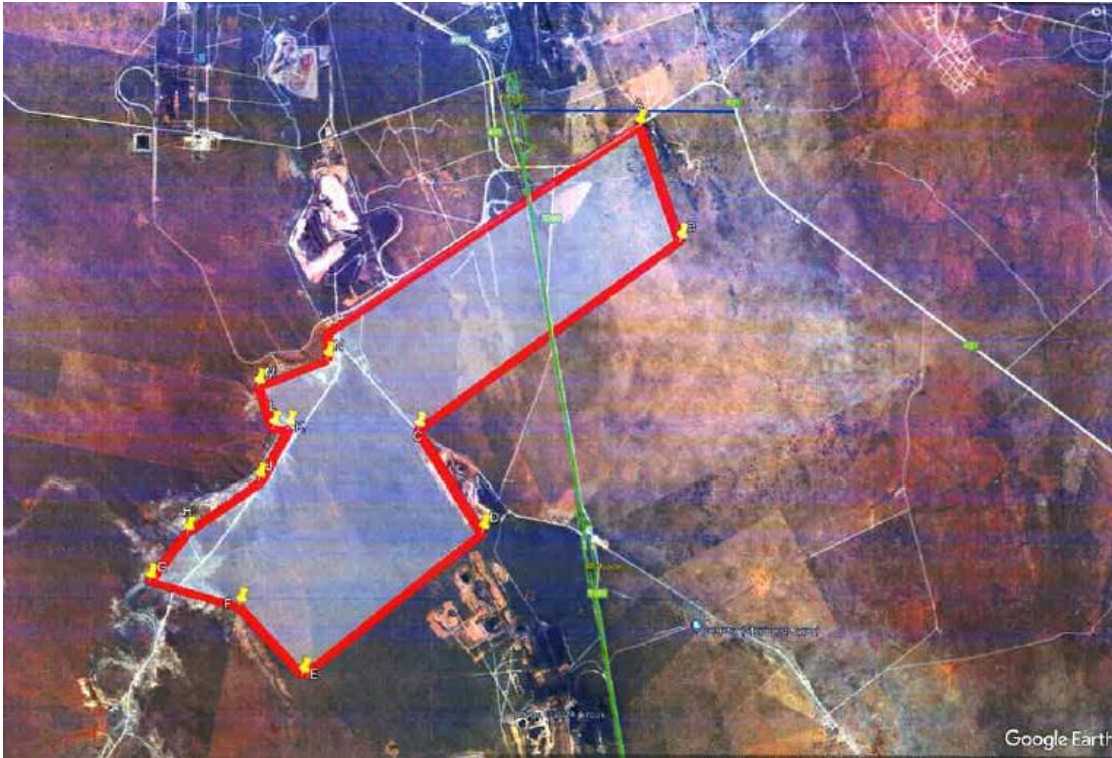
Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted		Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
Transnet Ltd ❖ Portion 1 of Devon 277	X	07/03/2024	Transnet submitted the comments, as listed below, on this project.	Greenmined acknowledged receipt of the comments on 07 March 2024 and responded as listed below.
<p>Comments received from Transnet on 07 March 2024:</p> <p>“The proposed prospecting area shown in Figure 1 below crosses over Transnet’s cadastral boundary and therefore will affect Transnet. The red polygon indicates the Prospecting right application area numbered from A to N. The green lines denotes Transnet cadastral boundary. This is directly south of the Hotazel Station precinct and crosses the railway line over Land Asset No. KHX0327 being PTN 1 of the farm Devon No 277, Admin District Kuruman in the Joe Morolong Municipal area. The dark blue line denotes a pipeline servitude 4 km in length that requires confirmation by TFR, whether still in use or not.</p> <p>We hereby wish to draw the attention of the applicant to Section 48(1) of the Minerals and Petroleum Resources Development Act, 2002 which stipulates as follows:</p> <p><i>“48(1) Subject to section 20 of the National Parks Act, 1976 (Act No 57 of 1976), and subsection (2), no reconnaissance permission, prospecting right, mining right or mining permit may be issued in respect of-</i></p> <ul style="list-style-type: none"> <i>(a) land comprising a residential area;</i> <i>(b) any public road, railway, or cemetery;</i> <i>(c) any land being used for public or government purposes or reserved in terms of any other law; or</i> <i>(d) areas identified by the Minister by notice in the Gazette in terms of section 49.”</i> <p>Please note that under no circumstances will or do Transnet SOC permit, grant permission or consent to any prospecting or mining activities on its properties. As far as the adjacent properties to the railway line is concerned, your attention is drawn to Regulation 17(6)(a) of the Mine Health and Safety Act, 1996 which determines that no mining operations may be carried out under or within a horizontal distance of 100 m from buildings, roads, railways, reserves etcetera.</p> 				

**DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT**



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
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Figure 1:



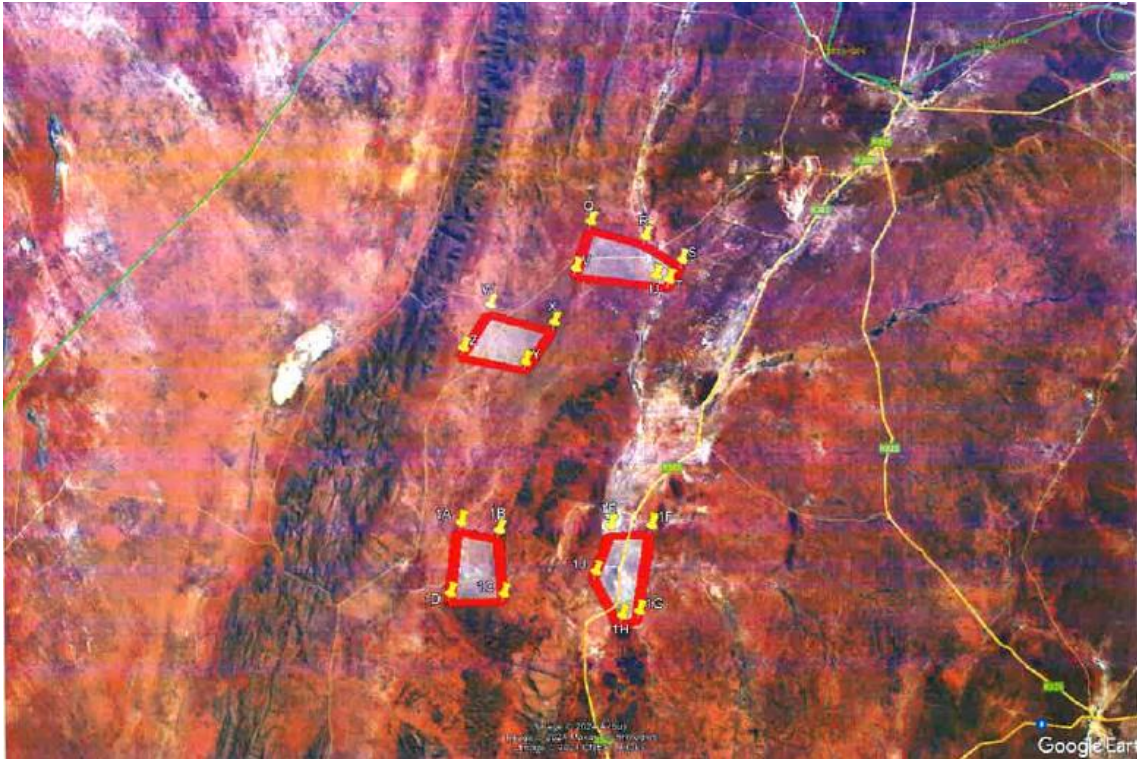
The four red polygons below in Figure 2 denotes a further 4 proposed protecting areas. These 4 proposed prospecting areas are ± 25.5 km's south of Postmasburg station and ± 28 km's east of the Sishen to Saldanha ORE line and will thus not affect Transnet.

**DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT**



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
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Figure 2:



Greenmined responded as follows on 13 March 2024 to the comments received from Transnet:

“Thank you for your correspondence on the prospecting right (PR) application submitted by K2022641005 (South Africa) (Pty) Ltd over (amongst others) the farm Devon No 277. We do take note that no prospecting will be allowed within a horizontal distance of 100 m from the railway line, and has also shared this with the Applicant.”



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant	
<p>The Applicant confirmed that should the PR application be successful, they will declare/demarcate a no-go buffer zone of a 110 m around the railway line (crossing through Devon No 277) and that no prospecting will be done/allowed within this buffer area. This commitment will also be added to the Final Scoping Report to be submitted to the DMRE for approval, and should the FSR be approved, the commitment will also be incorporated into the Environmental Impact Assessment Report and Environmental Management Programme also to be approved by the DMRE.</p> <p>In short, should this prospecting right application be approved, we do confirm that no prospecting will occur within 110 m of the railway line crossing through Devon No 277.”</p> <p>Also refer to the following sections in the FSR regarding the commitment to declare/demarcate a no-go buffer zone of 110 m around the railway line:</p> <ul style="list-style-type: none"> ❖ Section 2(h)(i) <i>Details of all alternatives considered;</i> ❖ Section 2(h)(iv)(1)(c) <i>Description of specific environmental features and infrastructure on the site – Site Specific Existing Infrastructure;</i> ❖ Section 2(l) <i>The possible mitigation measures that could be applied and the level of risk – Railway Line Mitigation;</i> ❖ Section 2(o) <i>Statement motivating the preferred site;</i> ❖ Section 2(i) <i>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.</i> 				
Mr PJ van der Byl Lambrechts & Me C Lambrechts ❖ Portion 4 of Bermolli No 583	X	05/03/2024	Me Lambrechts registered as I&AP on the project.	Greenmined acknowledged receipt of the registration on 06 March 2024.
Sishen Iron Ore Company (Pty) Ltd (SIOC) ❖ Portion 5 of Bermolli No 583	X	26/02/2024 & 25/03/2024	SIOC registered and submitted the following comments on the project.	Greenmined acknowledged receipt of the comments and registration on 27 February 2024.
<p>Comments received from SIOC on 26 February 2024:</p> <p>“Please note that Sishen Iron Ore Company (SIOC) is an interested and affected party (“I&AP”) K2022641005 in respect of the prospecting right/bulk sampling application submitted by (South Africa) (PTY) LTD with reference number NC 30/5/1/1/2/13826 PR.</p> <p>SIOC hereby requests that it be registered as an I&AP as part of this application, with the following information:</p>				



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
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Name	Izak Gous
Organisation	SIOC, Kolomela Mine
Telephone	0605016625
Fax	NA
Cell	0605016625
Postal address	Private Bag X3003
Physical address	21 Main Street Postmasburg
Email	Izak.gous@angloamerican.com
Preferred method of communication	Email

Please provide information on the following aspects:

1. Ground water quantity and quality
 - a. What water sources will be used to conduct the planned activities. What measures will be undertaken to monitor possible impacts (ground and surface water) and what mitigation measures will be implemented in impacted areas.
 - b. What volume of water will be abstracted per locality.
 - c. What measures will be implemented to ensure effective monitoring of water quality on site as well as on neighboring properties.
2. Air quality management
 - a. What measures will be implemented to ensure dust are adequately monitored and effectively controlled?
3. Access road
 - a. The additional traffic might detrimentally impact the condition of the R383 and subsequently impact road safety for other users.
4. Security and access control
 - a. How will access to the site be managed?
 - b. What measures will be put in place to ensure the safety and security of neighboring landowners will not be compromised?



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>5. Veld fire management a. What measures will be put in place to prevent fires, and if a fire does occur, will a competent team be available to respond to the fire.</p> <p>6. Waste management a. What measures will be implemented to ensure sound waste management practices.</p> <p>7. Hygiene a. Will sanitation facilities be made available to the workforce. How will this process be managed.</p> <p>8. Physical environment a. What will be done to minimize the physical footprint of the planned project. This refers to access roads, drilling sites and laydown areas among others. b. What measures will be implemented to ensure all nationally and provincially protected fauna and flora species are correctly identified and protected during the project. c. Indicate where maintenance on equipment will be done during this project. d. How will an environmental emergency such as hydrocarbon contamination be address. e. Describe the planned refuelling process.</p> <p>In addition to the above, please provide us with any other applicable information to the project. Please also confirm that SIOC has now been registered as an I&AP in accordance with the information set out in the table above.”</p>			
<p>Greenmined further responded (04 March 2024) to SIOC's comments as listed below:</p> <p>“Thank you for taking part in the public participation process of this prospecting right application submitted by K2022641005 (South Africa) (Pty) Ltd with reference number NC 30/5/1/1/2/13826 PR.</p> <p>We do acknowledge receipt of your comments that will also be incorporated into the Final Scoping Report, that will be submitted for approval to the Department of Mineral Resources and Energy (DMRE). Due to the technical nature of the comments it will be assessed and responded to in the Draft Environmental Impact Assessment Report (DEIAR), which report will follow should the DMRE approve the final Scoping Report. The DEIAR will furthermore incorporate the applicable specialist studies that will also consider the comments received from SIOC. As registered, I&AP, SIOC will be invited to comment on the DEIAR once available.”</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>Additional comments received from CDH on behalf of SIOC on 25 March 2024:</p> <p>"1 We act on behalf and on the instructions of Sishen Iron Ore Company ("SIOC/Client"), a private company with limited liability, registered as such in accordance with the laws of the Republic of South Africa, with registration number 2000/011085/07.</p> <p>2 SIOC operates the Kolomela Mine in terms of a mining right, with DMRE reference number NC 30/5/1/2/2/069 MR ("Kolomela Mining Right"), consisting of the sole and exclusive right to mine iron ore on and under a number of properties. SIOC is also the surface rights holder of the following properties –</p> <p>2.1 Portion 5 of Farm Bermolli 583; 2.2 Remaining Extent of Farm No 542, 2.3 Portion 2 of Farm No 542; and 2.4 Portion 3 of Farm No 543</p> <p>3 The Applicant applied for a prospecting right with bulk sampling for kieselguhr over various properties ("PR Application"). In terms of section 16(1) of the Mineral and Petroleum Resources Development Act 28 of 2002 ("MPRDA"), the Applicant would need to obtain the necessary environmental authorisations, approvals, licences and/or consents as prescribed under the National Environmental Management Act 107 of 1998 ("NEMA") and the Environmental Impact Assessment Regulations, 2014, as amended ("EIA Regulations"), prior to commencement of any prospecting related activities. Given this, the Applicant attended to the submission of the environmental authorisation application ("EA Application").</p> <p>4 SIOC has obtained various biodiversity permits and licences in terms of the Northern Cape Nature Conservation Act 9 of 2009 and National Forest Act 84 of 1998 since the commencement of operations at the Kolomela Mine in 2011.</p> <p>5 The Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform ("DAERL") informed SIOC in 2014 that the cumulative impacts of the various biodiversity permits will be taken into account and may require a biodiversity off-set in relation to the mining activities associated with the Kolomela Mining Right. In 2019 DAERL confirmed that a biodiversity off-set will need to be established by SIOC and as part of this obligation, SIOC has engaged extensively with DAERL and Northern Cape Protected Area Expansion Review Committee ("NCPAERC"), which engagement has included the acceptance of several properties as being suitable for biodiversity offset purposes given its current ecological sensitivity ("Kolomela Biodiversity Off-Set Areas"). The acceptance of the Kolomela Biodiversity Off-Set Areas is attached hereto as Annexure "A".</p>			



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>6 The Kolomela Biodiversity Off-Set Areas include Portion 4 and 5 of Farm Bermolli 583. Based on correspondence received from the relevant authorities, once the required administrative processes have been completed the proposed Kolomela Biodiversity Off-Set Areas are set to be formally declared as a nature reserve under the National Environmental Management Protected Areas Act 57 of 2003.</p> <p>7 We also thought it pertinent to highlight that the Department of Forest, Fisheries and Environment ("DFFE") as well as the DAERL are both in agreement that, considering the pending declaration of the Kolomela Biodiversity Off-Set Areas as a nature reserve, no mining or prospecting related activities are allowed to be conducted over these properties.</p> <p>8 The DFFE and DAERL recently objected against the grant of an environmental authorisation for a mining right application in relation to Portion 5 of the Farm Bermolli and another property set to be included within the proposed Kolomela Biodiversity Off-Set Areas. Although the objections were made in relation to a mining right application, the same stance will be applicable to this prospecting right application as prospecting is a precursor to mining. The objections by the DFFE and DAERL are attached hereto as Annexure "B" and Annexure "C" respectively.</p> <p>9 We attended to the review of the Draft Scoping Report and have the following comments, questions and queries in relation to the report. We would be grateful to receive Greenminded's responses to each of the queries as indicated in the table below –</p>			

Item	Query	Greenmined Response
1.	<p>Given the identified Kolomela Biodiversity Off-Set Areas and the current position of the DFFE and DAERL against any mining or prospecting in relation to the Kolomela Biodiversity Off-Set Areas, we kindly request that Portion 4 of the Farm Bermolli and Portion 5 of the Farm Bermolli be excluded from this EA Application as well as the PR Application.</p>	
2.	<p>We note that the No-Go Alternative as discussed on pages 5 and 46 of the Draft Scoping Report fails to make any mention of the proposed Kolomela Biodiversity Off-Set Areas planned over Portion 4 and Portion 5 of the Farm Bermolli.</p> <p>We recommend that the No-Go Alternative should include that a nature reserve is set to be established on Portion 4 and Portion 5 of the Farm Bermolli. The current No-Go Alternative is misleading and fails to provide all the required information to the competent authority.</p>	
3.	<p>We note that pages 5 and 46 of the Draft Scoping Report provide that an advertisement is set to be published in the Noorkaap Bulletin. We further note that Appendix 5 provides an example of the advertisement.</p> <p>The Draft Scoping Report as well as the annexures thereto fail to provide any proof of publication of the advertisement. We kindly request to be provided with proof of publication of said advertisement.</p>	



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
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4.	We note that page 31 of the Draft Scoping Report provides that 4 x 30 ton flatbed trucks will be required to transport prospecting and bulk sampling material. Given the size of the trucks, will the expansion of the existing roads be required and has this been considered as a potential listed activity under the EIA Regulations?		
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Item	Query	Greenmined Response
5.	We note that the Draft Scoping Report includes various references as well as figures captured from the DFFE Screening Report. The Draft Scoping Report as well as the annexures thereto made available during the public participation process fail to include the DFFE Screening Report. We kindly request to be provided with a copy of the DFFE Screening Report.	

10 Thank you for the opportunity to comment on the Draft Scoping Report and we look forward to your responses to our queries.

11 Should you have any further queries, please do not hesitate to contact us.”



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>Greenmined responded, on 26 March 2024, as listed below to the comments received from CDH on 25 March 2024:</p> <p>“Greenmined herewith acknowledge receipt of your correspondence dated 25 March 2024 on behalf of SIOC regarding the prospecting right application submitted by K2022641005 (South Africa) (Pty) Ltd over various properties in the Hay and Kuruman Districts. We thank you for the valuable information provided that has also been shared with the Applicant.</p> <p>Your correspondence was incorporated into the final Scoping Report that must be submitted to the DMRE for consideration by 29 March 2024. As a result of the strict tight timeframes on the scoping phase of an environmental impact assessment (EIA), your correspondence cannot be answered in detail in this phase of the EIA, however the following sections of the final Scoping Report were amended to allow for the assessment of your comments should the DMRE approve the scoping report and allow the EIA process to continue:</p> <ul style="list-style-type: none"> ❖ Section 2(f) Need and desirability of the proposed activities; ❖ Section 2(h)(i)(c) Design and layout of the activity; ❖ Section 2(h)(iv)(1)(b) Description of the current land uses; ❖ Section 2(h)(iv)(1)(c) Description of specific environmental features and infrastructure on the site – Site Specific Groundcover and Biodiversity Conservation Areas; ❖ Section 2(i) Impacts Identified; ❖ Section 3(i) 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; ❖ Section 3(k) Other matters required in terms of section 24(4)(a) and (b) of the Act. <p>Please take note that all your comments and enquires will be assessed and responded to in the Draft Environmental Impact Assessment Report (DEIAR) that will also incorporate specialist studies and recommendations.</p> <p>As you are aware SIOC is a registered I&AP on this project to which the contact details of CDH were added. Hence forth we will keep both SIOC and CDH informed on the progress of the EIA as well as afford you an opportunity to comment on the DEIAR should the DMRE approve the final Scoping Report.</p> <p>For ease of reference please find attached proof of the advertisements that appeared in the Noordkaap Bulletin.</p> <p>As Portion 4 and 5 of Bermolli No 583 has not yet been declared a nature reserve as part of the Kolomela Biodiversity Offset Area we advise that you take note of the consultation requirements stipulated in Sections 32 and 33 of the Protected Areas Act, 2003 (Act No 57 of 2003) attached hereto for ease of reference.”</p> <p>Refer to Appendix 5.2 for the full letter and associated appendices.</p>			



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
<p>Further response to the comments received from CDH on behalf of SIOC:</p> <p>1. <i>Given the identified Kolomela Biodiversity Off-Set Areas and the current position of the DFFE and DAERL against any mining or prospecting in relation to the Kolomela Biodiversity Off-Set Areas, we kindly request that Portion 4 of the Farm Bermolli and Portion 5 of the Farm Bermolli be excluded from this EA Application as well as the PR Application.</i></p> <p>It was noted that both the DFFE and DAERL letters attached to the correspondence received from CDH only mention Portion 5 of Bermolli No 583 amongst the other properties listed in the letters. Portion 4 of Bermolli No 583 is not mentioned in the said letters. It is also clear from the correspondence received from CDH that Portion 5 (and Portion 4) of Bermolli No 583 is still “candidate” offset receiving areas and that these areas has not yet been declared as biodiversity offset area/nature reserve. However, the matter will be considered during the EIA process and design/layout alternatives will be contemplated. The outcome will be discussed in the DEIAR.</p> <p>2. <i>We note that the No-Go Alternative as discussed on pages 5 and 46 of the Draft Scoping Report fails to make any mention of the proposed Kolomela Biodiversity Off-Set Areas planned over Portion 4 and Portion 5 of the Farm Bermolli. We recommend that the No-Go Alternative should include that a nature reserve is set to be established on Portion 4 and Portion 5 of the Farm Bermolli. The current No-Go Alternative is misleading and fails to provide all the required information to the competent authority.</i></p> <p>The proposed declaration of Portion 4 and 5 of Bermolli No 583 as part of the Kolomela Biodiversity Offset Area was added to the final scoping report under the following sections:</p> <ul style="list-style-type: none"> ❖ <i>Section 2(f) Need and desirability of the proposed activities;</i> ❖ <i>Section 2(h)(i)(c) Design and layout of the activity;</i> ❖ <i>Section 2(h)(iv)(1)(b) Description of the current land uses;</i> ❖ <i>Section 2(h)(iv)(1)(c) Description of specific environmental features and infrastructure on the site – Site Specific Groundcover and Biodiversity Conservation Areas;</i> ❖ <i>Section 2(i) Impacts Identified;</i> ❖ <i>Section 3(i) 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;</i> ❖ <i>Section 3(k) Other matters required in terms of section 24(4)(a) and (b) of the Act.</i> <p>, and as mentioned earlier design/layout alternatives to possibly accommodate an offset area will be contemplated and discussed in the DEIAR.</p>			

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
<p>3. We note that pages 5 and 46 of the Draft Scoping Report provide that an advertisement is set to be published in the Noorkaap Bulletin. We further note that Appendix 5 provides an example of the advertisement. The Draft Scoping Report as well as the annexures thereto fail to provide any proof of publication of the advertisement. We kindly request to be provided with proof of publication of said advertisement.</p> <p>Please refer to Appendix 5.2 for proof of the publication of the advertisements in the Noordkaap Bulletin.</p> <p>4. We note that page 31 of the Draft Scoping Report provides that 4 x 30 ton flatbed trucks will be required to transport prospecting and bulk sampling material. Given the size of the trucks, will the expansion of the existing roads be required and has this been considered as a potential listed activity under the EIA Regulations?</p> <p>As mentioned under Section 2(d)(ii) Description of the activities to be undertaken – Access Roads, the farm roads will be upgraded where necessary to allow the comfortable movement of the prospecting machinery/vehicles. Where needed jeep-tracks will be opened from the main farm road to the specific prospecting sites in agreement with the landowners. These tracks will be temporary and will be rehabilitated once prospecting ceases and if the landowner do not wish the track to remain. The jeep-track route will as far as possible avoid sensitive vegetated areas (to be identified by an ecologist), watercourses, and cultivated area and must be approved by the ECO prior to use. Presently the maximum width of a track is expected to be ±5 m. Further to this, the upgrade of the roads/tracks is provided for in Listing Notice 2 Activity 19 (as amended).</p> <p>5. We note that the Draft Scoping Report includes various references as well as figures captured from the DFFE Screening Report. The Draft Scoping Report as well as the annexures thereto made available during the public participation process fail to include the DFFE Screening Report. We kindly request to be provided with a copy of the DFFE Screening Report.</p> <p>As confirmed by CDH the findings of the DFFE Screening Report were available in the DSR, as it also forms part of the FSR. The DFFE Screening Report was also submitted to the DMRE in support of the Environmental Authorisation Application. The report does not form part of the DSR/FSR as it is not considered a public document. However, CDH would be able to obtain an independent report from the DFFE screening tool (public) website should the application footprint, specified in this report and the attached maps, be mapped.</p>			
Me VMH Sieberhagen ❖ Remaining Extent of Engelsdraai No 221	X	Apart from telephonic discussions with this landowner, Greenmined did not yet receive any written correspondence regarding the project. However, as landowner, Me Sieberhagen is considered a registered I&AP for both the Remaining Extent and Portion 1 of Engelsdraai No 221 that will be kept informed throughout the EIA process.	
Van der Byl Boerdery (Pty) Ltd	X		

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted	Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
❖ Portion 1 of Engelsdraai No 221			
Me EGA Maritz ❖ Remaining Extent of Witdraai No 204	X	Greenmined did not receive formal correspondence from the contact person Mr Maritz. However, as landowner, Mr Maritz is considered a registered I&AP for both the Remaining Extent and Portion 1 of Witdraai No 204 that will be kept informed throughout the EIA process.	
KG Mining (Pty) Ltd ❖ Portion 1 of Witdraai No 204	X		
Abraham Willem Adriaan van Wyk Testamentêre Trust & Me TJ van Wyk ❖ Remaining Extent of Vaalwater No 84	X	Greenmined did not receive formal correspondence from the contact person Mr Viljoen. However, as landowner, Mr Viljoen is considered a registered I&AP for the Remaining Extent, Portion 1, and Portion 2 of Vaalwater No 84 that will be kept informed throughout the EIA process.	
Me M and Mr PJ van Biljon ❖ Portion 1 of Vaalwater No 84 ❖ Portion 2 of Vaalwater No 84	X		
Lawful occupier/s of the land	X	-	-
No lawful occupiers were identified to date.	-	-	-
Landowners or lawful on adjacent properties	X	-	-
J&B van Wyk Familie Trust ❖ Remaining Extent of Moidraai No 310	X	No comments were received on the DSR.	
Amari Manganese (Pty) Ltd care of ERG Management (South Africa) (Pty) Ltd ❖ Portion 1 of Kongoni No 311	X		

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



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Assmang Ltd (Blackrock Mine Operations) ❖ Remaining Extent of Telele No 312	X	01/03/2024	Me C Vries registered Blackrock Mine Operations as an IAP on this project.	Greenmined acknowledged receipt of the registration on 04 March 2024.
Mr GA Coetsee ❖ Remaining Extent of Roldraai No 333	X	No comments were received on the DSR.		
Me AS Anthonissen ❖ Remaining Extent of Perth No 276	X			
United Manganese of Kalahari (Pty) Ltd ❖ Remaining Extent of Smartt No 314	X	Please refer to the UMK correspondence listed under <i>Landowner/s</i> earlier in this table.		
Saltrim Ranches (Pty) Ltd ❖ Remaining Extent of Middelpaats No 332	X	No comments were received on the DSR.		
Kudumane Manganese Resources (Pty) Ltd ❖ Portion 2 of York A No 279, ❖ Portion 11 of York A No 279, ❖ Portion 1 of Telele No 312	X	Please refer to the KMR correspondence listed under <i>Landowner/s</i> earlier in this table.		
Mr DH Fourie ❖ Remaining Extent of Annex Langdon No 278	X	No comments were received on the DSR.		
Mr JP Jansen ❖ Remaining Extent of York A No 279	X	No comments were received on the DSR.		



Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted		Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
DP World (formerly known as Imperial Logistics South Africa Group (Pty) Ltd) ❖ Portion 13 of York A No 279	X	25/03/2024 & 26/03/2024	Mr W Pretorius asked confirmation whether his property (Portion 13 of York No 279) borders the proposed PR application area. Upon confirmation that the said property borders the proposed application area, Mr Pretorius requested a full version of the DSR, and confirmed that DP World acquired Imperial Logistics South Africa Group (Pty) Ltd.	Greenmined responded on 26 March 2024 that the property does border the application area, and that Mr Pretorius was registered as I&AP on the project and will be kept informed throughout the EIA process. Greenmined, supplied Mr Pretorius with a copy of the DSR as well as the link to the website where the full report and appendices can be accessed. Any additional comments received from Mr Pretorius will be incorporated into the DEIAR that will follow should the FSR be approved.
Transnet Ltd ❖ Portion 1 of Perth No 276, ❖ Portion 3 of York A No 279	X	Please refer to the Transnet correspondence listed under <i>Landowner/s</i> earlier in this table.		
Mr CH Kotze ❖ Remaining Extent of Farm No 231	X	No comments were received on the DSR.		
Kriel Boerdery Trust ❖ Remaining Extent of Farm No 228, ❖ Portion 1 of Farm No 228	X			
Mr HT Snijman & Hennie Tjaart Snijman Testamentêre Trust ❖ Remaining Extent of Watervlak No 585, ❖ Portion 2 of Watervlak No 60	X			

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



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Floradale Boerdery CC ❖ Remaining Extent of Farm No 230	X			
Sishen Iron Ore Company (Pty) Ltd ❖ Remaining Extent of Farm No 542, ❖ Portion 2 of Farm No 542, ❖ Portion 3 of Farm No 543	X		Please refer to the SIOC correspondence listed under <i>Landowner/s</i> earlier in this table.	
Mr TJ Snyman ❖ Remaining Extent of Gras Vlakte No 61, ❖ Remaining Extent of Farm No 223	X		No comments were received on the DSR.	
Me VMH Sieberhagen ❖ Remaining Extent of Farm No 218	X			
Van der Byl Boerdery (Pty) Ltd ❖ Portion 2 of Farm No 218	X			
Pieter Bredenkamp Trust ❖ Remaining Extent of Farm No 222	X			
Coeta-M Trust ❖ Remaining Extent of Farm No 224	X			
QCK Lezmin 4677 (Pty) Ltd ❖ Portion 3 of Gekonsolideerde Plaas No 210	X	07 March 2024		Mr Bredenkamp registered as I&AP on the project.

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted		Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
KG Mining (Pty) Ltd ❖ Portion 1 of Farm No 203	X	No comments were received on the DSR.		
Me EGA Maritz ❖ Portion 2 of Farm No 203	X			
Mr JH Coetzee ❖ Remaining Extent of Paauwvontein No 209, ❖ Portion 1 of Gekonsolideerde Plaas No 210	X			
Mr MC Lambrechts ❖ Remaining Extent of Farm No 200, ❖ Portion 1 of Farm 200, ❖ Remaining Extent of Farm No 201, ❖ Portion 1 of Farm No 201, ❖ Portion 1 of Farm No 202, ❖ Remaining Extent of Farm No 203, ❖ Remaining Extent of Oudemeideskloof No 205	X			
Mr AJC van Wyk ❖ Remaining Extent of Cone No 82	X			
Me DGS Murray ❖ Remaining Extent of Zaai Plaats No 83	X			

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>Mr PK van Zyl ❖ Remaining Extent of Kopje No 85</p>	<p>X</p>		
<p>Mr FP van der Schyff ❖ Remaining Extent of Dell No 92, ❖ Remaining Extent of Range No 93</p>	<p>X</p>	<p>No comments were received on the DSR.</p>	
<p>Abraham Willem Adriaan Van Wyk Testamentêre Trust ❖ Remaining Extent of Farm No 570</p>	<p>X</p>		
<p>Mr JW van Niekerk ❖ Remaining Extent of Matsap No 81, ❖ Remaining Extent of Farm No 79</p>	<p>X</p>		
<p>Oberholster Anna Gertruida B/E & Oberholster Anna Gertruida Trust ❖ Bergenaars Pad No 225 ❖ Farm No 220</p>	<p>X</p>		
<p>Mr RJ Coetzee ❖ Paardekloof No 219</p>	<p>X</p>		
<p>Municipal councillor</p>	<p>X</p>		<p>-</p>
<p>Joe Morolong Local Municipality Ward 4</p>	<p>X</p>	<p>No comments were received on the DSR.</p>	
<p>Tsantsabane Local Municipality Ward 7</p>	<p>X</p>		

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



Interested and Affected Parties		Date	Issues raised	EAP's response to issues raised by the Applicant
List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted		Comments Received		
Siyancuma Local Municipality Ward 1	X			
Siyancuma Local Municipality Ward 7	X			
Municipality	X		-	
Joe Morolong Local Municipality (JMLM)	X	No comments were received on the DSR.		
Tsantsabane Local Municipality (TLM)	X			
Siyancuma Local Municipality (SLM)	X			
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA etc)	X	-	-	-
Department of Roads and Public Works	X	No comments were received on the DSR.		
Department of Water and Sanitation	X			
Eskom	X			
Communities		No communities border the prospecting area or were identified within 100 m from the site.		
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Dept. Land Affairs	-	15/01/2024	The Commission on Restitution of Land Rights confirmed on 15 January 2024 that no land claims appears on their database in respect of the properties this application extends across.	
-	-	-	-	-

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



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Traditional Leaders		No tribal land borders the prospecting area or were identified within 100 m from the site.	
-	-	-	-
Dept. Environmental Affairs	X	-	
Department of Agriculture, Environmental Affairs, Rural Development and Land Reform	X	No comments were received on the DSR.	
Other Competent Authorities affected		-	-
Department of Agriculture, Land Reform and Rural Development	X	No comments were received on the DSR.	
Department of Labour	X		
Department of Economic Development and Tourism	X		
John Taolo Gaetsewe District Municipality (JTGDM)	X		
ZF Mgcawu District Municipality (ZFMDM)	X		
Pixley ka Seme District Municipality (PSDM)	X		
South African Heritage Resources Agency (SAHRA)	X		
OTHER AFFECTED PARTIES	-	-	-
-	-	-	-

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT

FINAL SCOPING REPORT



<p>Interested and Affected Parties</p> <p>List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted</p>	<p>Date Comments Received</p>	<p>Issues raised</p>	<p>EAP's response to issues raised by the Applicant</p>
<p>INTERESTED PARTIES</p>	<p>-</p>	<p>-</p>	<p>-</p>
<p>Postmasburg Boerevereniging (Agri Postmasburg)</p>	<p>X</p>	<p>Mr A Williams was registered as I&AP on the project as he represents Agri Postmasburg.</p>	

iv) The Environmental attributes associated with the sites.

(1) Baseline Environment

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

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

This section describes the general biophysical, cultural, and socio-economic environment as well as baseline conditions that may be affected by the proposed project. The information provided here was obtained from desktop studies and an initial site inspection and must be treated as preliminary. More detailed information based on specialist findings, obtained from focussed investigations will be collected during the EIA process and elaborated on in the DEIAR. The information presented below was divided into the Hay-, and Kuruman Administrative Districts respectively.

PHYSICAL ENVIRONMENT

CLIMATE

Kuruman Administrative District – Hotazel

The long-term average annual rainfall of Hotazel is 336.4 mm of which the bulk is received from October – March. Temperatures vary from an average monthly maximum and minimum of 36.7 °C and 11°C in January to 23.2°C and -2.9°C in July respectively. The highest temperature that has been recorded is 41.6°C and the lowest -7.5°C.

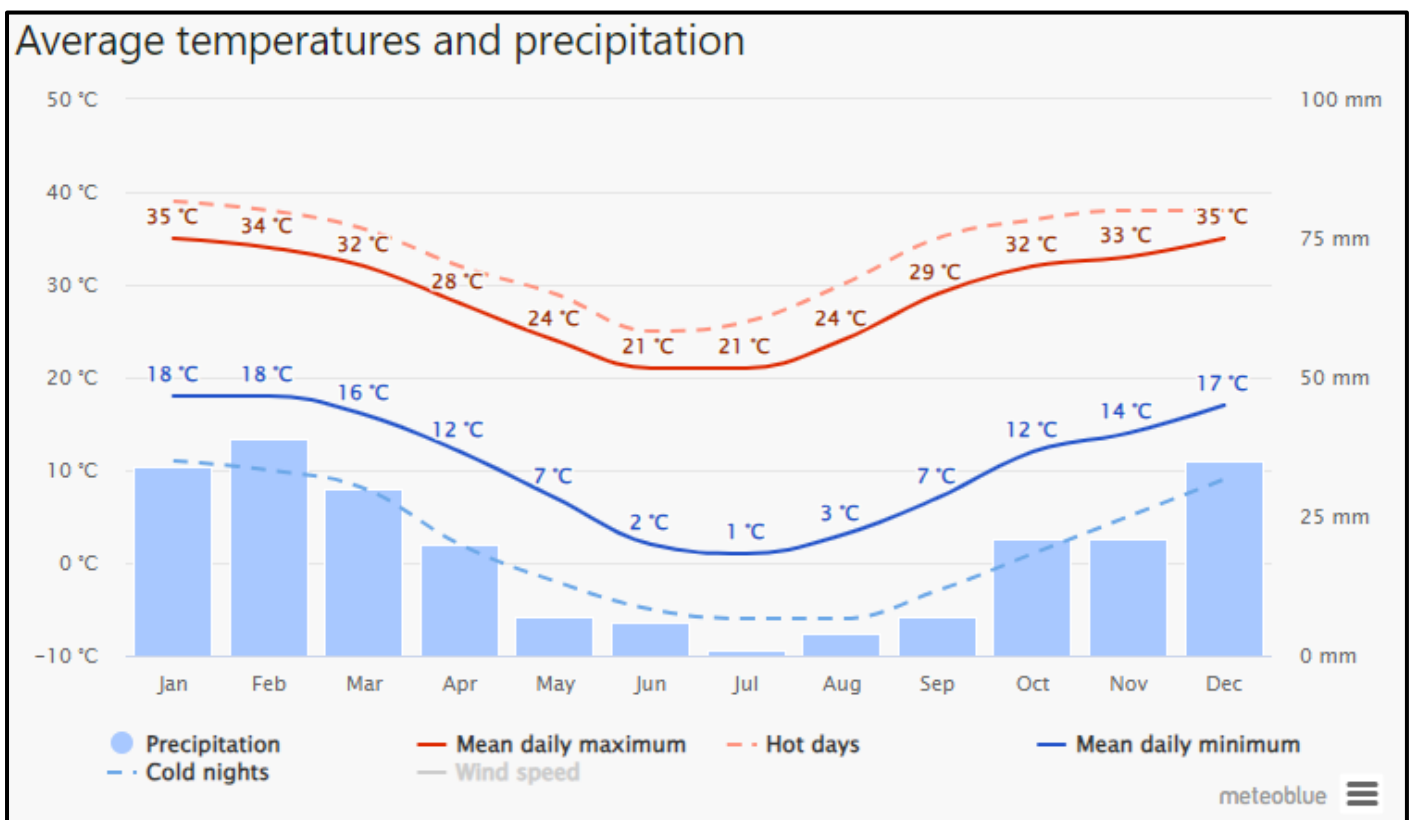


Figure 6: Average temperatures and precipitation for Hotazel (image obtained from https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/hotazel_south-africa_995397).

According to the Windfinder website the nearest station to record wind data of the area is the Kathu/Sishen weather station. According to this station the prevailing wind direction of the area is in a north/north-western direction with an average wind speed of 13 km/h. The following figure shows the monthly wind distribution of the Kathu/Sishen area within proximity to the application area.

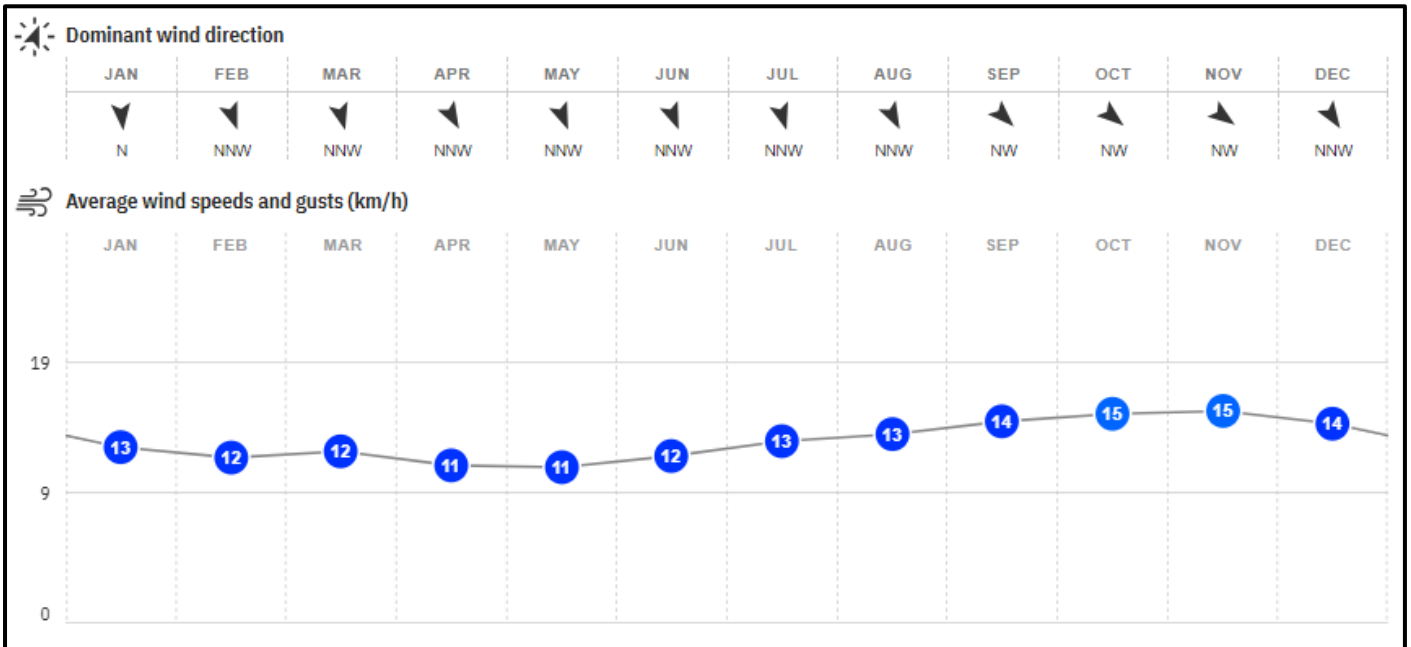


Figure 7: Monthly wind speed statistics and directions for Kathu/Sishen (image obtained from www.windfinder.com/windstatistics/kathu_sishen).

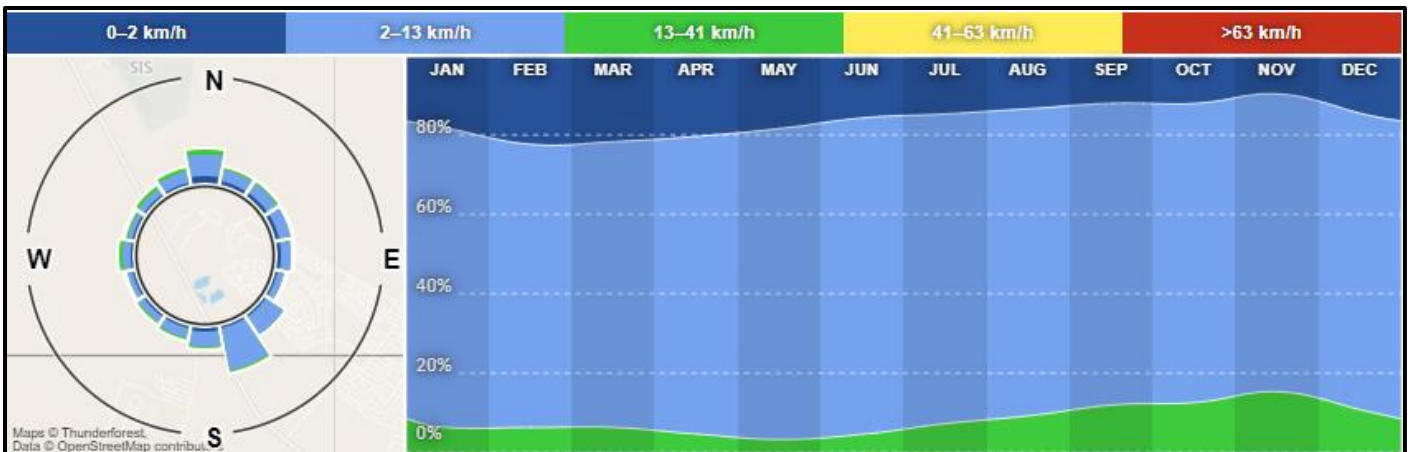


Figure 8: Monthly wind direction and strength distribution for Kathu/Sishen (image obtained from www.windfinder.com/windstatistics/kathu_sishen).

Hay Administrative District - Postmasburg

According to the saexplorer website, Postmasburg normally receives ± 241 mm of rain per year, with most rainfall occurring mainly during summer. The chart below (lower left) shows the average rainfall values for Postmasburg per month. It receives the lowest rainfall (0 mm) in July and the highest (57 mm) in March. The monthly distribution of

average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Postmasburg range from 17°C in June to 32°C in January. The region is the coldest during July when the mercury drops to 0°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures.

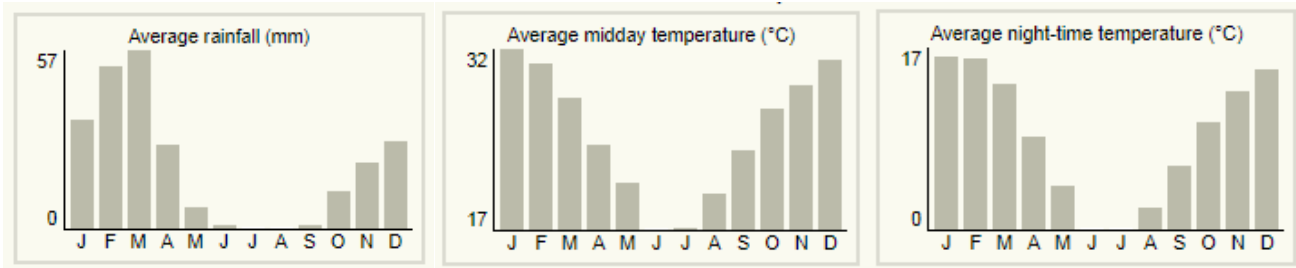


Figure 9: Charts showing the climatic averages of the Postmasburg region (information obtained from SAExplorer).

The dominant wind direction of Postmasburg is fairly constant ranging from north to west-northwest, with the average wind speed being ±6 knots (11.11 km/h) as shown in the following figure.

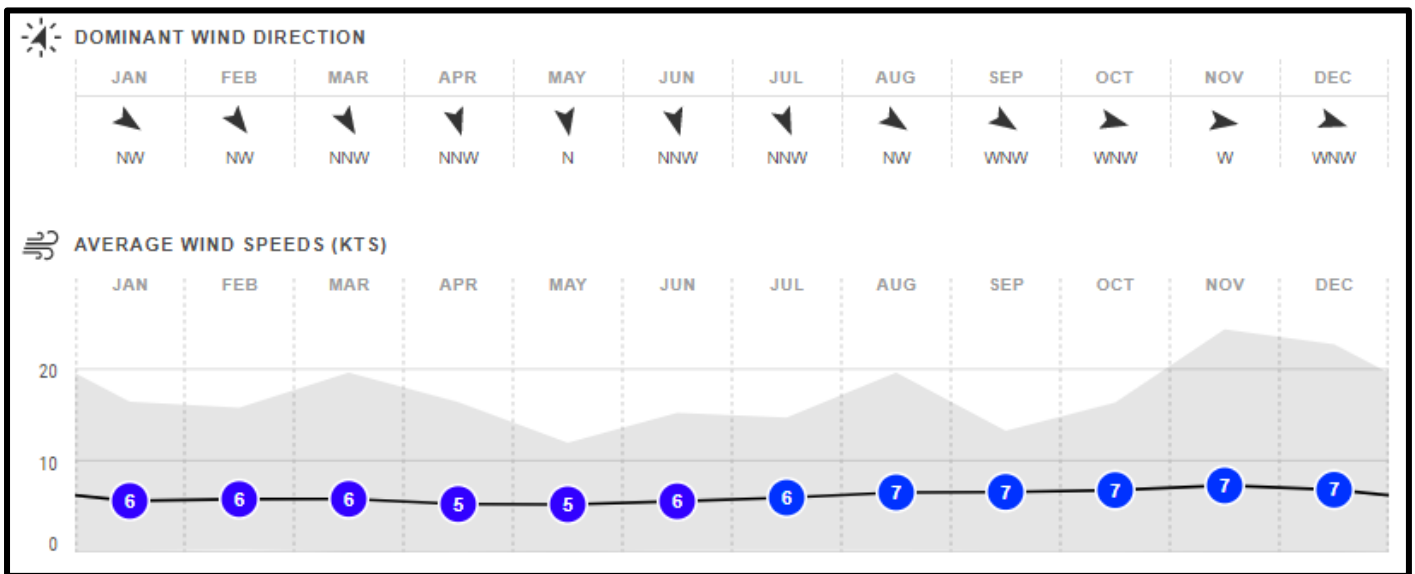


Figure 10: Image showing the dominant wind direction and average wind speed over a 12 month period for the Postmasburg area. (Image obtained from www.windfinder.com/windstatistics/postmasburg)

TOPOGRAPHY

Kuruman Administrative District – Hotazel

The topography of the greater study area that includes the farms Botha No 313 and Devon No 277 is shown in the following figure. The area forms part of the inland plateau of South Africa with elevations generally at ±1 060 amsl. The landscape of the district is predominantly flat, with a ridge system bisecting the greater municipality along a north-

south axis. This feature, the Kuruman hills, creates the only significant variation in the otherwise flat landscape of the municipality (van Weele, 2011 and AGIS, 2015). The study area is situated in typical Kalahari surroundings. The topography alternates between elevated areas with poor developed soils to very deep developed soil type with poor differentiation between the different soil horizons in the plains. The Kuruman hills also determine the drainage pattern of the Kuruman river system with the alignment of the ridge forcing the draining of water in the area northwards before turning sharply west. The Kuruman River is a tributary of the Molopo River which eventually converges with the Orange River (van Weele, 2011 and AGIS, 2015).

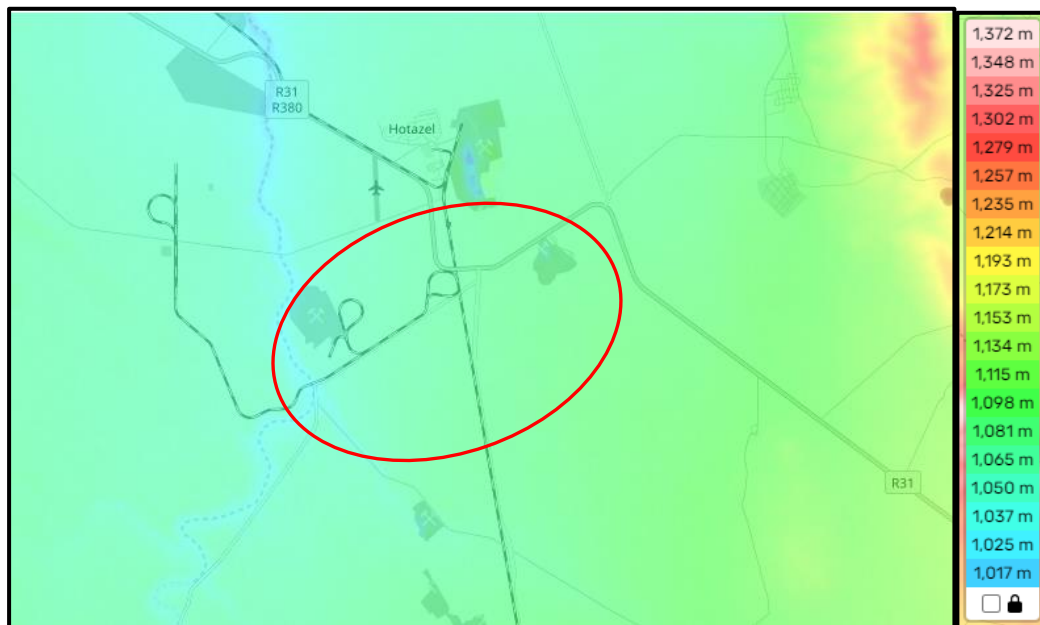


Figure 11: Map showing the topography of the greater Hotazel area (image obtained from <https://en-za.topographic-map.com/map-6m7zs/South-Africa/?center=-27.31565%2C22.96555&zoom=10>).

Hay Magisterial District – Postmasburg

The topography of the greater study area that includes the farms Bermolli No 583, Engelsdraai No 221, Vaalwater No 84, and Witdraai No 204 is shown in the following figure. The area forms part of the inland plateau of South Africa with elevations generally at $\pm 1\ 100$ amsl. The general topography of the application area varies from flat to gently undulating plains with the Langberge flanking Bermolli no 583, Engelsdraai No 221, and Witdraai No 204 to the west. The topography of Vaalwater No 84 is flat with singular hills/koppies on specifically the Remainder of Vaalwater No 84. This farm also has various depressions or pans that hold water during the rainy season.

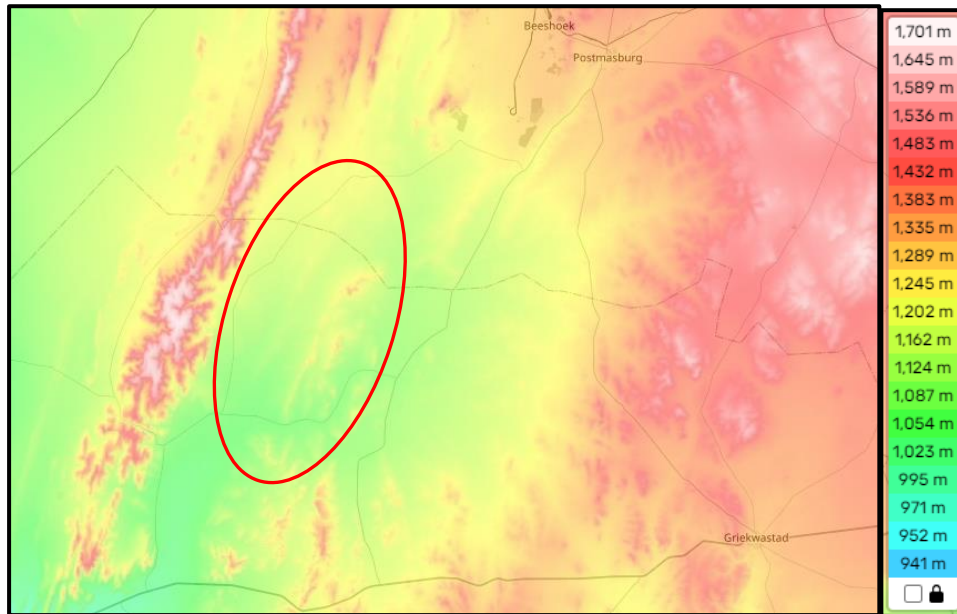


Figure 12: Map showing the topography of the greater Postmasburg area (image obtained from <https://en-za.topographic-map.com/map-6m7zs/South-Africa/?center=-27.31565%2C22.96555&zoom=10>).

VISUAL CHARACTERISTICS

The visual character of the greater study areas (Hay & Kuruman Districts) mainly comprise of an agricultural setting intersected by mining, road-, railway- and electricity infrastructure. Through the years the Postmasburg (Hay) area has become known for its manganese and iron ore potential and mines such as Kumba Iron Ore, Beeshoek-, Heuningkranz-, and Kolomela Mine were established. The towns of Hotazel, Kuruman and Postmasburg have a low aesthetic value.

The immediate surrounding land uses, adjacent of the earmarked farms, mainly include agricultural activities (grazing) and/or mining. The aesthetic ambiance of the region is high and represents that of a rural area with natural landscapes altered, in some areas, by mining.

GEOLOGY AND SOILS

1. REGIONAL GEOLOGY

The regional geology of the study area forms part of the Transvaal Super Group. The Transvaal Super Group was deposited in two structurally controlled basins i.e. Transvaal and Griqualand West.

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT

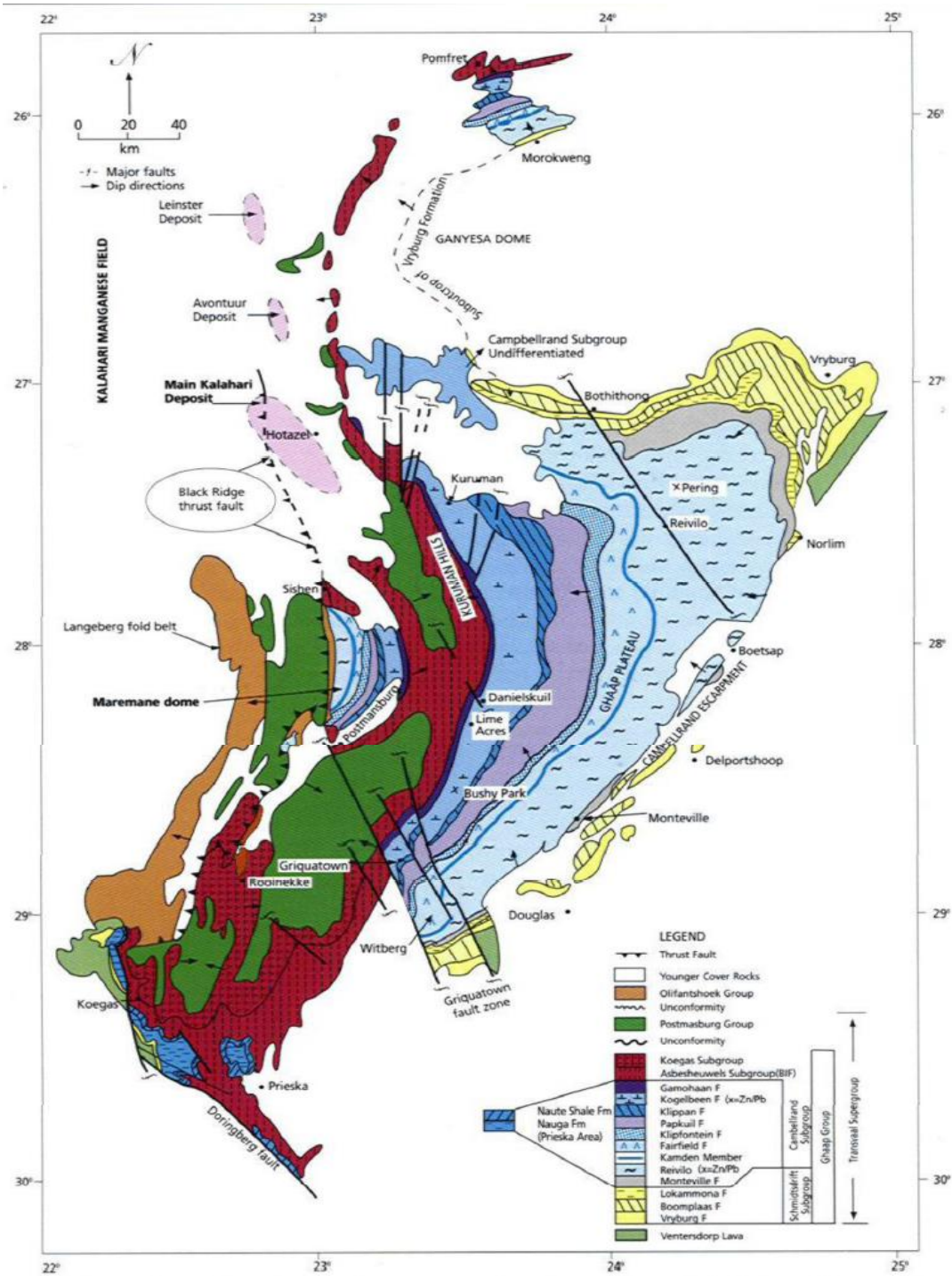


Figure 13: Geological map of Griqualand West (modified from Beukes 1986) (image obtained from Gamagara Resources (Pty) Ltd 2019).

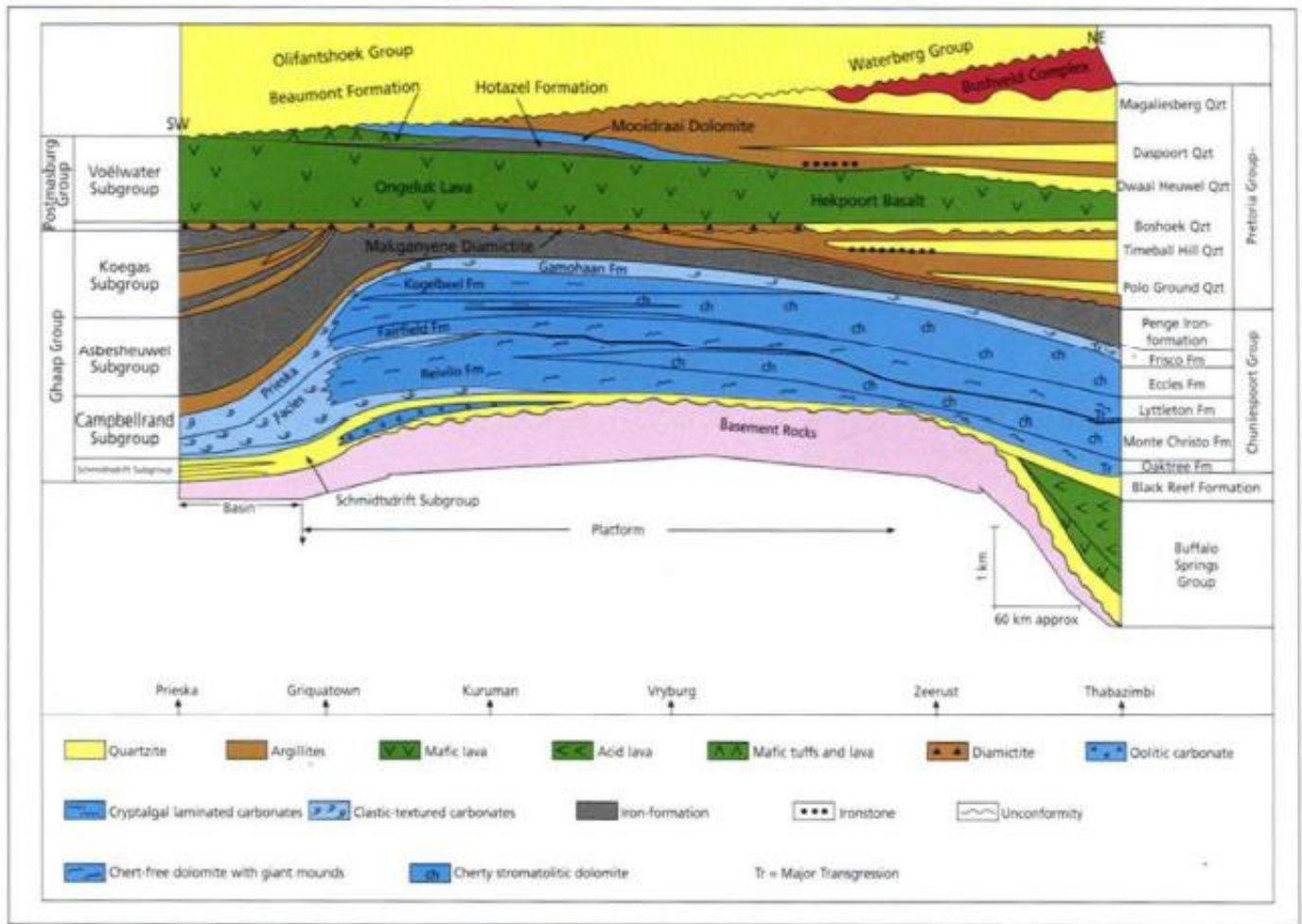


Figure 14: A southwest-northeast 600 km cross-section showing the simplified geology of the Transvaal Supergroup and the distribution of other important geological features (modified from Beukes 1983) (image obtained from Gamagara Resources (Pty) Ltd 2019).

The rock stratigraphy within the Griqualand West depository, forms part of the early Proterozoic-Transvaal Supergroup sequence. The Postmasburg Manganese Field is located along the western margin of the Kaapvaal Craton and on the eastern limb of the Maremane Dome.

In Griqualand West the succession can be broadly subdivided into a basal, chemical sedimentary unit, referred to as the Ghaap Group, which is overlain by a mixed volcanic-clastic-chemical sequence, known as the Postmasburg Group. The Ghaap and Postmasburg Groups represent two separate, major unconformity-bounded sequences (Cheney and Winter, 1995).

2. GHAAP GROUP

The Ghaap Group is subdivided, from the base upward, into the Schmidtsdrif Subgroup (interbedded siliclastics and carbonates), the Campbellrand Subgroup (carbonates),

the Asbesheuwel Subgroup (iron formation) and the Koegas Subgroup (interbedded siliclastics and iron formations).

2.1 Schmidtsdrif Subgroup

The basal Schmidtsdrif Subgroup comprises fluviially deposited feldspatic quartz arenites, shallow marine, and intertidal quartz arenites as well as a platformal carbonate sequence (Beukes, 1979).

2.2 Campbellrand Subgroup

The Campbellrand Subgroup consists of stromaolitic dolomite and limestone platform facies, which interfingers down slope with carbonate turbidites. The turbidites have been ankerized and silicified to form banded ferruginous chert. Toward the south the turbidites interfinger with carbonaceous shale (Prieska facies), which, according to Beukes, relates to deposition within a euxinic basin, in front of the carbonate platform.

2.3 Asbesheuwel Subgroup

Shallow water carbonate deposition was terminated during a major transgression, which drowned the shelf, resulting in a fairly sudden transition from carbonates through cherts and into the banded iron formation of the Asbesheuwel Subgroup. Beukes, 1978 subdivided the Asbesheuwel Subgroup into the Kuruman Iron Formation at the base followed by the Griquatown Iron Formation at the top. According to Beukes the Kuruman Iron Formation was deposited within a deep shelf setting over the entire Kaapvaal Craton. It comprises an upward-shallowing sequence consisting of carbonaceous shale deposited in an euxinic basin, ankerite-banded chert, representing distal carbonate turbidites which was deposited in a transition zone, between the euxinic basin and the open shelf. Magnetite-hematite-chert micro banded rhythmite macrocycles containing interbedded stilpnomelane band- lutites, were deposited on the deep open shelf, while greenalite-siderite rhythmites mark the toe-of-slope and slope areas of a shallow water platform. The Ouplaas Member, which marks the top of the Kuruman Iron Formation, represents a clastic-textured shallow-water platform deposit.

The Griquatown Iron Formation overlies the Kuruman Iron Formation and consists of upward coarsening megacycles, deposited in environments that vary from low energy, subtidal to high energy, intertidal and lagoonal settings.

2.4 Koegas Subgroup

The Koegas Subgroup was only deposited down slope and within the deeper part of the basin toward the south (Prieska area) and is absent toward the north (Sishen). The Koegas Subgroup was deposited during a transgressional phase and comprises a quartz-chlorite-mudstone unit at the base followed upward by iron formations with interbedded quartz-wackes, with more iron formations, containing interbedded carbonates toward the top. The Koegas Subgroup was subdivided by Beukes; (1978), from the base upward into the following formations:

- ❖ Pannetjie Formation: Quartz-chloritic mudstone.
- ❖ Dorasdale Formation: Iron-lutites.
- ❖ Kwakwas Formation: Greenalite-lutites and interbedded quartzwackes.
- ❖ Naragas Formation: Mudstones and carbonates.
- ❖ Rooinekke Formation: Iron band-lutites
- ❖ Nelani Formation: Mudstones with interbedded limestone, chert, and grit beds

3. POSTMASBURG GROUP

Uplift and erosion of the platform strata took place prior to the deposition of the Makganyene Diamictite Formation at the base of the Postmasburg Group (Beukes, 1983, 1984). Visser (1971) and de Villiers and Visser (1977) considered the diamictite to be of glacial origin. The Postmasburg Group has been subdivided, from the base upward, into the following formations:

- ❖ Makganyene Formation (glacial diamictites).
- ❖ Ongeluk Formation (basaltic lavas).
- ❖ Hotazel Iron Formation (Banded iron stones, host to manganese deposits within the Kalahari Manganese Basin).
- ❖ Moidraai Formation (dolomites).

The different formations within the Postmasburg Group, conformably follows on top of one another. During post Postmasburg times, the Postmasburg Group was exposed to intense weathering. The erosional unconformity progressively cuts down the Stratigraphy, moving from the north (Hotazel area) toward the south (Postmasburg area), truncating gradually the Moidraai, the Hotazel, Ongeluk, Makganyene and Asbesheuwel Formations to finally rest on dolomites of the Campbellrand Subgroup on the Maremane Dome near Postmasburg.

4. OLIFANTSHOEK GROUP

The unconformity is overlain by the Olifantshoek Group, which comprises shales at the base (Mapedi Formation) followed by quartzites of the Lucknow Formation. In the Sishen-Postmasburg area the Olifantshoek Group, is referred to as the Gamagara Formation. The unconformity is marked by a hematitepebble conglomerate and shale unit. The Olifantshoek unconformity is of utmost economic importance within the area. Where it rests on the Asbesheuwel Subgroup, hematite iron ore was formed (Iskor and Beeshoek), where it truncates the Campbellrand dolomites, manganese mineralization is developed (Postmasburg Manganese Field).

5. DIATOMITE (KIESELGUHR)

Kieselguhr, diatomaceous earth and diatomite are the names commonly used for remarkably light, dull white or pale-coloured, massive to finely laminated chalky-looking, highly porous sediment composed mainly of the minute hollow opaline protective shells of unicellular aquatic plants known as diatoms.

Within the Griqualand West area, the diatoms appear to overlay either lava of the Ongeluk Sub-Group, or Dwyka shale (Base Kalahari Formation) along ancient water courses and paleo-marshes.



Figure 15: Example of kieselguhr (Van der Merwe)

HYDROLOGY

(Information extracted from the Lower Vaal Water Management Area: Internal Strategic Perspective, October 2004 & Development of ISPs for Central Region: Lower Orange WMA, July 2004. DWAF)

The farms Botha No 313, Devon No 277, and Bermolli No 583 are within the Molopo Sub-Water Management Area (SWMA) which is managed as part of the Lower Vaal Water Management Area (WMA ID 20). Although the Molopo SWMA forms part of the Lower Vaal WMA, it does not form part of the model for the Vaal River System as drainage of surface water from the Molopo SWMA occurs in the direction of the Orange River and not the Vaal River. The Molopo SWMA is considered an endoeric area as flows from the Molopo River have not reached the Orange River in recorded history. The bulk of the water used in this sub-catchment is from groundwater. The groundwater quality from most of the boreholes in the study area is fit for human and domestic animal use. Borehole yields in the calcrete aquifer generally vary from 0.2 to ± 2 l/s.

The Ga-Mogara Stream borders the farm Botha No 313 to the west/north-western. At the junction of the farms Devon No 277 and Botha No 313 the Witleegte Stream joins the Ga-Mogara Stream. According to the SANBI BGIS data an unnamed ephemeral drainage line is shown to cross through the eastern part of the farm Bermolli No 583. This line is shown to feed into a pan classified as an Upper Nama Karoo Depression on the SANBI BGIS Mapviewer as shown below. However, the presence of the drainage line and pan will need to be confirmed during the EIA phase.

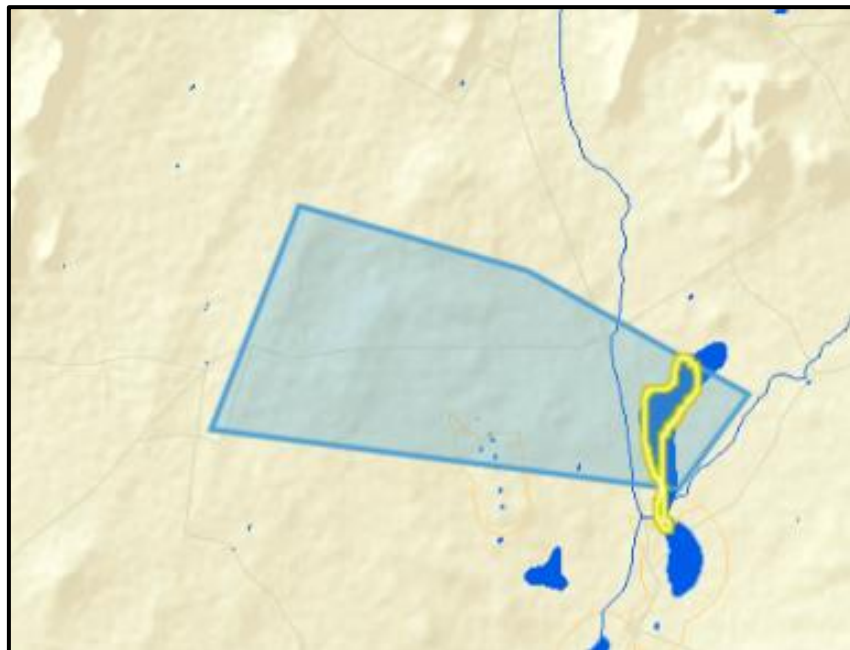


Figure 16: Figure indicating the position of the Upper Nama Karoo Depression (blue polygon with yellow outline) on the farm Bermolli No 583 as indicated on the BGIS Map Viewer – National Wetlands and NFEPA.

According to the National Freshwater Ecosystem Priority Areas (NFEPA) map as presented by SANBI, neither the farms Botha No 313 nor Devon No 277 are within a NFEPA of conservation importance as shown in the following figure.

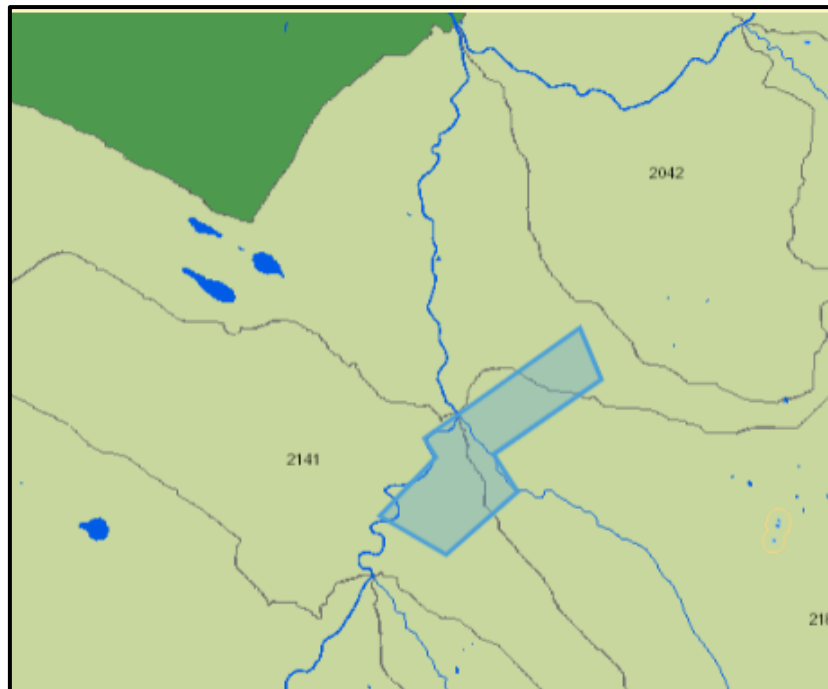


Figure 17: Map showing the position of the nearest NFEPA (dark green polygon) north-west of the study area (blue polygon). The Ga-Mogara Stream runs along the western boundary of the study area while the Witleegte Stream cuts between the two properties. (Image obtained from the BGIS Map Viewer – National Wetlands and NFEPA)

The farms Engelsdraai No 221, Vaalwater No 84, and Witdraai No 204 are within the Orange SWMA that is managed as part of the Lower Orange Water Management Area. The Lower Orange WMA is the lowest WMA in the Orange/Vaal River Basin. The Vaal River is the main tributary to the Orange River, other tributaries are the Ongers and Hartebeest Rivers from the south, and the Molopo River and Fish River (Namibia) from the north. The Orange SWMA includes the Orange River over the whole of its length through the WMA together with minor tributary streams. Groundwater utilisation is of major importance across wide areas in the Lower Orange WMA and often constitutes the only source of water.

At least one ephemeral drainage line was identified that runs through the farm Engelsdraai No 221. The Soutloop Stream dissects the farm Witdraai No 204 into northern and southern sections. Various pans also classified as Upper Nama Karoo Depressions are present on the farm Vaalwater No 84. A large pan system lays directly north of the farm with smaller pans within the farm boundaries that are fed by runoff from the higher laying areas/koppies.

The following figure shows both Bermolli No 583 and Engelsdraai No 221 within a FEPA area of conservation importance, while the more southern farms Vaalwater No 84 and Witdraai No 204 fall outside the FEPA's.

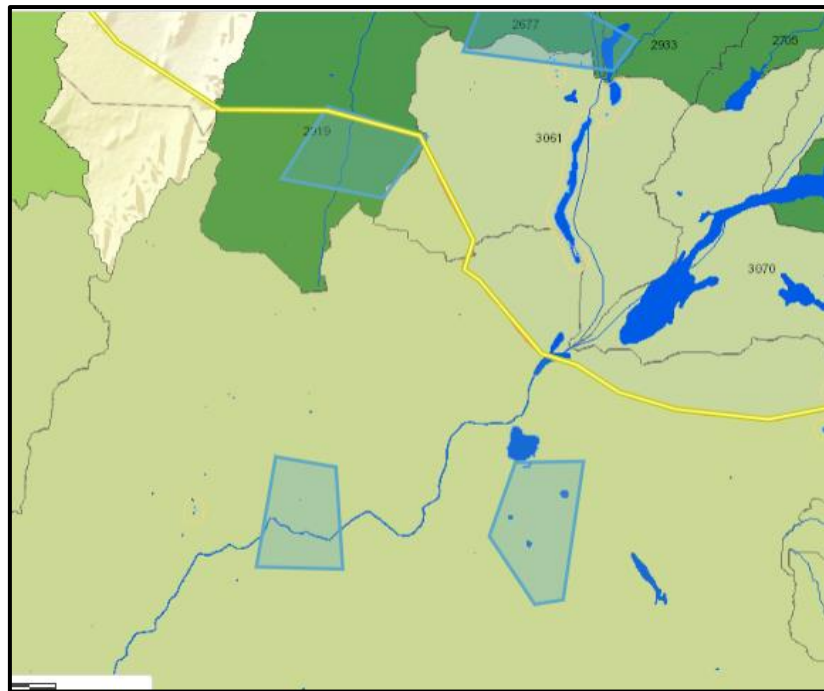


Figure 18: Map showing Bermolli No 583 (upper most farm) and Engelsdraai No 221 (second upper most polygon) within the NFEPA (dark green polygon), while the two lower farms Witdraai No 204 (west) and Vaalwater No 84 (east) are outside a FEPA. Note the Soutloop Stream crossing through Witdraai No 204 as well as the pan system north of Vaalwater No 48. (Image obtained from the BGIS Map Viewer – National Wetlands and NFEPA)

Also refer to Scoping Report (2)(h)(iv)(1)(c) *Description of specific environmental features and infrastructure on site – Site Specific Hydrology.*

AIR QUALITY AND NOISE AMBIANCE

Due to the low rainfall, the air quality of the study area is characterised as being dry, arid, and dusty. Dust is the most important pollutant given the area's rural character predominantly affected by agriculture and/or mining. The noise ambiance of the study area is classified as ambient rural or pastoral with noise levels mainly affected by traffic along the R31, R380, R309, R383, railway traffic, farming equipment and mining related operations.

Also refer to Part 2(h)(iv)(1)(c) *Description of specific environmental features and infrastructure on site – Site Specific Air Quality and Noise Ambiance.*

BIOLOGICAL ENVIRONMENT

BIODIVERSITY CONSERVATION AREAS

According to the DFFE Screening Report (see following image) an Ecological Support Area (ESA) is present along the south-western boundary of the farm Devon No 277. The Lexicon of Biodiversity Planning in South Africa provides the following definition for an ESA area:

- ❖ Ecological Support Area (ESA): *“An area that must be maintained in at least fair ecological condition (semi-natural/moderately modified state) in order to support the ecological functioning of a CBA or protected area, or to generate or deliver ecosystem services, or to meet remaining biodiversity targets for ecosystem types or species when it is not possible or not necessary to meet them in natural or near-natural areas.”*

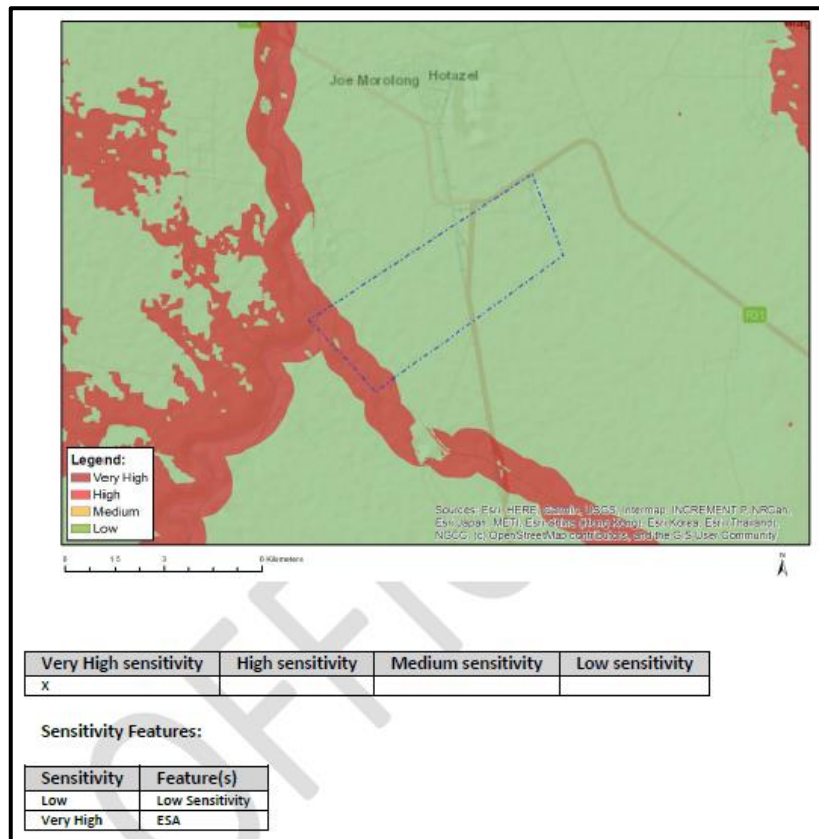


Figure 19: Terrestrial Biodiversity theme sensitivity of Devon No 277 according to the DFFE screening report.

The same ESA (that borders the farm Devon No 277) borders the farm Botha No 313 along the north-western and north-eastern boundaries as shown below.

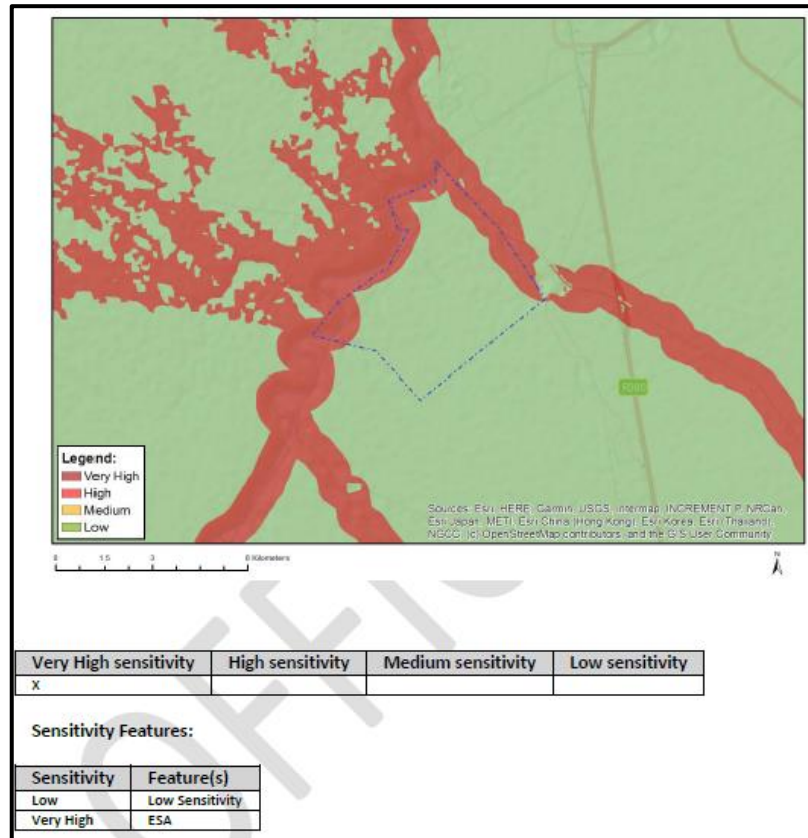


Figure 20: Terrestrial Biodiversity theme sensitivity of Botha No 313 according to the DFFE screening report.

The farm Bermolli No 583 is mostly within a Critical Biodiversity Area (CBA). The Lexicon of Biodiversity Planning in South Africa provides the following definition for an CBA:

- ❖ Critical Biodiversity Area (CBA): *“An area that must be maintained in a good ecological condition in order to meet biodiversity targets. CBA’s collectively meet biodiversity targets for all ecosystem types as well as for species and ecological processes that depend on natural or near-natural habitat, that have not already been met in the protected area network.”*

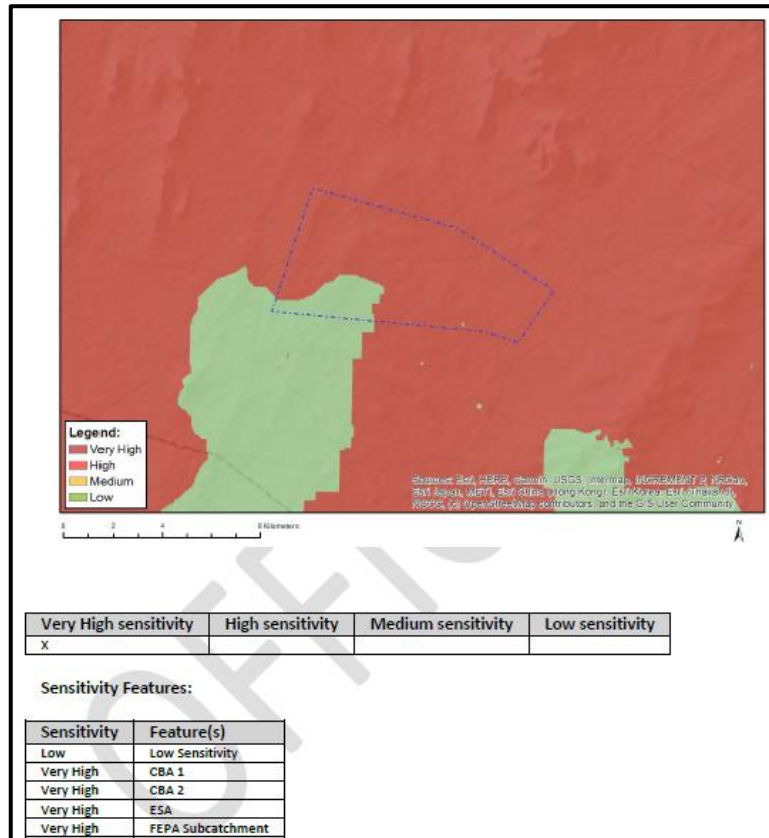


Figure 21: Terrestrial Biodiversity theme sensitivity of Bermolli No 583 according to the DFFE screening report.

The same applies to Engelsdraai No 221 where practically the whole farm is marked as a CBA. The drainage line that crosses through the farm Witdraai No 204 is an ESA, while the north-western section and a portion to the north of the farm Vaalwater No 84 is indicated as CBA.

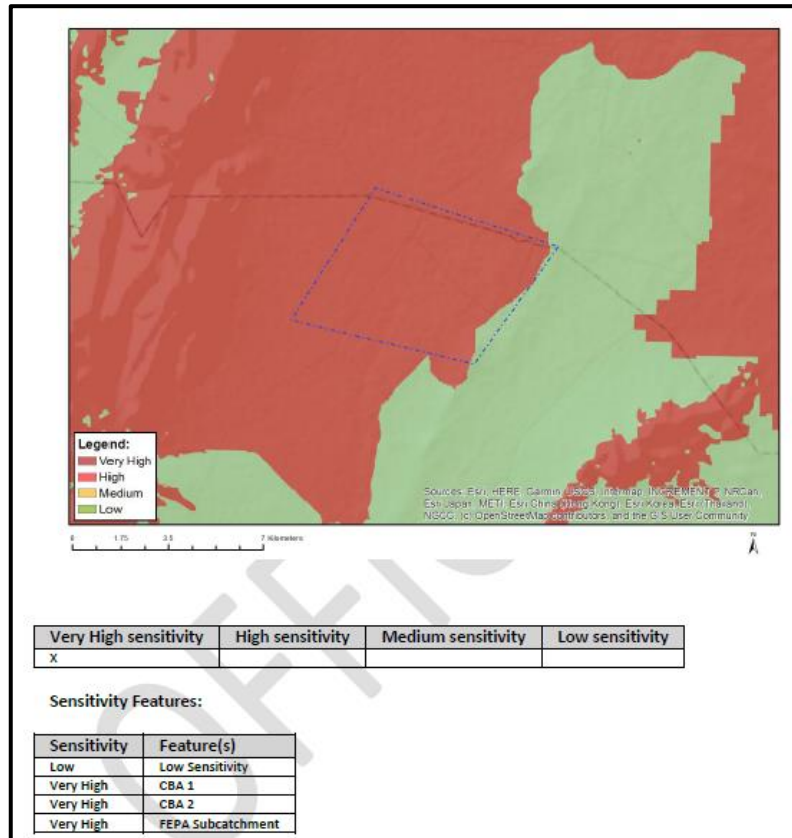


Figure 22: Terrestrial Biodiversity theme sensitivity of Engelsdraai No 221 according to the DFFE screening report.

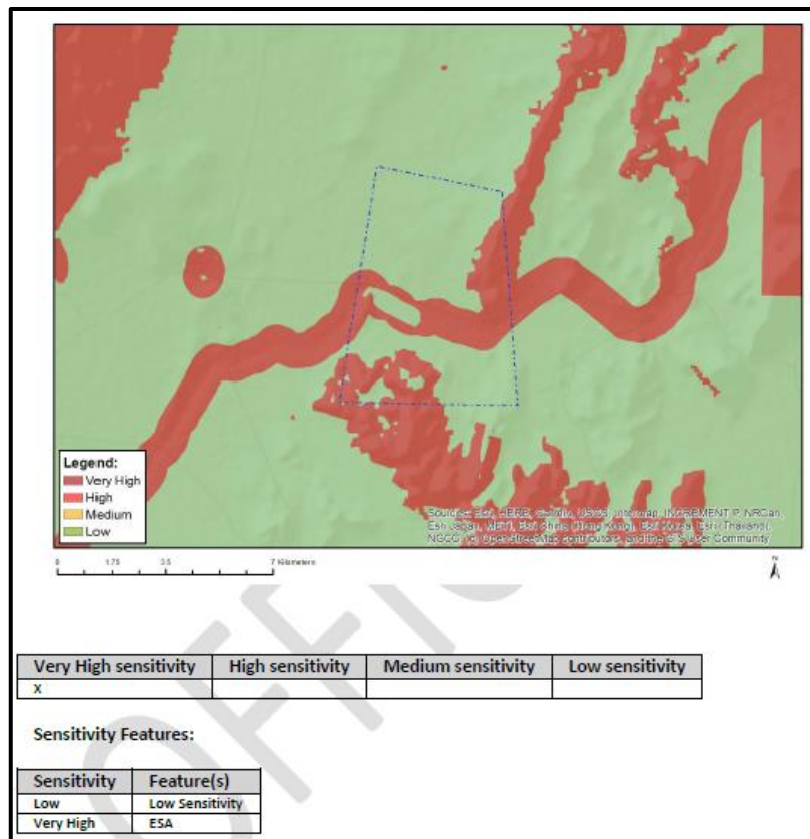


Figure 23: Terrestrial Biodiversity theme sensitivity of Witdraai No 204 according to the DFFE screening report.

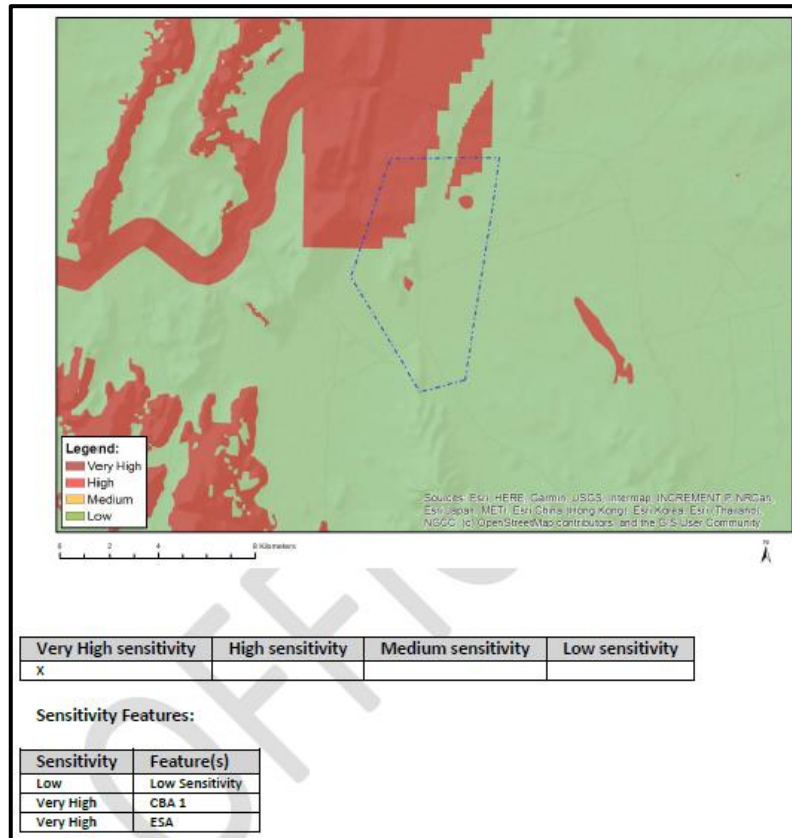


Figure 24: Terrestrial Biodiversity theme sensitivity of Vaalwater No 84 according to the DFFE screening report.

Also refer to Part 2(h)(iv)(1)(c) *Description of specific environmental features and infrastructure on site – Site Specific Groundcover and Biodiversity Conservation Areas.*

GROUNDCOVER

According to Mucina and Rutherford (2012) and the National Vegetation Map (2018) two vegetation types are prevalent on the farms Botha No 313 and Devon No 277 namely the Kathu Bushveld (SVk12) and the Gordonia Duneveld (SVkd1) as presented in the following figure.

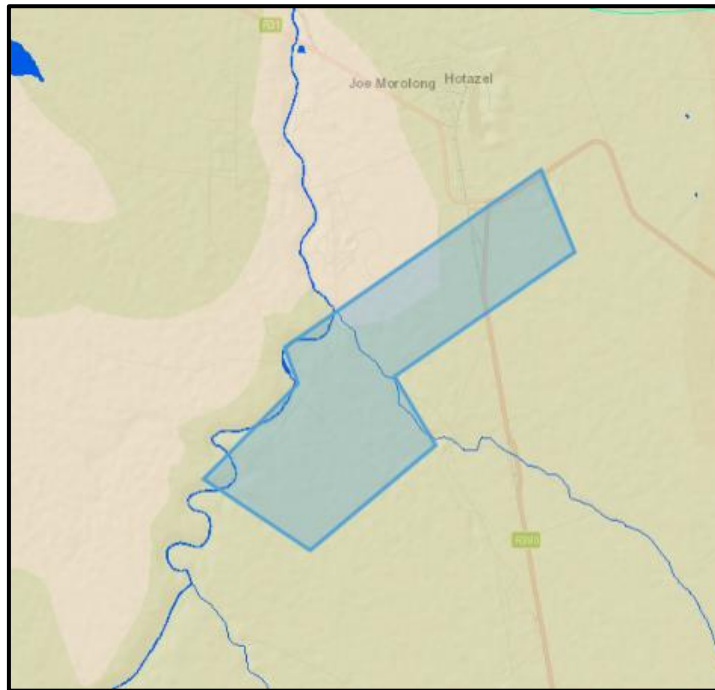


Figure 25: Map showing the distribution of the Kathu Bushveld (brown shading) as well as the Gordonia Duneveld (pink polygon) as depicted on the SANBI 2018 National Vegetation Map. The blue polygon represents the farms Botha No 313 (lower) and Devon No 277. (Image obtained from the BGIS Map Viewer: 2018 National Vegetation Map).

The vegetation types applicable to the farms Bermolli No 583, Engelsdraai No 221, Witdraai No 204 and Vaalwater No 84 include sections of the following:

- ❖ Kuruman Mountain Bushveld (SVk10),
- ❖ Northern Upper Karoo (NKu3),
- ❖ Olifantshoek Plains Thornveld (SVk13),
- ❖ Postmasburg Thornveld (SVk14),
- ❖ Southern Kalahari Salt Pans (Azi4).

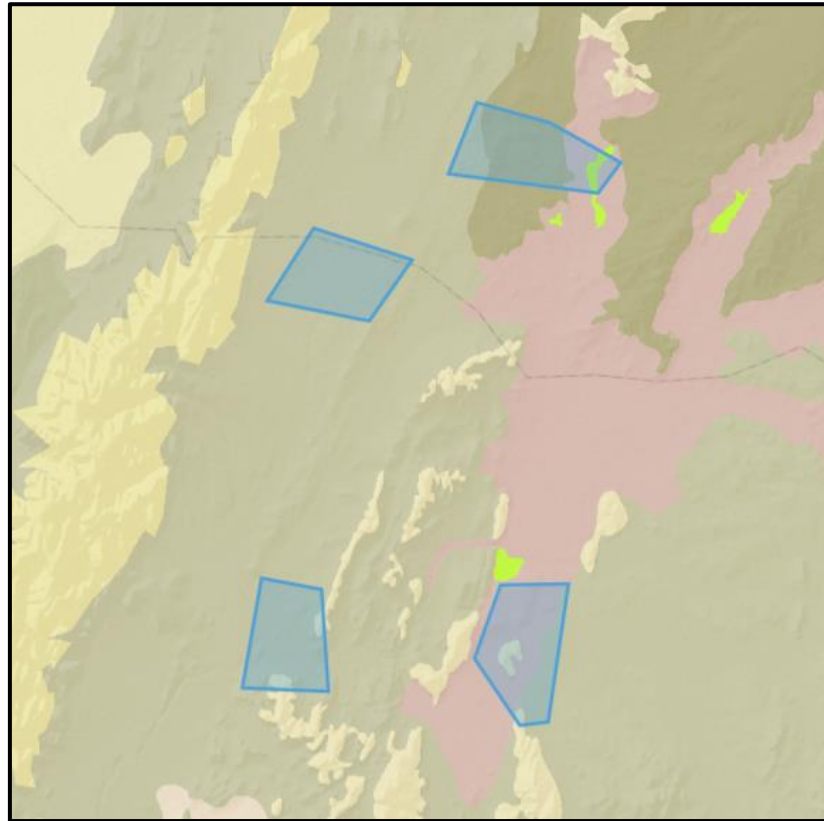


Figure 26: Map showing the distribution of the Olifantshoek Plains Thornveld (light brown), Postmasburg Thornveld (dark brown), Northern Upper Karoo (pink), Southern Kalahari Salt Pans (green), and the Kuruman Mountain Bushveld (sand colour) as depicted on the SANBI 2012 National Vegetation Map. The blue polygon represents the farms Bermolli No 583 (top), Engelsdraai No 221 (top-west), Witdraai No 204 (bottom-west), and Vaalwater No 84 (bottom). (Image obtained from the BGIS Map Viewer: 2018 National Vegetation Map).

Kathu Bushveld (SVk12)

The Kathu Bushveld occurs from the plains surrounding Kathu and Deben in the south through Hotazel to the Botswana border. The landscape associated with this vegetation type is mostly flat with some interspersed pans.

The main vegetation features include a medium-tall tree layer with mostly *Boscia albitrunca*, but also *Vachellia erioloba* in places, as the prominent trees. The shrub layer is generally most important with, for example, *Senegalia mellifera* subsp. *detinens*, *Diospyros lycioides* and *Lycium hirsutum*. The grass layer is variable in cover. The most important trees and shrubs are *Vachellia erioloba*, *Senegalia mellifera* subsp. *detinens*, *Boscia albitrunca*, *Diospyros lycioides* subsp. *lycioides*, *Grewia flava*, *G. retinervis*, *Gymnosporia buxifolia*, *Lycium hirsutum* and *Rhigozum brevispinosum*. Dominant and other grasses include *Aristida meridionalis*, *A. congesta*, *Brachiaria nigropedata*, *Centropodia glauca*, *Eragrostis lehmanniana*, *E. biflora*, *E. chloromelas*, *E. heteromera*, *E. pallens*, *Melinis repens*, *Schmidtia pappophoroides*, *S. kalahariensis*, *Stipagrostis ciliata*, *S. uniplumis* and *Tragus berteronianus*. Significant low shrubs and herbs are *Aptosimum*

decumbens, *Acrotome inflata*, *Erlangea misera*, *Gisekia africana*, *Heliotropium ciliatum*, *Hermbstaedtia fleckii*, *H. odorata*, *Limeum fenestratum*, *L. viscosum*, *Lotononis platycarpa*, *Nolletia arenosa*, *Senna italica*, *Sida cordifolia*, *Tragia dioica* and *Tribulus terrestris*.

The conservation status of this vegetation type is Least Threatened. Although conservation target of 16% is envisioned by conservation authorities, to date none of the vegetation type is statutorily conserved.

Gordonia Duneveld (SVkd1)

The Gordonia Duneveld is characterized by parallel dunes about 3 – 8 m above the plains. Open shrubland with ridges of grassland dominated by *Stipagrostis amabilis* on the dune crests and *Vachellia haematoxylon* on the dune slopes, also with *Senegalia mellifera* on lower slopes and *Rhigozum trichotomum* in the interdune straaen.

Some of the important taxa found in this vegetation type include *Senegalia mellifera* subs *detinens*, Tall Shrubs: *Grewia flava*, *Rhigozum trichotomum*, Low Shrubs: *Aptosimum albomarginatum*, *Monechma incanum*, Succulent Shrubs: *Lycium bosciifolium*, *L. pumilum*, *Talinum caffrum*. Graminoids: *Schmidtia kalahariensis*, *Brachiaria glomerata*, *Bulostylis hispidula*, *Eragrostis lehmanniana*, Herbs: *Hermbstaedtia fleckii*, *Acanthosicyos naudinianus*, *Tribulus zeyheri*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) approximately 14% is statutorily conserved in the Kgalagadi Transfrontier Park. Very little of the vegetation type has been transformed, and erosion is normally very low.

Kuruman Mountain Bushveld (SVk10)

The Kuruman Mountain Bushveld is characterized by rolling hills with generally gentle to moderate slopes and hill pediment areas with an open shrubveld with *Lebeckia macrantha* prominent in places.

Some of the important taxa found in this vegetation type include *Searsia lancea*, *S. pyroides*, *Diospyros austro-africana*, *Euclea crispa*, *E. undulate*, *Olea earopaea*, *Tarchonanthus camphoratus*, *Amphiglossa triflora*, *Anthospermum rigidum*, *Helichrysum zeyheri*; Graminoids: *Andropogon chinensis*, *Anthephora pubescens*, *Aristida congesta*, *Digitaria eriantha*, *Themeda triandra*. Biogeographically Important Taxa: *Lebeckia*

macrantha (Griqualand West endemics), *Tarchonanthus obovatus*, *Euphorbia wilmaniae*, *E. planiceps*, *Digitaria polyphylla*, *Sutera griquensis*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) none of it is conserved in statutory or private conservation areas. A conservation target of 16% was set for the vegetation type.

Northern Upper Karoo (NKu3)

The Northern Upper Karoo is a very wide unit that covers parts of the Northern Cape and Free State Provinces. The vegetation type is a shrubland dominated by dwarf karoo shrubs, grasses and *Senegalia mellifera* subs. *detinens* and some other low trees. The unit is flat to gentle sloping.

Some of the important taxa found in this vegetation type include *Senegalia mellifera* subs *detinens*, *Boscia albirunca*. Tall Shrubs: *Lycium cinereum*, *L. horridum*, *L. oxycarpum*, *Rhigozum trichotomum*, Low Shrubs: *Chrysocoma ciliata*, *Gnidia polycephala*, *Pentzia calcarean*, *Aptosimum marlothii*, *Eriocephalus eriocephalus* subsp *eriocoides*, *Euryops asparagoides*, *Limeum aethiopicum*, *Pentzia lanata*, *Zygophyllum lichtensteinianum*, Herbs: *Convolvulus sagittatus*, *Dicoma capensis*, *Gazania krebsiana*, *Radyera urens*, Graminoids: *Aristida adscensionis*, *A. congesta*, *Enneapogon desvauxii*, *Eragrostis lehmanniana*, *E. obtusa*, *Fingerhuthia africana*, *Themeda triandra*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) none is conserved in statutory conservation areas. *Prosopis* occurs in generally isolated patches, with densities ranging from very scattered to medium to localised closed woodland.

Olifantshoek Plains Thornveld (SVk13)

The Olifantshoek Plains Thornveld is a very wide and diverse unit on plains with usually open tree and shrub layers with for example *Vachellia luederitzii*, *Boscia albitrunca* and *Searsia tenuinervis*, and with a usually sparse grass layer.

Some of the important taxa found in this vegetation type include *Vachellia erioloba*, *Senegalia mellifera*, *Boscia albitrunca*, *Terminalia sericea*, *Lycium hirsutum*, *Rhigozum obovatum*, *Searsia tridactyla*, *Tarchonanthus camphoratus*, *Aptosimum procumbens*, *Grewia retinervis*, *Solanum tomentosum*. Graminoids: *Schmidtia papophoroides*, *Stipagrostis uniplumis*, *Aristida congesta*, *Digitaria eriantha*. Biogeographically Important

Taxa: *Vachellia luederitzii*, *Lebeckia macrantha*, *Hermannia burchelli*, *Justicia puberula*, *Tarchonanthus obovatus*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) only 0.3% is statutorily conserved in the Witsand Nature Reserve. Approximately 1% of the vegetation type has been transformed and the occurrence of erosion is very low. A conservation target of 16% was set for the vegetation type.

Postmasburg Thornveld (SVk14)

The vegetation and landscape features of the Postmasburg Thornveld is described as flats surrounded by mountains supporting open, shrubby thornveld characterised by dense shrub layer often lacking a tree layer, the grass layer is very sparse. Shrubs are generally low with a karroid affinity.

Some of the important taxa found in this vegetation type include *Vachellia erioloba*, *V. karroo*, *Searsia lancea*, *S. tridactyla*, *Ziziphus mucronata*, *Diospyros lycioides*, *Ehretia rigida*, *Tarchonanthus camphoratus*, *Grewia flava*, *Felicia muricata*, *Melolobium microphyllum*, *Sutera linariifolia*, Graminoids: *Digitaria eriantha*, *Enneapogon scoparius*, *Eragrostis lehmanniana*, *Aristida adscensionis*, *A. congesta*, *A. diffusa*. Biogeographically Important Taxa: *Euphorbia bergii*, *Digitaria polyphylla*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) none of it is conserved in statutory or private conservation areas. Very little of the vegetation type has been transformed and the occurrence of erosion is very low. A conservation target of 16% was set for the vegetation type.

Southern Kalahari Salt Pans (Azi4).

The vegetation and landscape features of the Southern Kalahari Salt Pans is described as low grasslands on pan bottoms (often devoid of vegetation) often dominated by *Sporobolus* species, with a mixture of dwarf shrubs. The low shrubland dominated by *Lycium* and/or *Rhigozum* usually forms the outer belt in the salt-pan zonation systems.

Some of the important taxa found in this vegetation type include the shrubs *Zygophyllum tenue*, *Salsola scopiformis*. Herbs: *Hirpicium gazanioides*, *Tribulus terrestris*. Succulent Herbs: *Trianthema triquetra* subsp. *parvifolia*. Graminoids: *Enneapogon desvauxii*, *Eragrostis truncata*, *Sporobolus coromandelianus*, *S. rangei*, *Panicum impeditum*.

The vegetation type is classified as Least Threatened and according to Mucina and Rutherford (2012) about 8% is statutorily conserved in the Kgalagadi Transfrontier Park.

The vegetation of the pans is subject to natural degradation/regeneration cycles controlled by concentration of grazing animals.

Also refer to Part 2(h)(iv)(1)(c) *Description of specific environmental features and infrastructure on site – Site Specific Groundcover.*

FAUNA

The study area is mainly used for stock grazing with some game farming. Apart from the domestic animals, the indigenous faunal action of the area is high and shows a rich diversity with various protected species still present. The following faunal species faunal species are known to occur in/around the study area (non-exhaustive list):

Mammals:

- ❖ Aardvark (*Orycteropus afer*)
- ❖ Bat-eared Fox (*Otocyon megalotis*)
- ❖ Black-footed Cat (*Felis nigripes*) (VU)
- ❖ Bushveld Gerbil (*Gerbilliscus leucogaster*)
- ❖ Cape Fox (*Vulpes chama*)
- ❖ Cape Porcupine (*Hystrix africaeaustralis*)
- ❖ Desert Pygmy Mouse (*Mus indutus*)
- ❖ Ground Squirrel (*Xerus inauris*)
- ❖ Namaqua Rock Mouse (*Aethomys namaquensis*)
- ❖ Slender Mongoose (*Galerella sanguinea*)
- ❖ Smith's Red Rock Hare (*Pronolagus rupestris*)
- ❖ Southern Multimamate Mouse (*Mastomys coucha*)
- ❖ Springhare (*Pedetes capensis*)
- ❖ Steenbok (*Raphicerus campestris*)
- ❖ Yellow Mongoose (*Cynictis penicillata*)

Birds:

- ❖ African March-harrier (*Circus ranivorus*)
- ❖ Black Stork (*Ciconia nigra*)
- ❖ Burchell's Courser (*Cursorius rufus*)
- ❖ Chestnut-banded Plover (*Charadrius pallidus*)
- ❖ Kori Bustard (*Ardeotis kori*) (NT)
- ❖ Lanner Falcon (*Falco biarmicus*)
- ❖ Lappet-Faced Vulture (*Torgos tracheliotos*) (EN)
- ❖ Lesser Kestrel (*Falco naumanni*)

- ❖ Ludwig's Bustard (*Neotis ludwigii*) (EN)
- ❖ Martial Eagle (*Polemaetus bellicosus*) (VU)
- ❖ Secretary Bird (*Saggittarius sepentarius*) (VU)
- ❖ Sociable Weaver (*Philetairus socius*)
- ❖ Tawny Eagle (*Aquila rapax*) (VU)
- ❖ White-backed Vulture (*Gyps africanus*) (CR)
- ❖ Yellow-billed Stork (*Mycteria ibis*)

Invertebrates:

- ❖ Baboon Spiders
- ❖ Boomslang (*Dispholidus typus typus*)
- ❖ Burrowing Scorpions
- ❖ Cape Cobra (*Naja nivea*)
- ❖ Koringkriek (*Acanthopplus discoidalis*)
- ❖ Namaqua Plated Lizard (*Gerrhosaurus typicus*)
- ❖ Namaqua Sand Lizzard (*Pedioplanis namaquensis*)
- ❖ Puff Adder (*Bitis arietans*)
- ❖ Striped Skaapsteker (*Psammophylax tritaeniatus*)

HUMAN ENVIRONMENT

CULTURAL AND HERITAGE ENVIRONMENT

(Information extracted from the Heritage Impact Assessment for the Proposed Makganyane Prospecting Application, Postmasburg, Northern Cape Province, 2019 by HCAC – Heritage Consultants)

The archaeological record for the greater study area consists of the Stone Age and Iron Age.

Stone Age:

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age, and the Earlier Stone Age. The larger study area has a wealth of pre-colonial archaeological sites (Morris & Beaumont 2004). Famous sites in the region include the world renowned Wonderwerk Cave to the north of the study area. Closer to Kuruman two shelters on the northern and southern faces of GaMohaana (in the Kuruman Hills north-west of the town) contain Later Stone Age remains and rock paintings. Rock art is known to occur at Danielskuil to the north-east and on Carter Block (Morris 2008). Middle Stone Age material is on record around the study area.

According to Morris (2005) in the immediate area to the north of the study area, the Earlier Stone Age is represented by 11 known sites (Bruce, Kathu, Uitkoms, Sishen, Demaneng, Lylyveld and Mashwening); the Middle Stone Age by 5 sites (all in the vicinity of Kathu); and the Later Stone Age by 10 sites (one on King, one at Mashwening and eight at Kathu). Rock engravings have been identified from Sishen and Bruce (the Bruce site was salvaged and recorded by Fock & Fock 1984), as well as Beeshoek, to the east of the study area (Fock & Fock 1984; Morris 1992; Beaumont 1998). Specularite sources are known on Demaneng and Lylyveld and were mined in Stone Age times at a site on Doornfontein to the east of the study area (Beaumont 1973; Beaumont & Boshier 1974) and at Tsantsabane to the east of Postmasburg (Beaumont 1973; Thackeray et al. 1983): numerous other specularite workings have also been recorded (Beaumont 1973).

Iron Age:

Iron Age expansion southwards past Kuruman into the Ghaap plato and towards Postmasburg dates to the 1600's (Humphreys, 1976 and Thackeray, 1983). Definite dates for Tswana presence in the Postmasburg area are around 1805 when Lichtenstein visited the area and noted the mining activities of the Tswana (probably the Thlaping) tribes in the area. The Thlaro and Thlaping settled the area from Campbell in the east to Postmasburg and towards the Langeberg close to Olifantshoek in the north-west before 1770 (Snyman, 1988). The Korana expansion after 1770 started to drive the Thlaro and Thlaping further north towards Kuruman (Shillington, 1985); Morris (2005) indicated that three Iron Age sites close to the study area are on record (Demaneng, Lylyveld and Kathu).

Palaeontology:

The South African Heritage Resources Agency (SAHRA) compiled the Palaeontological (fossil) Sensitivity Map (PSM) to guide developers, heritage officers and practitioners in screening palaeontologically sensitive areas at the onset of a project. When the footprint of the earmarked properties are placed on the PSM, it shows that the farms extend over moderate (green) to high (orange) areas of concern as presented in the following figures.

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT

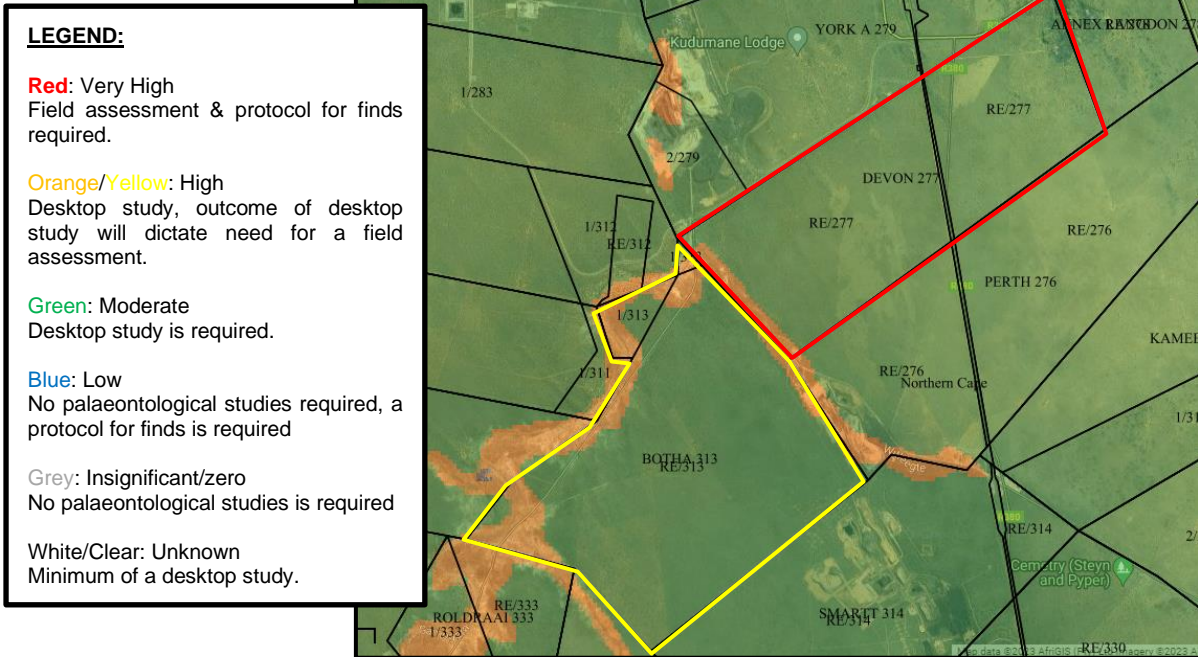


Figure 27: The farms Devon No 277 (red polygon) and Botha No 313 (yellow polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).



Figure 28: The farms Bermolli No 583 (blue polygon) and Engelsdraai No 221 (orange polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).

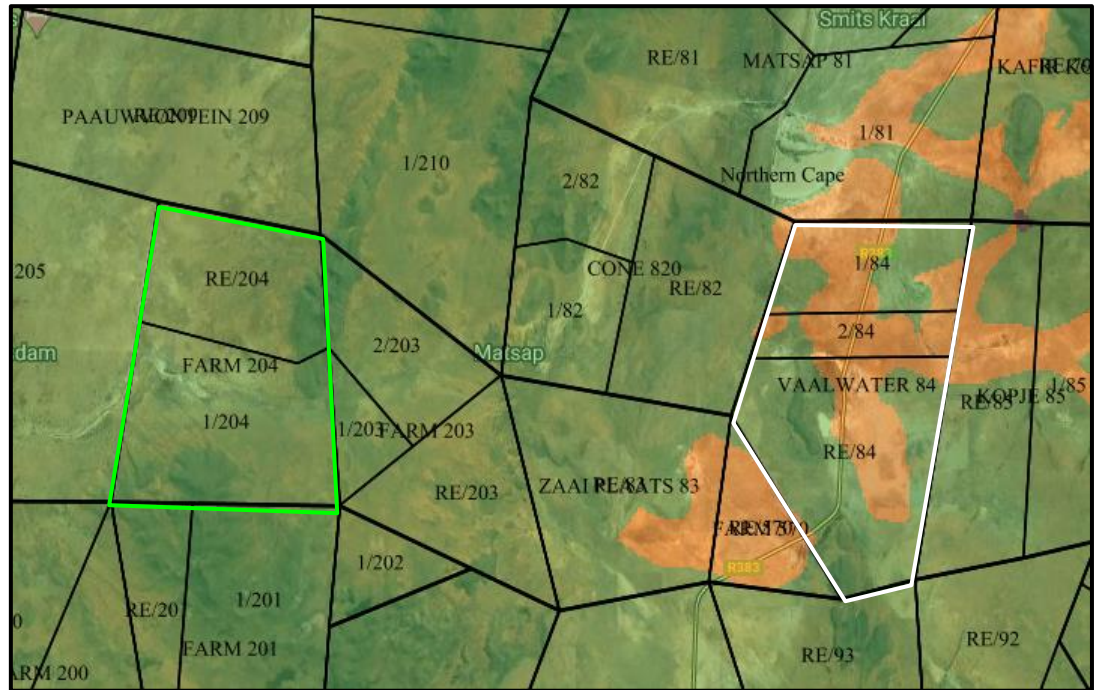


Figure 29: The farms Witdraai No 204 (green polygon) and Vaalwater No 84 (white polygon) extends across areas of moderate – high concern according to the SAHRA palaeontological sensitivity map (image obtained from the PalaeoSensitivity Map on SAHRIS).

An archaeologist and palaeontologist will be appointed to assess the cultural/heritage sensitivity of the study area. The findings of the specialists will be included into the DEIAR.

SOCIO-ECONOMIC ENVIRONMENT

(Information extracted from the Final IDP 2017 – 2022 John Taolo Gaetsewe District Municipality and the ZF Mgcawu District Municipality Draft Integrated Development Plan 2017- 2022 – Annual Review 2018/2019)

John Taolo Gaetsewe District Municipality

The farms Devon No 277 and Botha No 313 are within Ward 04 of the Joe Morolong Local Municipality (JMLM) that forms part of the John Taolo Gaetsewe District Municipality (JTGDM). The JTGDM is the second smallest district in the Northern Cape, occupying only 6% of the province. JMLM covers the second largest area of the district municipality. There are 186 towns and settlements of which the majority are villages in the JMLM.

The population of the JTGDM has had an increase of about 17 465; from 2011 to 2016. There has been a major decline of about 6.3% in the population of JMLM that is mainly due to the out-migration from the municipality to the Ga-Segonyana and Gamagara Local Municipalities.

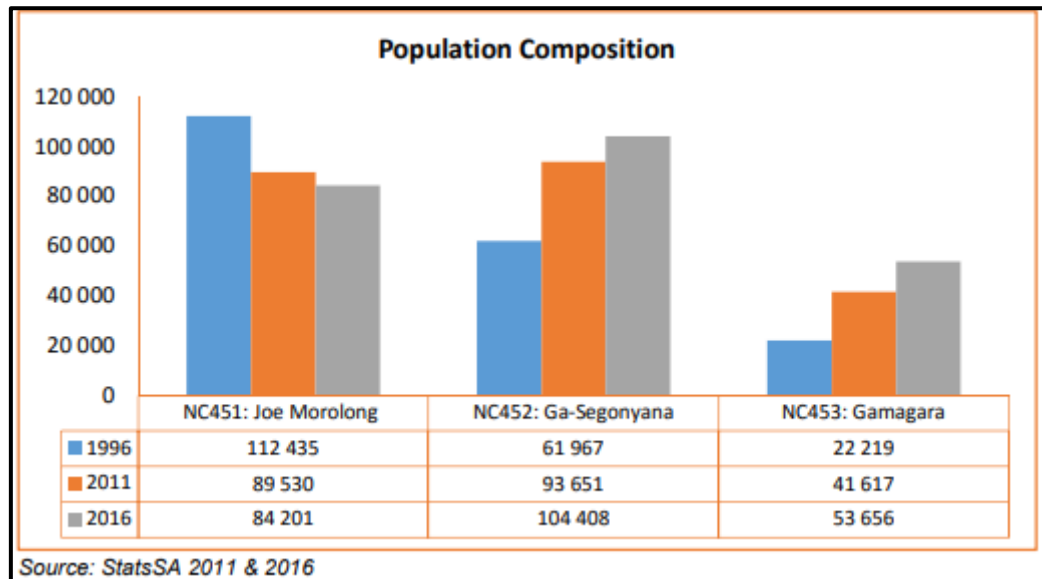


Figure 30: JTGDM population profile (image obtained from the JTGDM IDP).

According to the StatsSA 2016 Community Survey results, the age profile of the JTGDM is as follows: 0 - 14 years: 31.92%; 15 - 64 years: 63.32%; and older than 65: 4.76%. It is not that different from the national profile on Census 2011 (i.e. 0 - 14 years: 31.03%; 15 - 64 years: 63.59%; and older than 65: 5.39%). The figure above shows a generally youthful population between the age segment 15 – 36 of 100 973 people i.e. 41.68%.

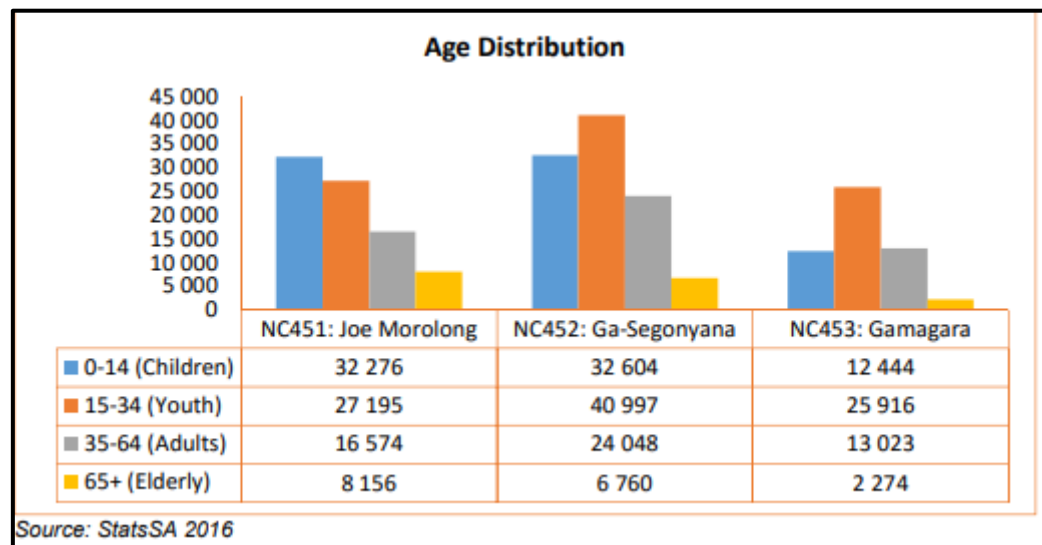


Figure 31: JTGDM age distribution profile (image obtained from the JTGDM IDP).

The gender split in the JTGDM is 49.12% male and 50.88% female. There is generally more females than males in all municipalities except for Gamagara; where there is more males than females, mainly because of the presence of job opportunities that attract men from other areas outside the district.

The racial profile of the JTGDM is as follows: Black/African: 83.52%; Coloured: 10.03%; Asian and Indian: 0.37%; White: 6.07%.

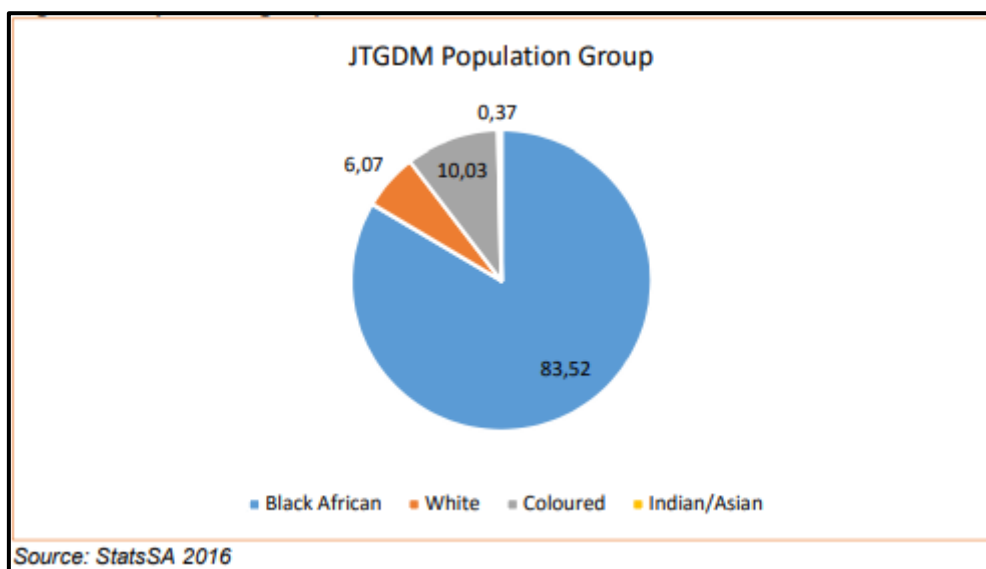


Figure 32: JTGDM population group profile (image obtained from the JTGDM IDP).

Most of the population in JTGDM have not attended any form of schooling (17.6%). Only 15.10% have completed high school (Grade 12) and a very few have completed some form of post-matric qualification.

In 2011, the District had an unemployment rate of 30%. However, this figure does include the discouraged work-seekers which will increase the unemployment rate to 47% if it were to be added. The Joe Morolong Municipality has the highest unemployment rate in the district of 40%.

ZF Mgcawu District Municipality

The farms Bermolli No 583, Engelsdraai No 221, Witdraai No 204 and Vaalwater No 84 are within wards 1 and 7 respectively of the Tsantsabane Local Municipality (TLM). The TLM is one of six local municipalities within the ZF Mgcawu District Municipality (ZFMDM) that is classified as a Category C municipality of the Northern Cape Province. The seat of the TLM is in Postmasburg with the municipal area including the towns/settlements of Boichoko, Postdene, New Town, Stasie, Groen Water, Skyfontein, Jean Heaven, Marenane, and Beeshoek.

According to the revised population estimates based on the 2011 (Statistics South Africa, 2011), the TLM has a population of 35 093 (compared to the 2001 Census estimate of 27 082). This population accounts for 12% of the total population residing in the ZF Mgcawu District, making it the third most populated local municipality in the district following the //Khara Hais Local Municipality and the Kai Garib Local Municipality. The TLM has a population growth rate of 2.59%, compared to the 17.8% growth rate of the ZFMDM. South

Africa is estimated to have an average annual growth rate of 1.4% which is less than that of TLM's growth rate.

Gender Profile

The Pie Chart below indicates that gender ratio in TLM is comprised of 52.3% males and 47.7% females (StatsSA). The age/sex distribution of the TLM shows the highest number of people in the TLM area between the age of 0 – 29 years of age.

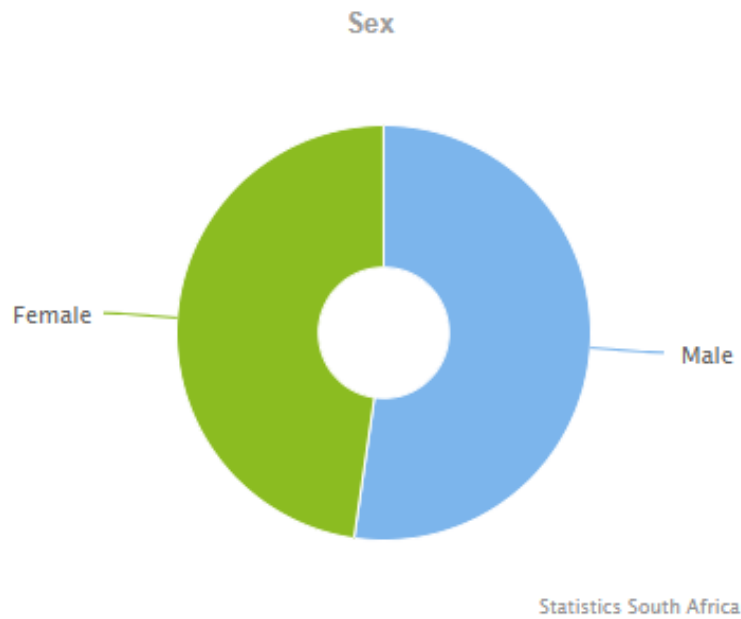


Figure 33: Gender profile (image obtained from Statistics South Africa).

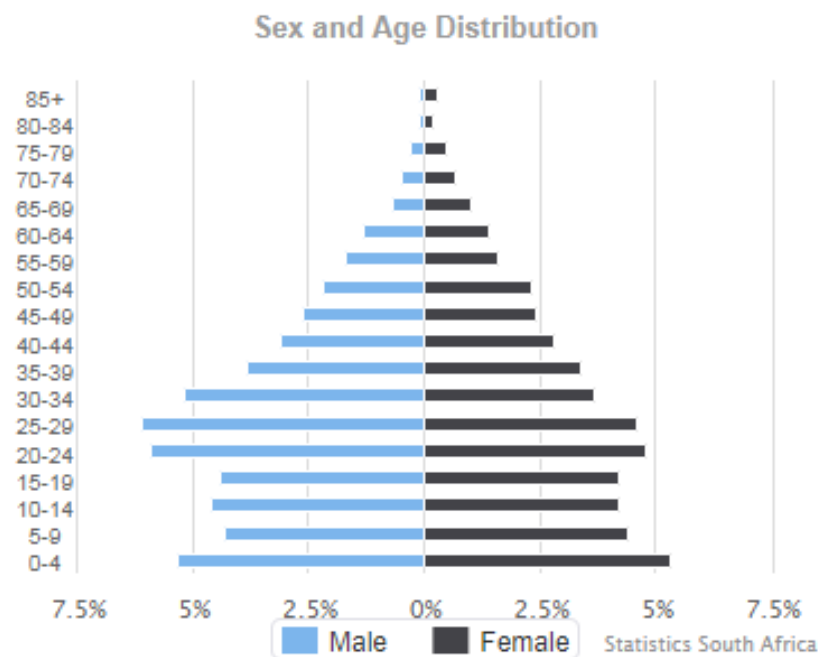


Figure 34: Gender and age distribution profile (image obtained from Statistics South Africa).

Population Profile

Below is a pie chart which indicates the total black African population of TLM at 52.8%, Coloured at 37.6%, Asian/Indian at 0.6% and White population at 8.4%. The Indian/Asian and others form the lowest proportions of the population with the former accounting for 0.6% and the latter 0.6%.

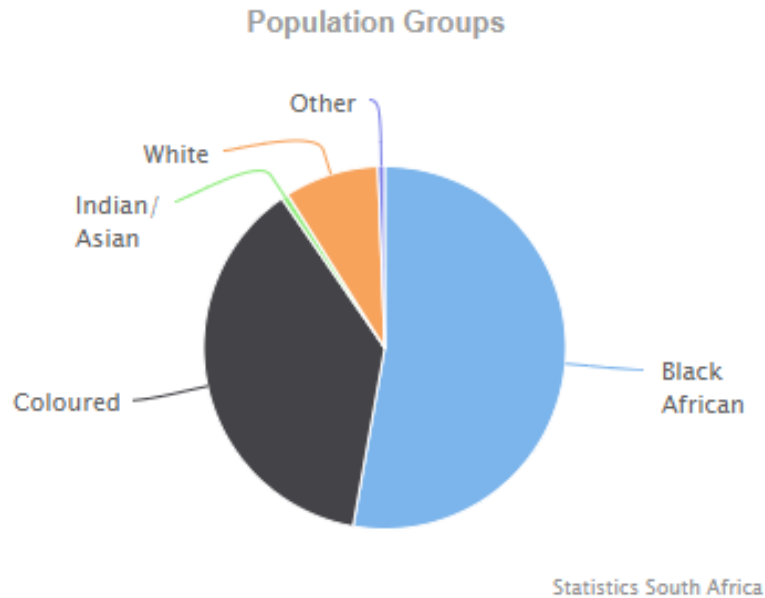


Figure 35: Population profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).

Economic Profile

The TLM is well known for being rich in minerals, and for its mining, agriculture, manufacturing, and farming sectors. The construction of the Anglo American Kumba Iron Ore's Kolomela mine has bought an implosion of development to the area. Eighteen point five percent of the average household income of the TLM range between R 19 601 – R 38 200, followed by an average income of R 38 201 – R 76 400 at 16.5%, while 14.2% of the households registered an income of R 74 401 – R 153 800 as shown below.

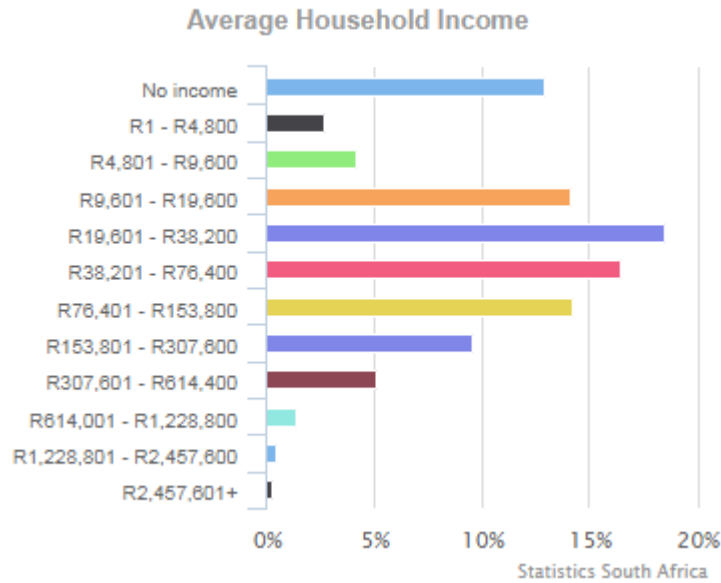


Figure 36: Average Household Income profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).

The 2011 statistics showed a considerable decrease in the youth unemployment rate of the municipality from 43.1%, in 2001, to 32.3%. The average unemployment rate of the TLM decreased from 33.9% (2001) to 26.1% in 2011.

The ZFMDM accounts for 30% of the Northern Cape economy. As mentioned earlier, the economic activities of the TLM comprise of Agriculture, Livestock Farming, Irrigation Farming, Tourism & Heritage, Eco-adventures and Safaris, and Mining. The main agriculture related activity is livestock farming that occurs mainly on large farms, because of the low carrying capacity, where farming is extensive and mainly privately owned. The tourism industry is noted as the fastest growing component of the economy of the ZFMDM (2012 – 2017). Mining is one of the major sectors in the ZFMDM and is found in all municipalities. Within the TLM limestone, asbestos, iron, manganese, and gemstones (diamonds) are mined.

Education Levels

Thirteen point seven percent of the population above the age of 20 has no schooling, 25.3% has obtained matric and 6.3% obtained higher education. The matric rate increased from 16.7% in 2001 to 25.3% in 2011, the no schooling rate decreased from 24.2% to 13.7% and the Higher Education increased from 4.1% to 6.3%.

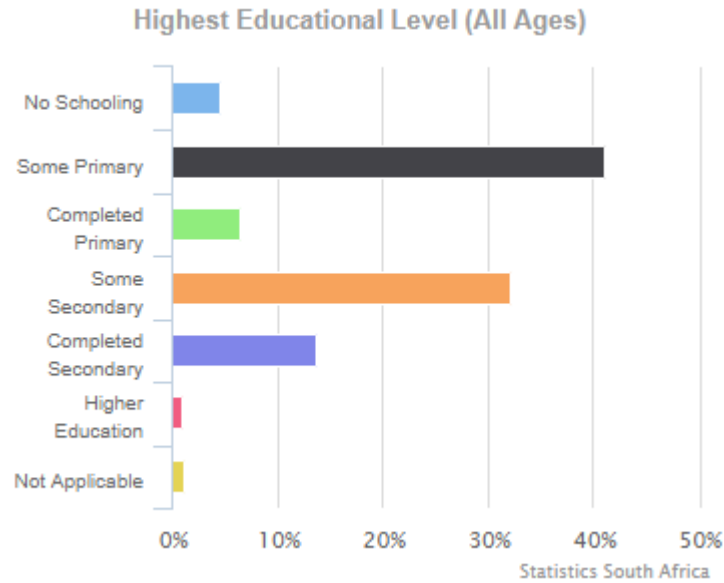


Figure 37: Average Household Income profile of the Tsantsabane municipal area (image obtained from Statistics South Africa).

(b) Description of the current land uses

The farms Botha No 313 and Devon No 277 are south of Hotazel with the R31 passing along the northern boundary of Devon No 277 and the R380 passing through the farm. Both these farms are surrounded by mining operations such as the old Devon Manganese Pit that extends into the north-eastern boundary of Devon No 277, the Kgalagadi Mine north-west of the farm and the Sebilo Mine south of Devon No 277 and north-east of Botha No 313. The United Manganese Mine is further south-east of Botha No 313.

Both properties are presently used for agricultural (grazing) purposes although the properties are owned by mining companies (Kudumane Manganese Resources (KMR) & United Manganese of Kalahari (UMK) respectively). According to correspondence received on behalf of KMR the farm Devon No 277 is earmarked for the development of an authorised waste dump on the western side of the farm, as well as concurrent rehabilitation activities at the Devon pit. KMR also intends to expand mining operations (including underground mining) to the orebody on Devon No 277 and develop a blasting contractors site on the eastern side of the farm.

Portion 1 of Devon No 277 is directly south of the Hotazel Station precinct and the PR footprint crosses the railway line over Land Asset No KH0327 owned by Transnet. A pipeline servitude 4 km in length passes the northern most corner of the farm Devon No 277 but falls outside the PR footprint.

The surrounding land use includes agriculture, mining, transport (provincial roads & rail), as well as the town of Hotazel. Kudumane Lodge is ± 1 km from the north-western boundary of Devon No 277. The following table provides a description of the land uses and/or prominent features that currently occur within a 500 m radius of the two mentioned properties.

Table 10: Land uses and/or prominent features that occur within 500 m radius of the study area.

LAND USE CHARACTER	YES	NO	DESCRIPTION
Natural area	YES	-	The proposed footprint is surrounded by natural areas used for agricultural purposes.
Low density residential	-	NO	-
Medium density residential	-	NO	-
High density residential	-	NO	-
Informal residential	-	NO	-
Retail commercial & warehousing	-	NO	-
Light industrial	-	NO	-
Medium industrial	-	NO	-
Heavy industrial	-	NO	-
Power station	-	NO	-
High voltage power line	YES	-	Powerlines associated with the railway are present in the area.
Office/consulting room	-	NO	-
Military or police base / station / compound	-	NO	-
Spoil heap or slimes dam	YES	-	The stockpiles and settling dams of the various mines are within 500 m of the earmarked farms.
Quarry, sand or borrow pit	YES	-	There are various mines within 500 m of the earmarked farms.
Dam or reservoir	YES	-	Various farm dams are within 500 m of the footprint area.
Hospital/medical centre	-	NO	-
School/ crèche	-	NO	-
Tertiary education facility	-	NO	-
Church	-	NO	-
Old age home	-	NO	-
Sewage treatment plant	-	NO	-
Train station or shunting yard	-	NO	The Hotazel Station precinct is more than 500 m north of the proposed PR footprint.
Railway line	YES	-	The railway line passes through Portion 1 of Devon No 277.
Major road (4 lanes or more)	-	NO	-
Airport	-	NO	-
Harbour	-	NO	-
Sport facilities	-	NO	-
Golf course	-	NO	-
Polo fields	-	NO	-

LAND USE CHARACTER	YES	NO	DESCRIPTION
Filling station	-	NO	-
Landfill or waste treatment site	-	NO	-
Plantation	-	NO	-
Agriculture	YES	-	The earmarked properties are used for agricultural purposes.
River, stream, or wetland	YES	-	The Witleegte and Ga-Mogara Streams pass the earmarked properties.
Nature conservation area	-	NO	-
Mountain, hill, or ridge	YES	-	Various low hills/ridges cross through the farms.
Museum	-	NO	-
Historical building	To be confirmed by the specialist during the EIA phase.		
Protected Area	-	NO	-
Graveyard	YES	-	At least one grave was note on the farm Devon No 277.
Archaeological site	To be confirmed by the specialist during the EIA phase.		
Other land uses (describe)	YES	-	A pipeline servitude 4 km in length passes the northern corner of the proposed PR footprint.

A provincial gravel road leading to the Kolomela mine cuts through Bermolli No 583 and Engelsdraai No 221 before joining up with the N8 in the south. The land use of these two farms are mainly agriculture with small scale historic mining on Bermolli No 583. The Kolomela 2 Mine is ±9 km north-east of Bermolli No 583. According to CDH (acting on behalf of SIOC) Portion 4 and 5 of Bermolli No 583 have been earmarked as “candidate” offset receiving areas as part of the Kolomela Biodiversity Offset Area.

The land use of the farms Witdraai No 204 and Vaalwater No 84 is mainly agriculture with small scale historic mining in some areas. There are no established mines within proximity to these two properties. The R383 passes through the centre of Vaalwater No 84.

The following table provides a description of the land uses and/or prominent features that currently occur within a 500 m radius of the four mentioned properties:

Table 11: Land uses and/or prominent features that occur within 500 m radius of the study area.

LAND USE CHARACTER	YES	NO	DESCRIPTION
Natural area	YES	-	The proposed footprint is surrounded by natural areas used for agricultural purposes.
Low density residential	-	NO	-
Medium density residential	-	NO	-
High density residential	-	NO	-
Informal residential	-	NO	-
Retail commercial & warehousing	-	NO	-
Light industrial	-	NO	-

LAND USE CHARACTER	YES	NO	DESCRIPTION
Medium industrial	-	NO	-
Heavy industrial	-	NO	-
Power station	-	NO	-
High voltage power line	-	NO	-
Office/consulting room	-	NO	-
Military or police base / station / compound	-	NO	-
Spoil heap or slimes dam	-	NO	-
Quarry, sand or borrow pit	YES	-	Some informal sand- and gravel borrow pits may occur on the farms.
Dam or reservoir	YES	-	Various farm dams are within 500 m of the footprint area.
Hospital/medical centre	-	NO	-
School/ crèche	-	NO	-
Tertiary education facility	-	NO	-
Church	-	NO	-
Old age home	-	NO	-
Sewage treatment plant	-	NO	-
Train station or shunting yard	-	NO	-
Railway line	-	NO	-
Major road (4 lanes or more)	-	NO	-
Airport	-	NO	-
Harbour	-	NO	-
Sport facilities	-	NO	-
Golf course	-	NO	-
Polo fields	-	NO	-
Filling station	-	NO	-
Landfill or waste treatment site	-	NO	-
Plantation	-	NO	-
Agriculture	YES	-	The earmarked properties are used for agricultural purposes.
River, stream, or wetland	YES	-	Various unnamed drainage lines pass through the properties. The farms also has pans in some areas.
Nature conservation area	-	NO	-
Mountain, hill, or ridge	YES	-	Hills are especially prevalent on the farms Witdraai No 204 and Vaalwater No 84.
Museum	-	NO	-
Historical building	To be confirmed by the specialist during the EIA phase.		
Protected Area	-	NO	-
Graveyard	YES	-	Family graveyards were noted on at least Engelsdraai No 221 and Vaalwater No 84.
Archaeological site	To be confirmed by the specialist during the EIA phase.		
Other land uses (describe)	-	NO	-

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

SPECIFIC ENVIRONMENTAL FEATURES

SITE SPECIFIC TOPOGRAPHY

The topography of Devon No 277 gradually decreases from the highest north-eastern corner towards the lowest corner in the south-west as shown in the following figure. The mean elevation of the farm ranges from 1 082 amsl to 1038 amsl. As shown in the following figure the elevation gain of the farm is 25.5 m over 7.09 km (north-eastern to south-western corner), the elevation profile shows a maximum slope of 11.2% with an average slope of 1.0%.

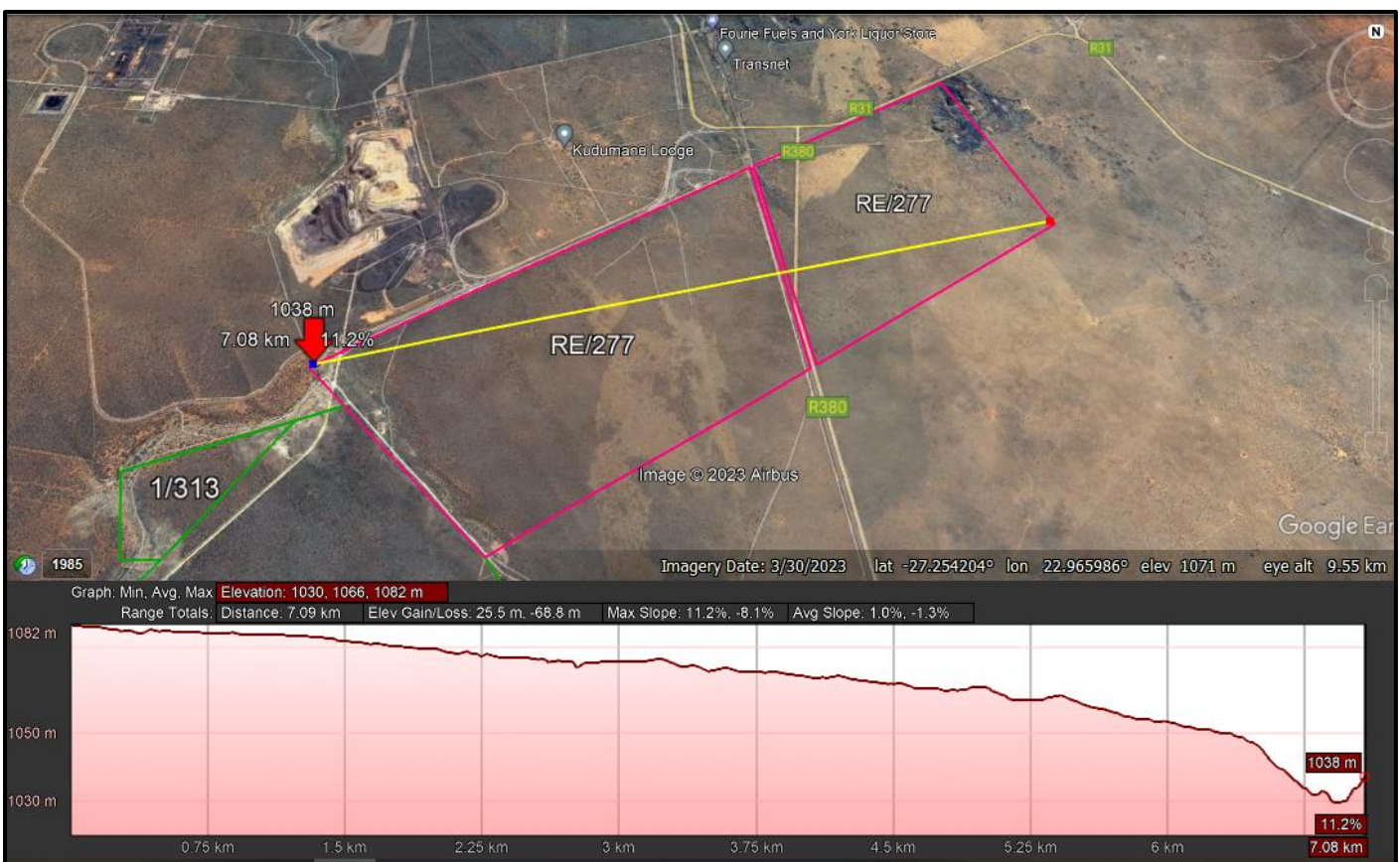


Figure 38: Elevation profile of the farm Devon No 277 (image obtained from Google Earth).

The topography of Botha No 313 gradually slopes from the higher laying south-eastern side down towards the Ga-Mogara stream along the north-western boundary as shown in the following figure. The mean elevation of the farm ranges from 1 070 amsl to 1035 amsl. As shown in the following figure the elevation gain of the farm is 54 m over 4.87 km (north-western boundary to the south-eastern one), the elevation profile shows a maximum slope of 12.7% with an average slope of 1.5%.

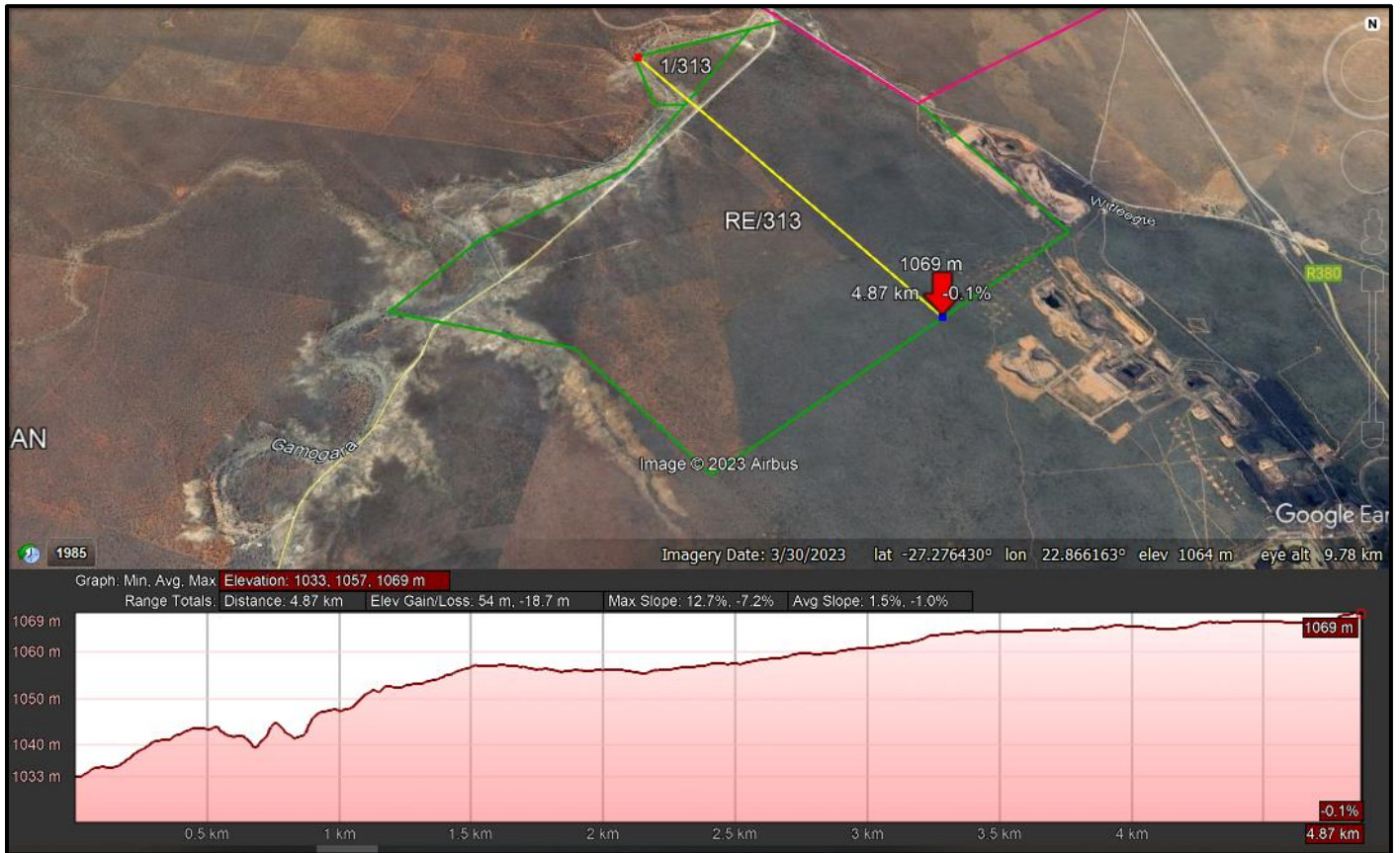


Figure 39: Elevation profile of the farm Botha No 313 (image obtained from Google Earth).

The topography of Bermolli No 583 gradually slopes from the higher laying north-western side down towards the drainage line that passes through the farm where after the landscape remains flat up to the eastern boundary as shown in the following figure. The mean elevation of the farm ranges from 1 220 amsl to 1 152 amsl. As shown in the following figure the elevation gain of the farm is 35.2 m over 9.15 km (north-western boundary to the eastern one), the elevation profile shows a maximum slope of 4.4% with an average slope of 1.1%.

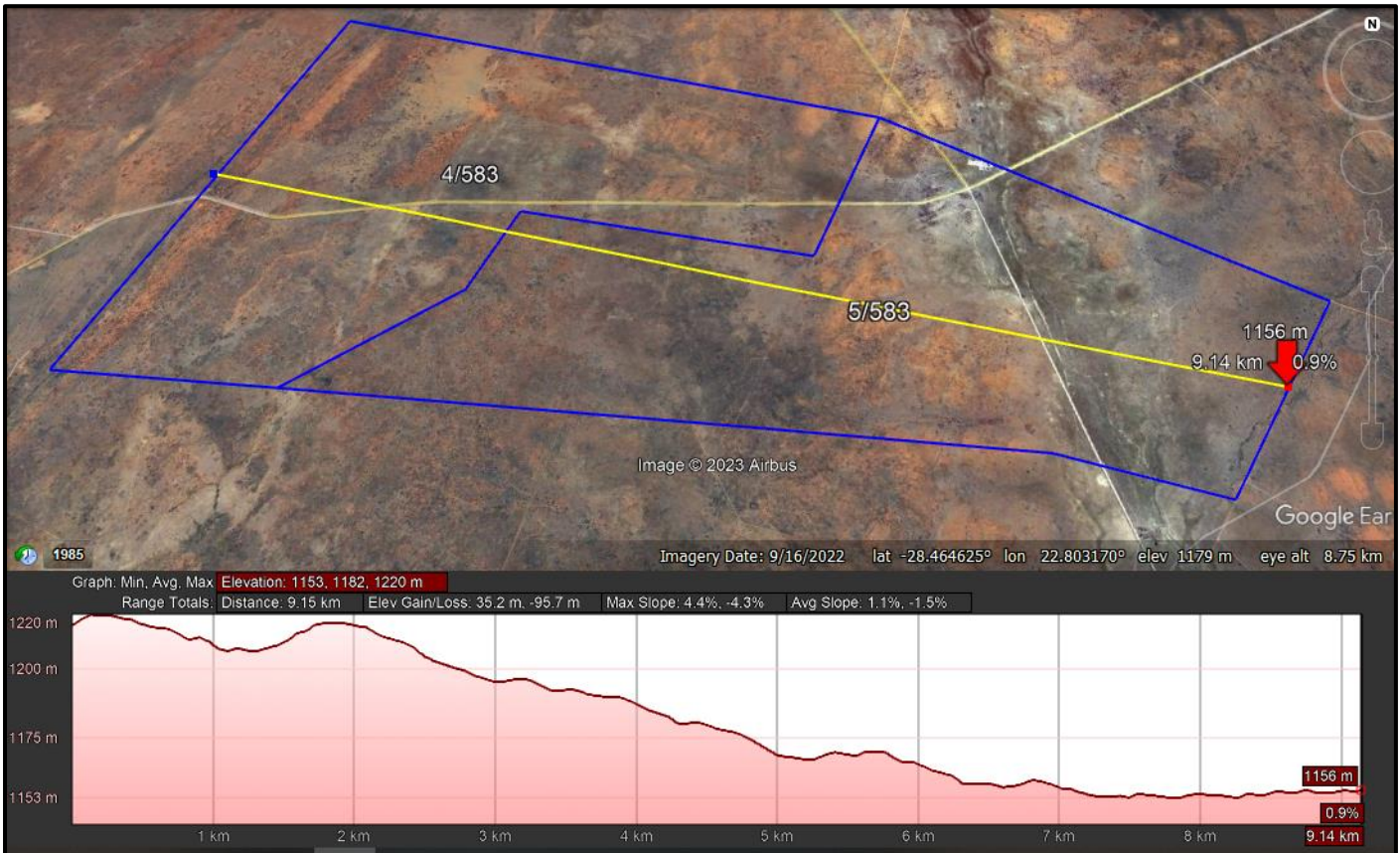


Figure 40: Elevation profile of the farm Bermolli No 583 (image obtained from Google Earth).

The topography of Engelsdraai No 221 is the highest at the south-eastern corner gradually sloping towards the drainage line in the middle of the property, whereafter the elevation remains relatively flat towards the north-western boundary as shown in the following figure. The mean elevation of the farm ranges from 1 209 amsl to 1 180 amsl. As shown in the following figure the elevation gain of the farm is 30.4 m over 6.54 km (south-western corner to the north-western one), the elevation profile shows a maximum slope of 3.6% with an average slope of 0.9%.

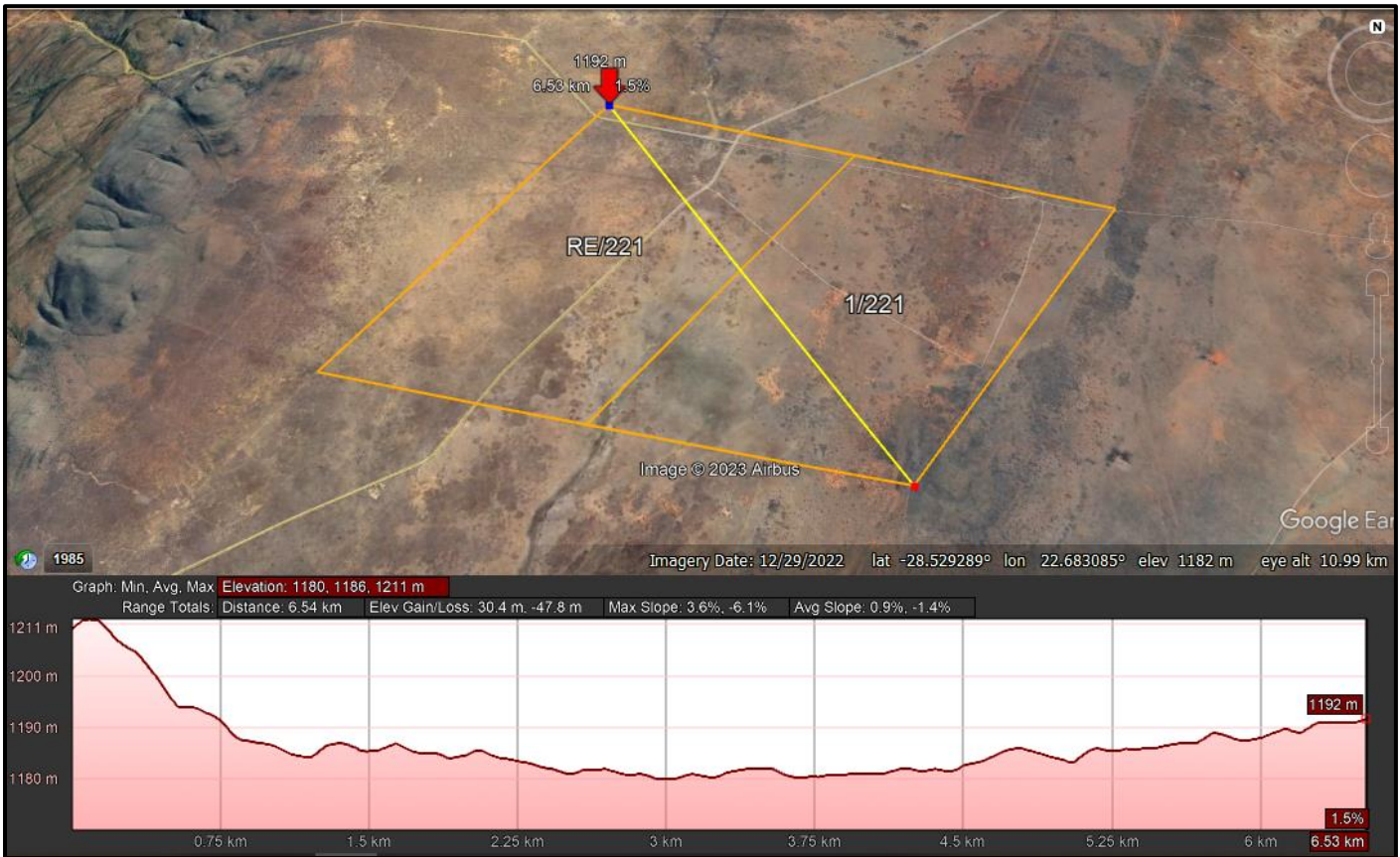


Figure 41: Elevation profile of the farm Engelsdraai No 221 (image obtained from Google Earth).

The topography of Witdraai No 204 remains relatively flat when measured from the north-western corner to the south-eastern one. Two ridges enter the property at the north-eastern and south-western corners respectively that natural increases elevation for the length of the ridge as shown in the following figure. The mean elevation of the farm (excluding the ridges) ranges from 1 109 amsl to 1 071 amsl. As shown in the following figure the elevation gain of the farm along this path is 75.2 m over 7.84 km (south-eastern corner to the north-western one), the elevation profile shows a maximum slope of 10.1% with an average slope of 1.5%.

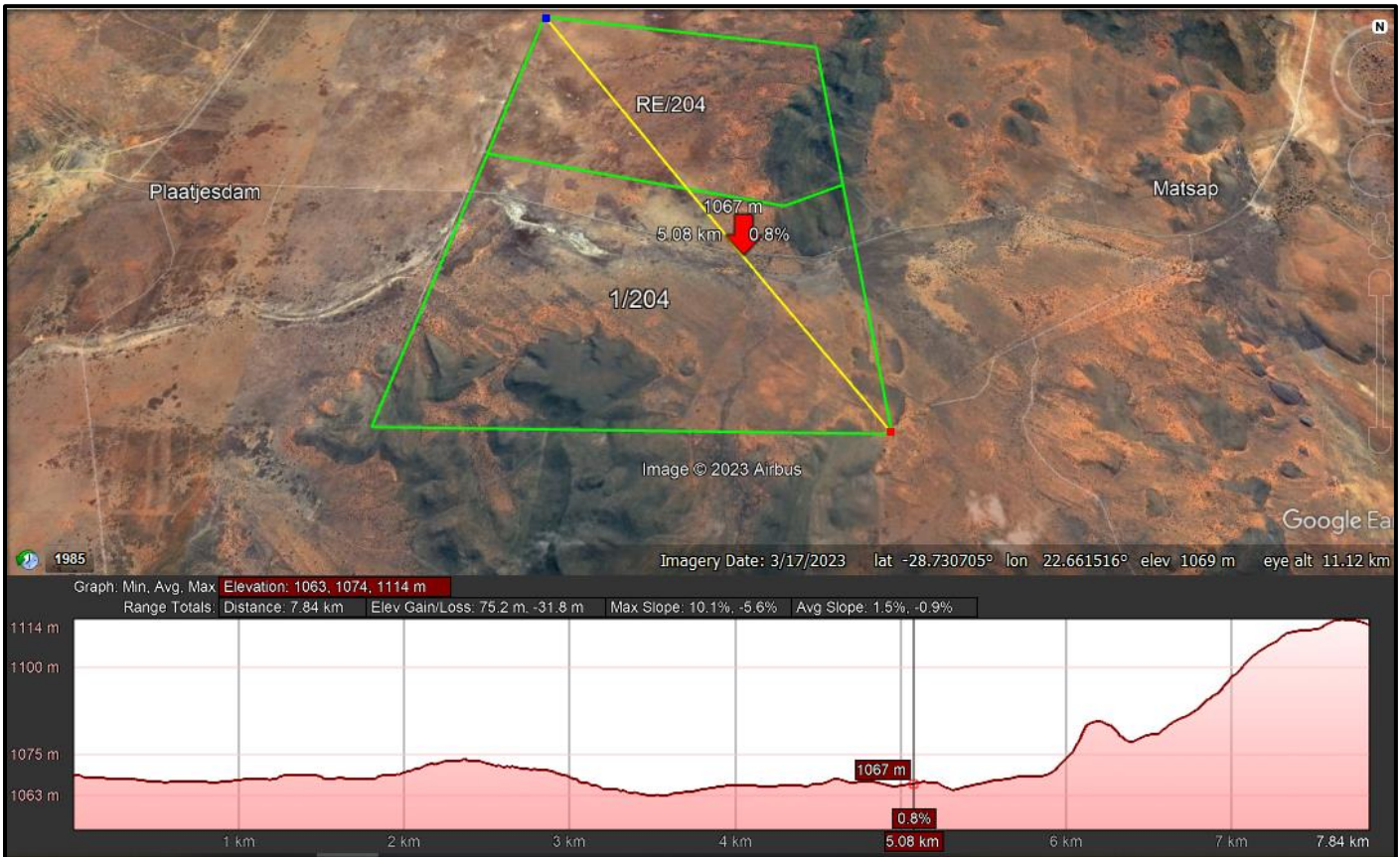


Figure 42: Elevation profile of the farm Witdraai No 204 (image obtained from Google Earth).

The topography of Vaalwater No 84 is relatively flat except for the hills to the south as shown in the following figure. The pans and surroundings remain more or less on the same elevation. The mean elevation of the farm (including the ridge to the south) ranges from 1 153 amsl to 1 101 amsl. As shown in the following figure the elevation gain of the farm along this path is 56.3 m over 15.5 km (southern corner, north-western corner and then to the western corner), the elevation profile shows a maximum slope of 2.6% with an average slope of 0.7%.

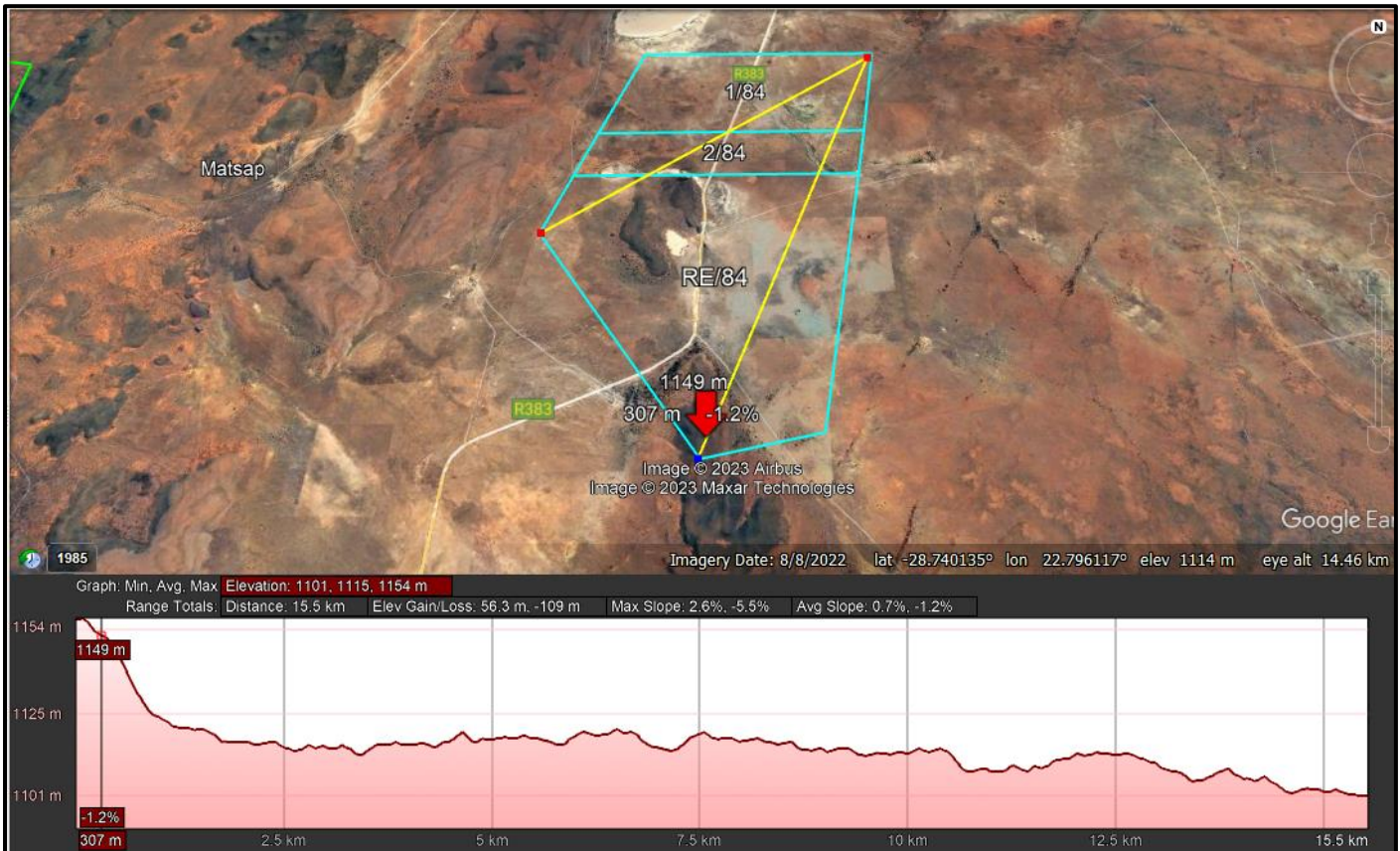


Figure 43: Elevation profile of the farm Vaalwater No 84 (image obtained from Google Earth).

SITE SPECIFIC VISUAL CHARACTERISTICS

This prospecting right application extends across 15 602.0765 ha and includes thirteen farms (Remainders & Portions). As mentioned above, the topography of the area is fairly flat with the exception of a few ridges that enter some of the properties. The study area is very scarcely populated, and some parts, especially near Hotazel, have already been altered for mining. As mentioned earlier, the area of disturbance is expected to be ± 200 m² per drill site and between 2 500 m² and 10 000 m² per bulk sampling area that will continuously be rehabilitated as prospecting progresses. The prospecting activities does not require the alteration of vast vegetated areas and no permanent infrastructure will be erected. Considering this, the potential impact of the prospecting operation on the visual characteristics of the receiving environment is deemed to be of low-medium importance without mitigation and low importance once the mitigation measures are implemented.

SITE SPECIFIC HYDROLOGY

The site specific hydrology of the proposed prospecting footprint is representative of the regional hydrology described for the study area earlier in this report (Scoping Report 2(h)(iv)(1)(a) Type of Environment Affected by the Proposed Activity – Hydrology). The DFFE Screening Report indicates most of the study area is of low aquatic biodiversity

importance except for the streams/drainage lines/pans, and FEPA's in the earmarked area as depicted in the following figure.

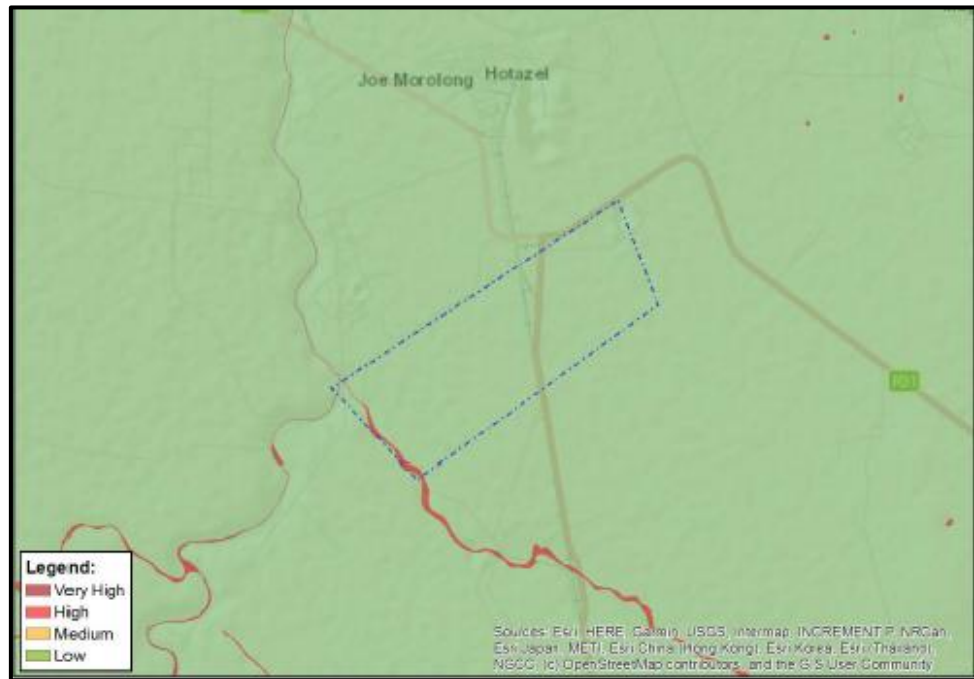


Figure 44: Aquatic biodiversity theme sensitivity of Devon No 277 according to the DFFE screening report where the Witleegte stream is of very high importance.

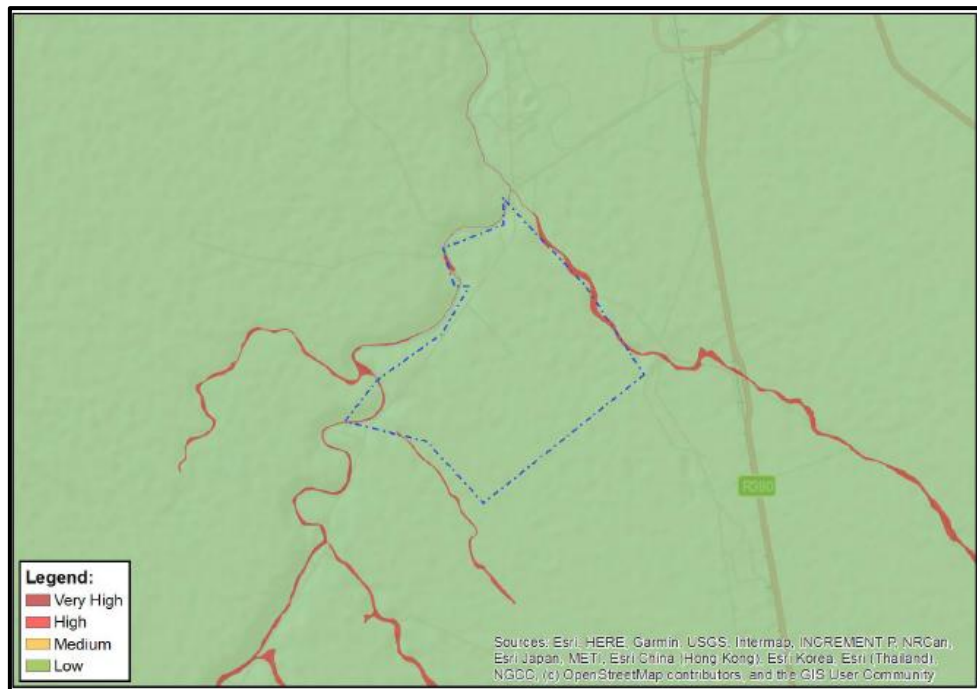


Figure 45: Aquatic biodiversity theme sensitivity of Botha No 313 according to the DFFE screening report where the Witleegte- and Ga-Mogara Streams are of very high importance.

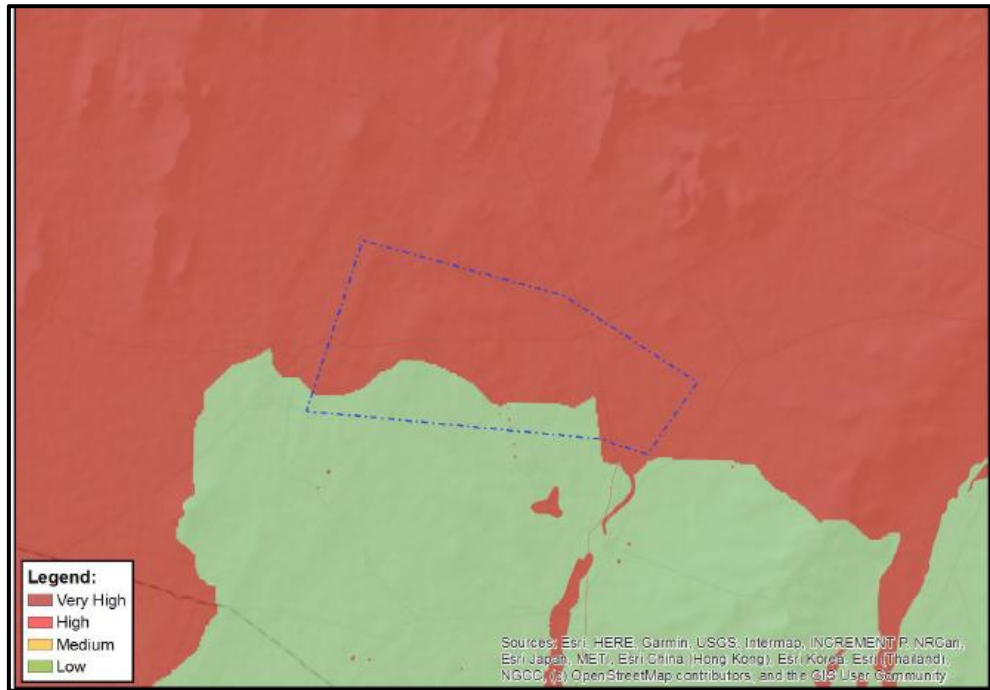


Figure 46: Aquatic biodiversity theme sensitivity of Bermolli No 583 according to the DFFE screening report where the FEPA area is of very high importance.

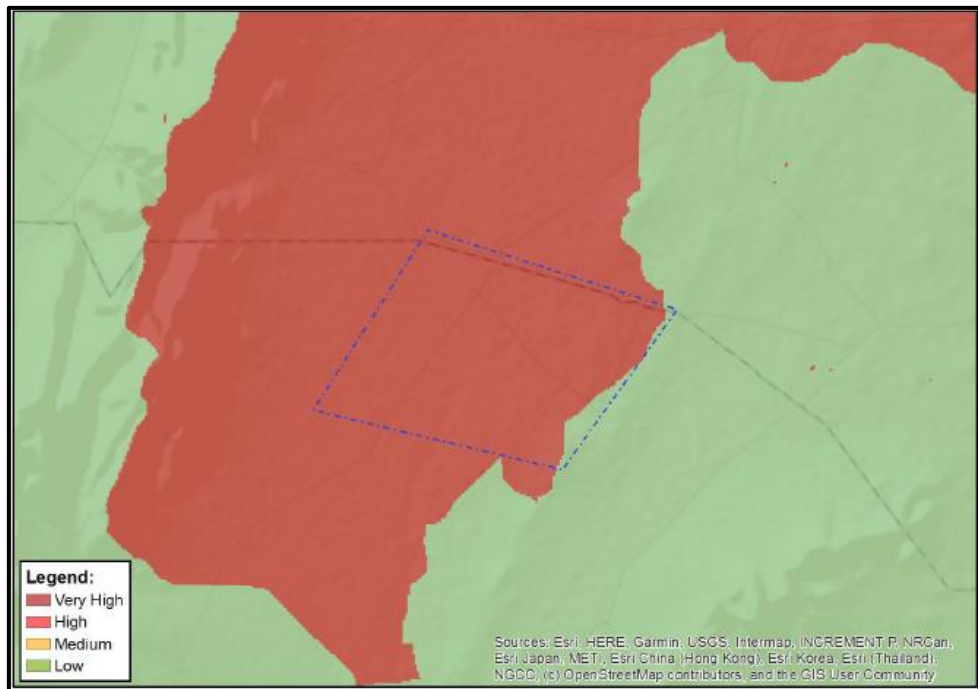


Figure 47: Aquatic biodiversity theme sensitivity of Engelsdraai No 221 according to the DFFE screening report where the FEPA area is of very high importance.

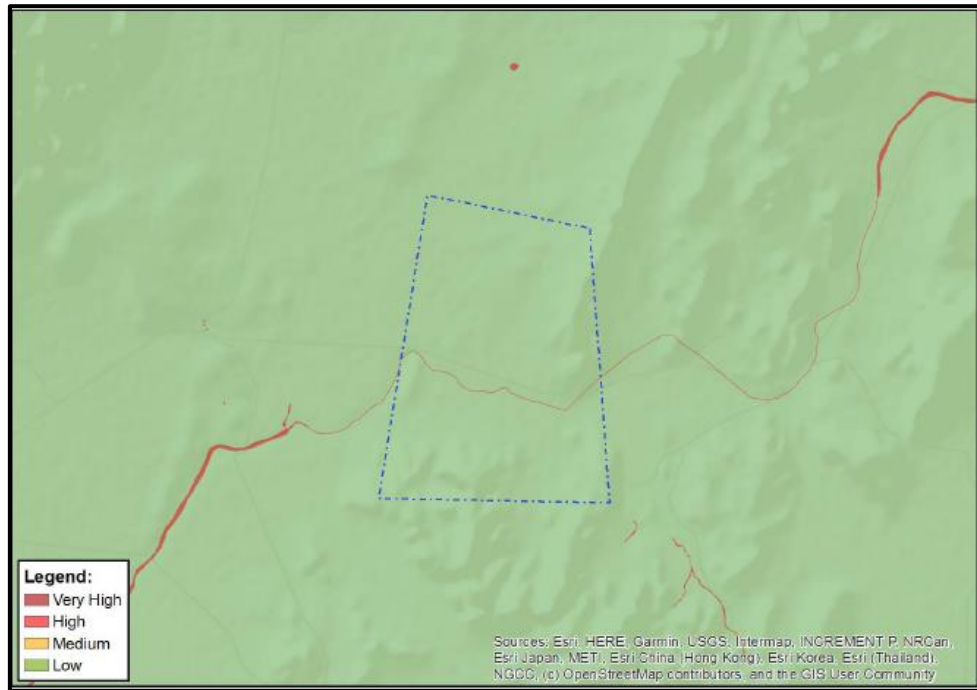


Figure 48: Aquatic biodiversity theme sensitivity of Witdraai No 204 according to the DFFE screening report where the drainage line is of very high importance.

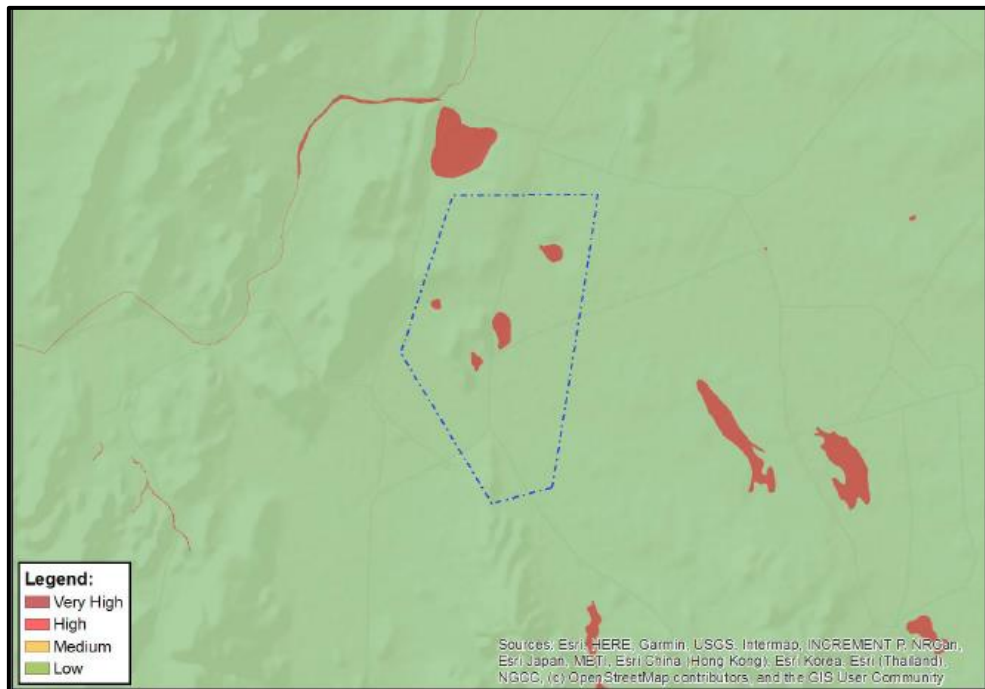


Figure 49: Aquatic biodiversity theme sensitivity of Vaalwater No 84 according to the DFFE screening report where the pans are of very high importance.

A hydrologist will be contracted to undertake a desktop Freshwater Assessment (wetland and aquatic) of the study area during the EIA process. The scope of work includes a desktop based investigation of the watercourses and wetlands within the study area supported by a site verification visit. The specialist will generate a desktop freshwater assessment report accompanied by a delineation and sensitivity map for the project to guide prospecting locations planning. The report will be compiled in accordance with the

requirements in the latest NEMA Minimum Requirements and Protocol for Specialist Aquatic Biodiversity Impact Assessment as contained in the “Procedures to be followed for the assessment and minimum criteria for reporting of identified environmental themes of Section 45 (a) and (h) of the National Environmental Management Act, 1998, when applying for Environmental Authorization”, contained in Government Gazette No. 43855 (30 October 2020) and the requirements of the Department of Water & Sanitation for Water Use Licensing, as outlined in the ‘Regulations Regarding the Procedural Requirements for Water Use License Applications and Appeals’ contained in the Government Gazette No. 40713 of 24 March 2017. The findings of this study will be discussed in the DEIAR upon approval of the FSR.

SITE SPECIFIC AIR QUALITY AND NOISE AMBIANCE

Emission into the atmosphere is controlled by the National Environmental Management: Air Quality Act, 2004, and the proposed operation will not trigger an application in terms of the said act. Emissions to be generated at the proposed prospecting areas will mainly consist of dust due to the displacement of soil, drilling, and transport of the samples from the site. Due to the small scale of the operation (per sample site) the noise levels to be generated will be low and will mainly stem from the operation of the prospecting equipment and vehicles traveling on the roads.

Presently the air quality and noise ambiance near the farms Devon No 277 and Botha No 313 are periodically impacted by the nearby mining operations of mines, as well as traffic along the R31, R380 and the railway line. There are no occupied farm residences on either farm, and it is therefore currently believed that the dust emissions and/or noise levels that may arise from the proposed prospecting activities, if mitigated by the Applicant, will have a negligible impact on receiving environment.

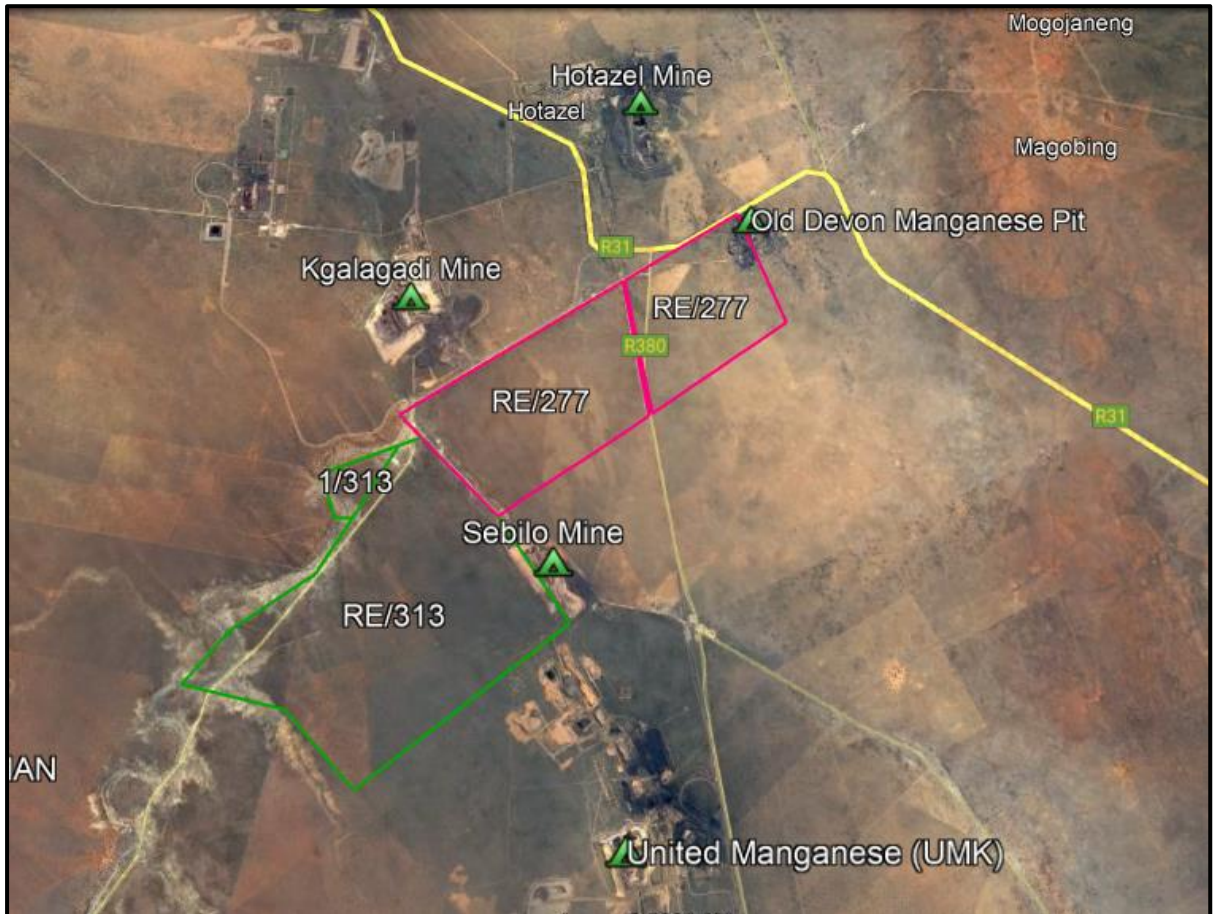


Figure 50: Satellite view of the mining operations bordering the farms Devon No 277 (pink polygon) and Botha No 313 (green polygon), also note the R31 and R380 in the vicinity of the farms. (Image obtained from Google Earth).

The air quality and noise ambiance of the farms Bermolli No 583, and Engelsdraai No 221 are impacted only by traffic travelling along the gravel road to Kolomela and the various farms. Apart from the said traffic, agricultural activities present the only other possible impact on these farms. This is also the case regarding Witdraai No 240 and Vaalwater No 84 where the main impact stems from agricultural practices and traffic along the R383 (in the case of Vaalwater No 84). Various farm residences are present on the earmarked farm as presented in the following figure, however if the dust emissions and/or noise levels that may arise from the proposed prospecting activities are mitigated by the Applicant, it is currently believed that the potential impact on the receiving environment will be of low significance.

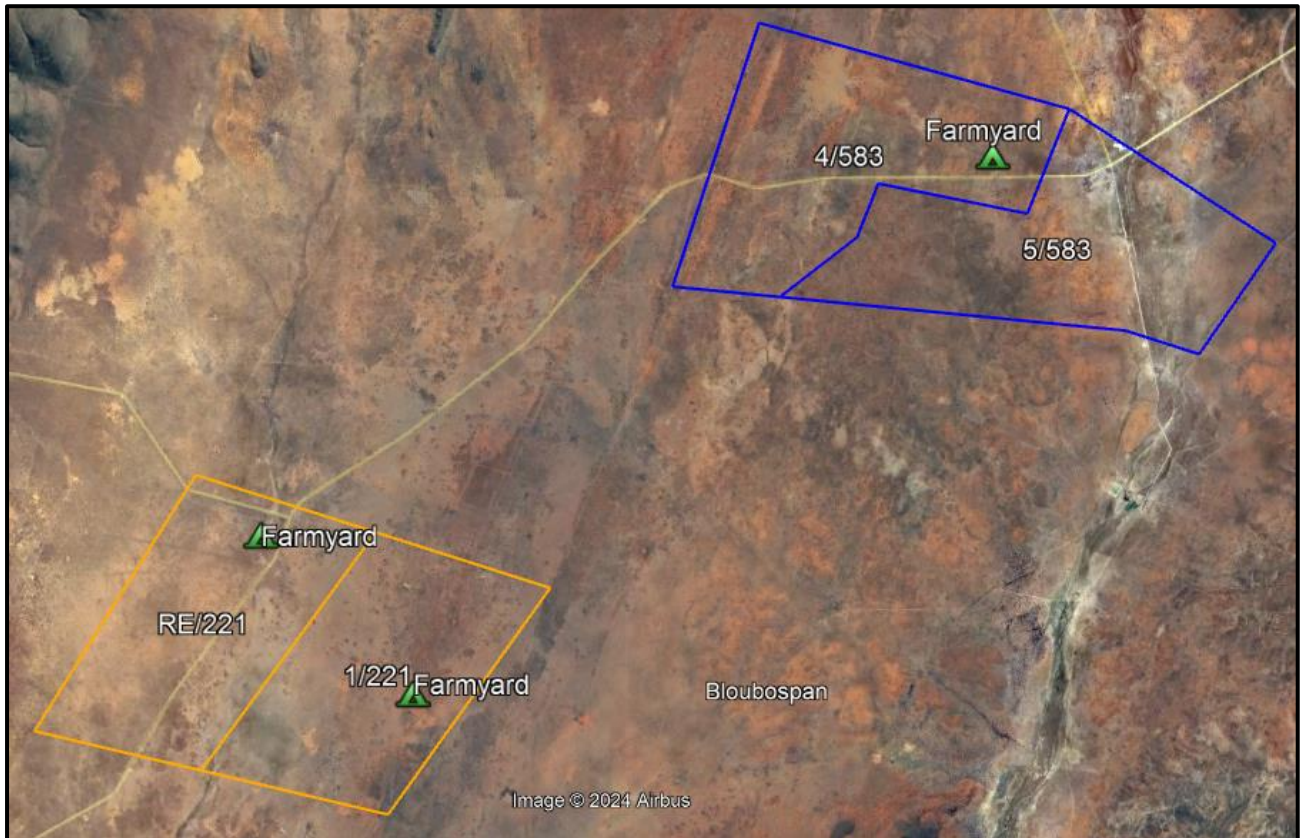


Figure 51: Satellite view of the farms Bermolli No 583 (blue polygon), and Engelsdraai No 221 (orange polygon) showing the farmyards and gravel road passing through the farms. (Image obtained from Google Earth).



Figure 52: Satellite view of the farms Witdraai No 204 (green polygon), and Vaalwater No 84 (light blue polygon) showing the farmyards and the R383 passing through Vaalwater No 84. (Image obtained from Google Earth).

The potential impact of the proposed activity on the air quality and noise ambiance of the receiving environmental will be assessed during the EIA process but as mentioned

previously the impact is expected to be of low significance. The DEIAR report will further propose mitigation and management measures to address/minimise identified impacts.

SITE SPECIFIC GROUNDCOVER AND BIODIVERSITY CONSERVATION AREAS

Following the earlier discussion in this regard and according to the DFFE screening tool; the proposed prospecting footprint extend over areas of CBA and ESA importance that is likely to feature Kathu Bushveld, Gordonia Duneveld, Kuruman Mountain Bushveld, Northern Upper Karoo, Olifantshoek Plains Thornveld, and/or Southern Kalahari Salt Pans.

As mentioned earlier, according to SIOC Portion 4 and 5 of Bermolli No 583 have (amongst others) been earmarked as “candidate” offset receiving areas as part of the Kolomela Biodiversity Offset Area.

Considering this, the project team guided by an ecologist will assess the sensitivity, and ground-truth the conservation status of the study areas. The findings will be presented in the desktop Terrestrial Biodiversity Report and discussed in detail in the draft environmental impact assessment report (DEIAR). The discussion will also propose mitigation and management measures to address/minimise the potential identified impacts.

SITE SPECIFIC CULTURAL AND HERITAGE ENVIRONMENT

As mentioned earlier, an archaeologist and palaeontologist will be appointed to investigate the site specific cultural/heritage sensitivity of the study area. The findings of the specialists will be included into the DEIAR.

SITE SPECIFIC EXISTING INFRASTRUCTURE

As mentioned earlier, various farmyards occur within the proposed prospecting area, and the existing infrastructure component of the project therefore includes, but is not limited to, the following:

- ❖ Family graveyards;
- ❖ Fencing;
- ❖ Housing and supporting structures;
- ❖ Power and telephone lines;
- ❖ Pipeline servitude;
- ❖ Railway lines;
- ❖ Roads (public as well as private);

- ❖ Stock pens;
- ❖ Water abstraction and storage infrastructure.

The proposed prospecting method is such that it can be moved away from build structures and existing infrastructure. As mentioned earlier, jeep-tracks to some of the prospecting areas will be developed in agreement with the landowner, and presently it is not expected that the proposed activity will impact or necessitate the removal of any existing infrastructure.

No prospecting will be done within 110 m (either way) of the railway line that passes through Portion 1 of Devon No 277.

(d) Environmental and current land use map

(Show all environmental, and current land use features)

The environmental and current land use map is attached as Appendix 4.

i) Impacts Identified

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultants with affected parties together with the significance, probability, and duration of the impacts)

By nature, the non-invasive prospecting activities are not expected to have an impact on the receiving environment as it will occur off-site and at desktop level. However, the following potential impacts were identified regarding the invasive prospecting activities in each phase of the proposed project. The listed impacts must be treated as **preliminary**, to be expanded upon proper assessment of the study area during the EIA process. The significance rating was determined using the methodology as explained under *j) Methodology used in determining and ranking the significance of environmental impacts*. The impact rating listed below was determined for each impact **prior** to bringing the proposed mitigation measures into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of the identified impact.

INVASIVE PROSPECTING (PHASE 3 & 5): SITE ESTABLISHMENT

Temporary loss of agricultural land earmarked for site camp establishment.

Severity	Duration	Extent	Consequence			Likelihood	Significance
				Probability	Frequency		
Rating: Low-Medium			Degree of Mitigation: Partial				
1	4	1	2	4	5	4.5	9

Visual intrusion because of site camp.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Low-Medium			Degree of Mitigation: Partial			
2	4	1	2.3	3	5	4
						9.2

Work opportunity for 15 - 20 community members (**Positive Impact**)

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High (+)			Degree of Mitigation: N/A			
1	4	5	3.3	5	5	5
						16.5

INVASIVE PROSPECTING (PHASE 3 & 5): OPERATIONAL PHASE

Temporary loss of some agricultural land earmarked for invasive prospecting.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			Site Alternative 1		Degree of Mitigation: Partial	
2	4	1	2.3	5	5	5
						11.5

Visual intrusion because of invasive prospecting.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			Degree of Mitigation: Partial			
2	4	2	2.6	5	5	5
						13

Potential negative impact on the identified CBA and/or ESA areas.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High			Degree of Mitigation: Full			
4	4	3	3.6	4	5	4.5
						16.2

Potential negative impact on the watercourses/wetlands and FEPA's of the study area.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium-High			Degree of Mitigation: Full			
4	4	3	3.6	4	5	4.5
						16.2

Dust nuisance because of invasive prospecting.

Severity	Duration	Extent	Consequence	Likelihood		Significance
				Probability	Frequency	
Rating: Medium			Degree of Mitigation: Full			
3	4	2	3	4	5	4.5
						13.5

Noise nuisance because of invasive prospecting.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Partial				
2	4	2	2.6	4	5	4.5	11.7

Potential impact on sensitive/protected flora within the footprint area.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
4	4	5	4.3	3	2	2.5	10.7

Potential impact on fauna within the footprint area.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium			Degree of Mitigation: Full				
3	4	3	3.3	3	2	2.5	8.2

Infestation of the prospecting areas with invader plant species.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium			Degree of Mitigation: Full				
3	4	2	3	4	2	3	9

Potential soil contamination associated with littering and/or hydrocarbon spillages.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
4	4	1	3	4	3	3.5	10.5

Potential impact on areas/infrastructure of heritage or cultural concern.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low			Degree of Mitigation: Full				
4	5	5	4.6	1	1	1	4.6

Erosion of denuded areas.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium			Degree of Mitigation: Full				
3	4	2	3	4	2	3	9

Deterioration of access roads due to prospecting activities.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
3	4	3	3.3	4	3	3.5	11.5

Health and safety risk posed by invasive activities to prospecting employees.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
4	4	1	3	3	5	4	12

Presence of prospector negatively affecting safety and security of the property.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium-High			Degree of Mitigation: Full				
4	4	4	4	3	5	4	16

Increased fire risk during operational phase.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
3	4	3	3.3	4	5	4.5	14.8

Potential impact on the railway line (Devon No 277/1).

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium			Degree of Mitigation: Full				
4	4	5	4.3	2	1	1.5	6.5

Potential impact of invasive prospecting occurring simultaneously with mining operations within approved mining areas.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium-High			Degree of Mitigation: Full				
4	4	3	3.6	5	5	5	18

INVASIVE PROSPECTING (PHASE 3 & 5): DECOMMISSIONING (MEDIUM- & LONG TERM)

Safety risk due to uncapped boreholes and/or unrehabilitated bulk sampling pits/trenches.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium			Degree of Mitigation: Full				
3	5	1	3	4	5	4.5	13.5

Potential impact associated with litter/hydrocarbon spillages left at the prospected areas.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium						Degree of Mitigation: Full	
3	5	1	3	4	5	4.5	13.5

Erosion of roads, vehicle tracks and/or denuded areas.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium						Degree of Mitigation: Full	
3	5	2	3.3	4	2	3	9.9

Infestation of the reinstated areas with invader plant species.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Low-Medium						Degree of Mitigation: Full	
3	5	2	3.3	4	2	3	9.9

Return of the site camp and prospected areas to agricultural use. **(Positive Impact)**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium-High (+)						Degree of Mitigation: N/A	
1	5	5	3.7	5	5	5	18.5

CUMULATIVE IMPACTS

Reduced ability to meet national conservation obligations and targets should CBA/ESA be affected.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium-High						Degree of Mitigation: Full	
4	4	5	4	4	5	4.5	18

Loss and fragmentation of vegetation communities within the CBA/ESA ecosystems.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium						Degree of Mitigation: Full	
3	4	4	3.6	2	5	3.5	12.6

Fragmentation of ecosystems affecting safe movement of faunal species.

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
Rating: Medium						Degree of Mitigation: Full	
3	4	4	3.6	2	5	3.5	12.6

Potential impact on the declaration of the Kolomela biodiversity offset area.

Severity	Duration	Extent	Consequence			Likelihood	Significance
				Probability	Frequency		
Rating: Medium-High						Degree of Mitigation: TBC	
4	4	5	4.3	4	5	4.5	19.4

Compensation of landowners during operational phase. **(Positive Impact)**

Severity	Duration	Extent	Consequence			Likelihood	Significance
				Probability	Frequency		
Rating: Medium-High (+)						Degree of Mitigation: N/A	
1	4	4	3	5	5	5	15

j) Methodology used in determining the significance of environmental impacts.

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision)

Methodology for the assessment of the potential environmental, social and cultural impacts

DEFINITIONS AND CONCEPTS:

Environmental Significance:

The concept of significance is at the core of impact identification, evaluation, and decision-making. The concept remains largely undefined and there is no international consensus on a single definition. The following common elements are recognized from the various interpretations:

- ❖ Environmental significance is a value judgment.
- ❖ The degree of environmental significance depends on the nature of the impact.
- ❖ The importance is rated in terms of both biophysical and socio-economic values.
- ❖ Determining significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration, and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of acceptability) (DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5).

The concept of risk has two dimensions, namely the consequence of an event or set of circumstances, and the likelihood of consequences being realised (Environment Australia (1999) Environmental Risk Management).

Impact

The positive or negative effects on human well-being and / or the environment.

Consequence

The intermediate or outcome of an event or situation OR it is the result, on the environment, of an event.

Likelihood

A qualitative term covering both probability and frequency.

Frequency

The number of occurrences of a defined event in a given time or rate.

Probability

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

Methodology that will be used

The environmental significance assessment methodology is based on the following determination:

$$\text{Environmental Significance} = \text{Overall Consequence} \times \text{Overall Likelihood}$$

Determination of Overall Consequence

Consequence analysis is a mixture of quantitative and qualitative information, and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Severity / Intensity

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.

Table 12: Table to be used to obtain an overall rating of severity, taking into consideration the various criteria.

Type of criteria	Rating				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%
Qualitative	Insignificant / Non-harmful	Small / Potentially harmful	Significant/ Harmful	Great/ Very harmful	Disastrous / Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance/ Easily reversible	Low cost to mitigate	Substantial cost to mitigate/ Potential to mitigate impacts/ Potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate/ Little or no mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Moderate change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

Determination of Duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g. remedial action takes place.

Table 13: Criteria for the rating of duration.

Rating	Description
1	Up to ONE MONTH
2	ONE MONTH to THREE MONTHS (QUARTER)
3	THREE MONTHS to ONE YEAR
4	ONE to TEN YEARS
5	Beyond TEN YEARS

Determination of Extent/Spatial Scale

Extent or **spatial scale** is the area affected by the event, aspect or impact.

Table 14: Criteria for the rating of extent / spatial scale.

Rating	Description
1	Immediate, fully contained area
2	Surrounding area

Rating	Description
3	Within Business Unit area of responsibility
4	Within the farm/neighbouring farm area
5	Regional, National, International

Determination of Overall Consequence

Overall consequence is determined by adding the factors determined above and summarized below, and then dividing the sum by 3.

Table 15: Example of calculating overall consequence.

Consequence	Rating
Severity	Example 4
Duration	Example 2
Extent	Example 4
SUBTOTAL	10
TOTAL CONSEQUENCE: (Subtotal divided by 3)	3.3

Determination of Likelihood:

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described below.

Determination of Frequency

Frequency refers to how often the specific activity, related to the event, aspect or impact, is undertaken.

Table 16: Criteria for the rating of frequency.

Rating	Description
1	Once a year or once/more during operation
2	Once/more in 6 Months
3	Once/more a Month
4	Once/more a Week
5	Daily

Determination of Probability

Probability refers to how often the activity or aspect has an impact on the environment.

Table 17: Criteria for the rating of probability.

Rating	Description
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom

Rating	Description
4	Often / regularly / likely / possible
5	Daily / highly likely / definitely

Overall Likelihood

Overall likelihood is calculated by adding the factors determined above and summarized below, and then dividing the sum by 2.

Table 18: Example of calculating overall likelihood.

Consequence	Rating
Frequency	Example 4
Probability	Example 2
SUBTOTAL	6
TOTAL LIKELIHOOD (Subtotal divided by 2)	3

Determination of Overall Environmental Significance:

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of **LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH** or **HIGH**, as shown in the table below.

Table 19: Determination of overall environmental significance.

Significance or Risk	Low	Low-Medium	Medium	Medium-High	High
Overall Consequence X Overall Likelihood	1 - 4.9	5 - 9.9	10 - 14.9	15 – 19.9	20 - 25

Qualitative description or magnitude of Environmental Significance

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritizations and decision making process associated with this event, aspect, or impact.

Table 20: Description of environmental significance and related action required.

Significance	Low	Low-Medium	Medium	Medium-High	High
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to company	Impact is real and substantial in relation to other impacts. Pose a risk to the company. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.

Significance	Low	Low-Medium	Medium	Medium-High	High
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.

Based on the above, the significance rating scale has been determined as follows:

- HIGH** 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.
- MEDIUM-HIGH** 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.
- MEDIUM** 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 case of positive impacts; other means of achieving these benefits would be about equal in time, cost, and effort.
- LOW-MEDIUM** 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.
- 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 be better, in one or several ways, than this means of achieving the benefit.

INSIGNIFICANT There would be a no impact at all – not even a very low impact on the system or any of its parts.

k) 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.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

PRELIMINARY LIST OF POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT PROPOSAL

- ❖ If approved the prospecting activities will identify the kieselguhr sources within the earmarked area.
- ❖ Work opportunities for 15 - 20 community members including associated growth development opportunities.
- ❖ Compensation of landowners during operational phase.
- ❖ Return of the site camp and prospected areas to agricultural use.
- ❖ Identified kieselguhr sources could lead to economic development of the earmarked areas.

PRELIMINARY LIST OF NEGATIVE IMPACTS ASSOCIATED WITH THE PROJECT PROPOSAL

The following table lists the potential negative impacts associated with the present project proposal:

Table 21: List of potential negative impacts associated with the present project proposal.

ACTIVITY	POTENTIAL IMPACT	SIGNIFICANCE (BEFORE MITIGATION)
<ul style="list-style-type: none"> ❖ Site establishment. ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Temporary loss of agricultural land earmarked for site camp establishment. ❖ Temporary loss of some agricultural land earmarked for invasive prospecting. ❖ Potential impact of invasive prospecting occurring simultaneously with mining operations within approved mining areas. 	<ul style="list-style-type: none"> ❖ Low-Medium ❖ Medium ❖ Medium-High
<ul style="list-style-type: none"> ❖ Site establishment. ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Visual intrusion because of site camp. ❖ Visual intrusion because of invasive prospecting. 	<ul style="list-style-type: none"> ❖ Low-Medium ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Cumulative impacts. 	<ul style="list-style-type: none"> ❖ Potential negative impact on the identified CBA and/or ESA areas. ❖ Potential impact on sensitive/protected flora within the footprint area. 	<ul style="list-style-type: none"> ❖ Medium-High ❖ Medium ❖ Medium-High

ACTIVITY	POTENTIAL IMPACT	SIGNIFICANCE (BEFORE MITIGATION)
	<ul style="list-style-type: none"> ❖ Reduced ability to meet national conservation obligations and targets should CBA/ESA be affected. ❖ Loss and fragmentation of vegetation communities within the CBA/ESA ecosystems. ❖ Potential impact on the declaration of the Kolomela biodiversity offset area. 	<ul style="list-style-type: none"> ❖ Medium ❖ Medium-High
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Potential negative impact on the watercourses/wetlands and FEPA's of the study area. 	<ul style="list-style-type: none"> ❖ Medium-High
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Dust nuisance because of invasive prospecting. 	<ul style="list-style-type: none"> ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase 	<ul style="list-style-type: none"> ❖ Noise nuisance because of invasive prospecting. 	<ul style="list-style-type: none"> ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Cumulative impacts. 	<ul style="list-style-type: none"> ❖ Potential impact on fauna within the footprint area. ❖ Fragmentation of ecosystems affecting safe movement of faunal species. 	<ul style="list-style-type: none"> ❖ Low-Medium ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Infestation of the prospecting areas with invader plant species. ❖ Infestation of the reinsated areas with invader plant species. 	<ul style="list-style-type: none"> ❖ Low-Medium ❖ Low-Medium
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Potential soil contamination associated with littering and/or hydrocarbon spillages. ❖ Potential impact associated with litter/hydrocarbon spillages left at the prospected areas. 	<ul style="list-style-type: none"> ❖ Medium ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Potential impact on areas/infrastructure of heritage or cultural concern. 	<ul style="list-style-type: none"> ❖ Low
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Erosion of denuded areas. ❖ Erosion of roads, veichle tracks and/or denuded areas. 	<ul style="list-style-type: none"> ❖ Low-Medium ❖ Low-Medium
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Deterioration of access roads due to prospecting activities. 	<ul style="list-style-type: none"> ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Health and safety risk posed by invasive activities to prospecting employees. 	<ul style="list-style-type: none"> ❖ Medium
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Presence of prospector negatively affecting safety and security of the property. 	<ul style="list-style-type: none"> ❖ Medium-High

ACTIVITY	POTENTIAL IMPACT	SIGNIFICANCE (BEFORE MITIGATION)
❖ Operational phase.	❖ Increased fire risk during operational phase.	❖ Medium
❖ Operational phase.	❖ Potential impact on the railway line (Devon No 277/1).	❖ Low-Medium
❖ Decommissioning phase.	❖ Safety risk due to uncapped boreholes and/or unrehabilitated bulk sampling pits/trenches.	❖ Medium

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

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Considering the above listed impacts that may have a negative impact on the study area, the following preliminary mitigation measures are proposed to address/minimize the resulting impacts. It must be noted that the following list should be treated as initial mitigation measures that will be expanded upon should the scoping report be approved and the EIAR be drafted.

VISUAL CHARACTERISTICS

Visual Mitigation:

- ❖ Prospecting must be contained to the approved boundaries.
- ❖ The camp site and every sampling site must have a neat appearance and always be kept in good condition.
- ❖ The contractor must limit vegetation removal (where possible) and avoid the removal of large trees (>20 cm stem) or vegetation of significance without prior approval of the ECO.
- ❖ Prospecting equipment must be stored neatly in a dedicated area when not in use.
- ❖ Concurrent rehabilitation must be done as prospecting progress to limit the visual impact on the aesthetic value of the area.
- ❖ Stripping of topsoil may only be done immediately prior to the use of a specific area.
- ❖ Upon closure all sites must be rehabilitated to keep the visual impact on the aesthetic value of the area to a minimum.

GEOLOGY AND SOIL

Topsoil Management:

- ❖ The upper 300 mm of soil must be stripped and stockpiled before site camp establishment and/or prospecting.

- ❖ Topsoil is a valuable and essential resource for rehabilitation, and it must therefore be managed carefully to conserve and maintain it throughout the stockpiling and rehabilitation processes.
- ❖ Topsoil stripping, stockpiling, and re-spreading must be done in a systematic way. The prospecting plan must be such that topsoil is stockpiled for the minimum possible time.
- ❖ The topsoil must be placed on a levelled area, within the prospecting footprint. No topsoil may be stockpiled in undisturbed areas.
- ❖ Topsoil stockpiles must be protected against losses by water- and wind erosion. Stockpiles must be positioned so as not to be vulnerable to erosion by wind and water. The establishment of plants (grass or indigenous cover crop) on the stockpiles will help to prevent erosion.
- ❖ Topsoil heaps may not exceed 2 m to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen.
- ❖ The temporary topsoil stockpiles must be kept free of invasive plant species.
- ❖ Storm- and runoff water must be diverted around the stockpile area to prevent erosion.
- ❖ The stockpiled topsoil must be evenly spread, to a depth of 300 mm, over the rehabilitated area upon closure of the site.
- ❖ The Applicant must strive to re-instate topsoil at a time of year when vegetation cover can be established as quickly as possible afterwards, so that erosion of returned topsoil by both rain and wind, before vegetation is established, is minimized. The best time of year is at the end of the rainy season, when there is moisture in the soil for vegetation establishment and the risk of heavy rainfall events is minimal.
- ❖ A cover crop must be planted, irrigated, and established immediately after spreading of topsoil, to stabilize the soil and protect it from erosion. The cover crop must be fertilized for optimum biomass production, and any soil deficiencies must be corrected, based on a chemical analysis of the re-spread soil (if deemed necessary). It is important that rehabilitation be taken up to the point of cover crop stabilization. Rehabilitation cannot be considered complete until the first cover crop is well established.
- ❖ The rehabilitated area must be monitored for erosion, and appropriately stabilized if any erosion occurs for at least 12 months after reinstatement.

HYDROLOGY

Mitigating the potential impact on watercourse/wetlands and FEPA's of the study area:

- ❖ No activities may take place, without the necessary authorisation from the DWS, within a horizontal distance of 100 m from any watercourse or estuary or within a 500 m radius from a delineated boundary of any wetland or pan.
- ❖ Should a water use authorisation be applicable to the project, the PR Holder must always adhere to the conditions thereof.

The mitigation measures associated with this impact must be expanded upon as part of the freshwater assessment and associated EIA process.

Erosion Mitigation / Storm Water Control:

- ❖ Storm water must be diverted around the topsoil heaps, prospecting areas, roads and/or tracks to prevent erosion.
- ❖ Drainage must be controlled to ensure that runoff from the prospecting areas do not culminate in off-site pollution, flooding or result in any damage to properties downstream or any storm water discharge points.
- ❖ Clean water (e.g. rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system (if applicable).
- ❖ Dirty water must be collected and contained in a system separate from the clean water system.
- ❖ Dirty water must be prevented from spilling or seeping into clean water systems.

AIR AND NOISE AMBIANCE

Fugitive Dust Emission Mitigation:

- ❖ The liberation of dust into the surrounding environment must be effectively controlled using, inter alia, straw, water spraying and/or environmentally friendly dust-allaying agents that contains no PCB's (e.g. DAS products).
- ❖ The site manager must ensure continuous assessment of the dust suppression equipment to confirm its effectiveness in addressing dust suppression.
- ❖ Speed on the access road must be limited to 40 km/h to prevent the generation of excess dust.
- ❖ Areas devoid of vegetation, which could act as a dust source, must be minimized and vegetation removal may only be done immediately prior to prospecting.
- ❖ Bulk sample loads must be flattened to prevent spillage of coarse material during transportation, also minimising windblown dust.
- ❖ Weather conditions must be taken into consideration upon commencement of daily operations. Limiting operations during very windy periods would reduce airborne dust and resulting impacts.
- ❖ All dust generating activities shall comply with the National Dust Control Regulations, GN No R827 promulgated in terms of NEM:AQA (Act 39 of 2004) and ASTM D1739 (SANS 1137:2012).
- ❖ Best practice measures shall be implemented during the stripping of topsoil, loading, and transporting of the samples from site to minimize potential dust impacts.

Noise Handling:

- ❖ The Applicant must ensure that the employees and visitors to the site conduct themselves in an acceptable manner while on site.

- ❖ No loud music may be permitted at the site camp and/or prospecting areas.
- ❖ All vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the National Road Traffic Act, 1996 (Act No 93 of 1996).
- ❖ Best practice measures shall be implemented to minimize potential noise impacts.

BIODIVERSITY AND GROUNDCOVER

Mitigating the Impacts on Groundcover, CBA, and ESA areas:

- ❖ The prospecting boundaries must be clearly demarcated, and all operations must be contained to the approved areas.
- ❖ The area outside the boundaries must be declared a no-go area, and all employees must be educated accordingly.
- ❖ An invasive plant species management plan must be implemented on site to control weeds and invasive plants on denuded areas, topsoil heaps and reinstated areas.

The mitigation measures associated with this impact must be expanded upon as part of the terrestrial biodiversity assessment and associated EIA process.

Management of Invasive Plant Species:

- ❖ An invasive plant species management plan must be implemented at the site to ensure the management and control of all species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto). Weed/alien clearing must be done on an ongoing basis throughout the life of the prospecting activities.
- ❖ All stockpiles must be kept free of invasive plant species.
- ❖ Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used:
 - ◆ The plants can be uprooted, felled, or cut off and can be destroyed completely.
 - ◆ The plants can be treated chemically by a registered pest control officer (PCO) using an herbicide recommended for use by the PCO in accordance with the directions for the use of such an herbicide.

FAUNA

Protection of Fauna:

- ❖ The site manager must ensure no fauna is caught, killed, harmed, sold, or played with.
- ❖ Workers must be instructed to report any animals that may be trapped in the working area.
- ❖ No snares may be set, or nests raided for eggs or young.

CULTURAL AND HERITAGE ENVIRONMENT

Archaeological, Heritage and Palaeontological Aspects:

- ❖ All prospecting must be confined to the development footprint area.
- ❖ Known heritage resources must be avoided with a buffer zone of 30 m.
- ❖ Existing roads must be used as far as possible.
- ❖ The ECO for the project must assess sampling locations when these become available prior to commencement to confirm there are no graves, stone walling or any heritage features.
- ❖ If during the operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- ❖ It is the responsibility of the senior on-site manager to make an initial assessment of the extent of the find and confirm the extent of the work stoppage in that area.
- ❖ The senior on-site manager must inform the ECO of the chance find and its immediate impact on operations. The ECO must then contact a professional archaeologist for an assessment of the finds who must notify SAHRA.
- ❖ Work may only continue once the go-ahead was issued by SAHRA.

LAND USE

Loss of Agricultural Land for Duration of Prospecting:

- ❖ If needed, areas that has been prospected and rehabilitated can be signed back to the landowner to revert to agricultural use once the cover crop stabilised.

Potential Impact of Invasive Prospecting Occurring Simultaneously with Mining Operations:

- ❖ The Applicant must engage the landowners of the PR footprint regarding technical arrangements for the co-existence of the applicable entities on the same land.

EXISTING INFRASTRUCTURE

Access Road Mitigation:

- ❖ Storm water must be diverted around the access road to prevent erosion.
- ❖ Vehicular movement must be restricted to the existing access roads (where possible) and crisscrossing of tracks through undisturbed areas must be prohibited.
- ❖ Rutting and erosion of the access road caused as a direct result of the prospecting activities must be repaired by the Applicant.

- ❖ Overloading of the trucks must be prevented, and proof of load weights must be filed for auditing purposes.
- ❖ Prior to commencement, all contractors must sign an agreement confirming their responsibility towards the movement of their employees.
- ❖ Damages to fences (by prospecting employees) must be repaired/reinstated by the responsible contractor. Losses, due to gates left open by prospecting employees, must be compensated by the responsible entity.

Railway Line Mitigation:

- ❖ The Applicant must always maintain a 110 m buffer no-go area around the railway line passing through Portion 1 of Devon No 277. No prospecting may take place within the 110 m buffer and no prospecting related employees may enter the area for the duration of the project.
- ❖ Transnet must be contacted immediately (within the first 30 minutes of occurrence) should the railway line be damaged because of the prospecting activities.

GENERAL

Waste Management:

- ❖ Vehicle maintenance, repairs and services may only take place at the workshop and service area in the site camp. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a closed container/bin to be removed from the emergency service area (same day) to the workshop to ensure proper disposal.
- ❖ Ablution facilities must be provided to all employees. The toilet must be placed outside the 1:100 year floodline of all watercourses.
- ❖ The ablation facilities must not cause any pollution to water sources or pose a health hazard. In addition, no form of secondary pollution should arise from the disposal of refuse or sewage. Any pollution problems arising from the above are to be addressed immediately by the Applicant.
- ❖ If a diesel bowser is used on site, it must always be equipped with a drip tray. Drip trays must be used during every refuelling event. The nozzle of the bowser needs to rest in a sleeve to prevent dripping after refuelling.
- ❖ Site management must ensure drip trays are cleaned after each use. No dirty drip trays may be used on site.
- ❖ Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognized facility.

- ❖ Should spillage occur, such as oil or diesel leaking from a burst pipe, the contaminated soil must, within the first hour of occurrence, be collected in a suitable receptacle and removed to the hazardous waste storage area of the workshop, either for resale or for appropriate disposal at a recognized facility. Proof must be filed.
- ❖ General waste must be contained in marked, sealable, refuse bins placed at a designated area, to be removed when filled to a registered general waste landfill site.
- ❖ No waste may be buried or burned on the site.
- ❖ It is important that any significant spillage of chemicals, fuels etc. during the lifespan of the prospecting activities is reported to the Department of Water and Sanitation and other relevant authorities.

Management of Health and Safety Risks:

- ❖ Adequate ablution facilities and water for human consumption must daily be available on site.
- ❖ Worker(s) must have access to the correct personal protection equipment (PPE) as required by law.
- ❖ All operations must comply with the Mine Health and Safety Act, 1996 (Act No 29 of 1996).
- ❖ Drill-holes must daily be covered even if prospecting will continue the following day. Upon closure all boreholes must be sealed off and capped as prescribed in the rehabilitation plan.

Management of safety and security risk posed by prospecting activities to residents:

- ❖ Employees to be appointed must be vetted prior to inception of contract.
- ❖ No employees may be allowed to reside within the prospecting area.
- ❖ Prospecting employees, including truck drivers, must be educated to report suspicious looking person/s and/or matters to site management.
- ❖ Direct communication between the prospector and the landowners must be maintained for the duration of the site establishment-, operational, and decommissioning phases.

Fire Risk Management:

- ❖ No open fires are permitted on any of the sampling sites. Contained fires for heating and cooking (i.e. in a fire drum) but be restricted to designated areas at the site camp,
- ❖ Employees must be prevented from setting fires randomly outside designated areas.
- ❖ No fuel or chemicals may be stored under trees.
- ❖ Gas may not be stored in the same storage area as liquid fuel.
- ❖ Smoking may only occur at designated areas (>3 m from fuel or chemical storage areas) equipped with sand buckets for the disposal of cigarette buds.

- ❖ Ensure Work Site and the contractor's camp is equipped with adequate firefighting equipment. This includes at least rubber beaters when working in veld areas, and at least one fire extinguisher of the appropriate type irrespective of the site.
- ❖ Specific fire safety precautions must be implemented during welding activities associated with construction work. Ensure a working fire extinguisher is immediately at hand if any "HOT WORK" is undertaken e.g. welding, grinding, gas cutting etc,
- ❖ Any fires noted on site must be reported to the responsible SHE rep and/or fire officer.
- ❖ The site must implement fire emergency procedures for the duration of the site establishment-, operational-, and decommissioning phases.
- ❖ In the event of large fires all personnel must assemble at a safe assembly point to be transported from site. The fire department or local fire watch must be informed of the fire to ensure that the fire is brought under control as soon as possible.

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

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

The final site layout map can only be compiled upon receipt of the specialist study outcomes, contribution to the project by I&AP's, and the results of the non-invasive prospecting activities. Presently, the proposed prospecting area encompasses the entire 15 602 ha applied for (Regulation 2.2 Map attached as Appendix 3.2). However, the area where invasive prospecting will take place will be refined once the no-go areas are removed (based on specialist studies), areas with existing infrastructure such as farmyards, active mining areas and the railway line are excluded, and the non-invasive prospecting identifies the areas with potential for invasive prospecting success. A draft site layout plan will be included in the DEIAR to be commented on by the I&AP's. Subsequently, the plan will be refined and attached to the FEIAR & EMPR only to be finalised after non-invasive prospecting was approved. The final site layout plan will be submitted to the DMRE for approval prior to commencement of the invasive prospecting activities.

n) Motivation where no alternative sites were considered.

Refer to Section 2(h)(i) *Description of the process followed to reach the proposed preferred site* above, and Section 2(O) *Statement motivating the preferred site* below.

o) Statement motivating the preferred site.

(Provide a statement motivation of the final site layout that is proposed)

Presently, the project proposal entails the prospecting of 15 602.0765 ha area over the properties listed earlier and presented in Figures 1 and 2. Applicants can only apply for prospecting rights within areas where such rights are not yet held by other companies/applicants. Furthermore, the prospecting activities are dependent upon the presence of the desired minerals which are again

dependent upon geological formations. As the intention of the proposed prospecting operations is to determine the presence of economically viable kieselguhr deposits in the Northern Cape, an area known/expected to contain these resources was selected.

It is proposed that prospecting will be conducted using a combination of non-invasive and invasive activities. The invasive prospecting will include drilling and trenching that will entail the collection of large samples ($\pm 50\,000\text{ m}^3$ per phase) that constitutes bulk sampling. The only other alternative would be to prospect the area without bulk sampling. However, the Applicant entered a partnership with an international firm regarding the testing of the kieselguhr samples for metallurgical and production compatibility with their production plants. The company requires bulk samples to facilitate the metallurgical and production compatibility testing. Also, kieselguhr has varying qualities and thus the samples must be distributed to a wide range of prospective clients that requires the collection of large samples.

The Applicant indicated that sensitive areas and areas of conservation importance will be avoided by the proposed activities, and that a 110 m buffer will be maintained around the railway line on Portion 1 of Devon No 277. The preferred drilling, trenching and pitting locations will be determined following the outcome of phases 1 & 2 and the mapping of geological survey data. The EIAR will include a list of areas (identified by specialists) that must be avoided and where no prospecting may be allowed.

The Applicant proposes to use air drills for RAB (rotary air blast) drilling and reverse circulation drilling and diamond drill rigs will be used for core drilling. Geophysical equipment will be needed for ground electro-magnetic, magnetic and gravity surveys. The bulk sampling trenches/pits will be dug by excavator, upon which the loosened material will be moved by FEL to the crushing/milling plant. The material will be crushed, screened, and sized to product stockpiles from where it will be transported off-site by trucks. Although sample collection will require various mechanical equipment to be on site, the process do not require highly specialised technology as secondary processing and metallurgical testing will occur off-site. Therefore no technology alternatives were deemed viable for this project.

The operational aspects of the activity will be based on the non-invasive prospecting results. The project allows some flexibility in terms of when, where, and how the sampling and surveying is conducted.

3. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

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

Refer to Section 2(h)(i) *Description of the process followed to reach the proposed preferred site*, and Section 2(O) *Statement motivating the preferred site* above.

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

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc....etc.)

The aspects to be assessed as part of the environmental impact assessment process that will follow upon approval of the Scoping Report by the DMRE will include, but not be limited to, the following:

1. The need and desirability of the proposed activity will be discussed in detail and weighed against the no-go option of upholding the *status quo* at the study area.
2. The alternatives that were considered in the scoping report will be assessed and the project proposal will be refined.
3. The inputs received during the public participation process (first- and second phase) will be assessed and considered by the project team during the EIA process.
4. The findings, recommendations and management measure proposed in the Freshwater and Terrestrial Desktop Studies, and the Heritage Impact Assessment (inclusive of Palaeontological opinion) will be assessed during the EIA process and incorporated into the DEIAR.
5. The impact of the proposed project on the physical-, biological-, and human environments will be assessed. The nature, probability and significance of the potential impacts associated with the project will be determined using the above mentioned methodology.
6. Mitigation measures will be proposed to control, modify, remedy, or stop the impacts associated with the proposed activity on the surrounding environment.
7. Any additional requirements submitted by the DMRE will be incorporated into the DEIAR and treated accordingly.

c) Description of aspects to be assessed by specialists.

The following specialist studies will be conducted as part of the EIA process:

Freshwater (Wetland and Aquatic) Habitat Desktop Sensitivity:

- ❖ Conducting a verification field trip obtaining insight into the characteristics, extent, and surroundings.

- ❖ GIS desktop mapping of watercourses (wetlands and rivers) within the targeted prospecting rights boundary.
- ❖ Classification of wetlands and rivers/streams at a desktop level using the National Wetland Classification Guidelines (Ollis et al., 2013) and grouping of wetlands and rivers/streams into 'Process Units'.
- ❖ Review of freshwater ecosystem context as well as the ecological and conservation setting in the prospecting rights area, based on available literature, existing databases (e.g., SANBI, NFEPA and other provincial databases).
- ❖ Determine high sensitivity / no-go areas based on the available desktop information.
- ❖ Provision of a desktop freshwater assessment (wetland and aquatic) report accompanied by a delineation and sensitivity map for the project to guide prospecting location planning.
- ❖ Recommendations and adjustments for prospecting site locations.

Terrestrial Vegetation/Habitat Desktop Sensitivity:

- ❖ Conducting a verification field trip obtaining insight into the characteristics, extent, and surroundings.
- ❖ Desktop assessment of the floral and faunal species of conservation concern that may occur within the development footprint based on available species records for the region (e.g., POSA database, SABAP2, Red Data Lists, etc.).
- ❖ Review of any documented and available studies/information for the development site and surrounding areas.
- ❖ Contextualization of the study area in terms of important biophysical characteristics and conservation planning using available spatial datasets and conservation plans Desktop mapping of all 'untransformed' terrestrial vegetation and habitat within the prospecting boundaries.
- ❖ Determine high sensitivity / no-go areas based on the available desktop information.
- ❖ Provision of a Desktop Terrestrial Biodiversity report accompanied by a sensitivity map for the project to guide prospecting sites for prospect planning.

Desktop Heritage Impact Assessment (Including Palaeontological Input):

- ❖ The goal of the study will be the compilation of a desktop based Heritage Impact Assessment Report (HIA) inclusive of a palaeontological opinion.
- ❖ The HIA will describe all archaeological and historical artefacts, structures and settlements thus far documented in the area.
- ❖ Establish the level of sensitivity/importance of the archaeological, palaeontological, and historical remains in the area based on the outcome of the desktop study.
- ❖ Proposed practical mitigation measures for potential impacts.
- ❖ Indicate limitations and assumptions.

- ❖ Propose recommendations on the way forward.

d) Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives

The impact assessment component of the EIA is subdivided into several environmental aspects to be studied as listed below (preliminary list):

- ❖ Topography;
- ❖ Visual Characteristics;
- ❖ Geology and Soils;
- ❖ Hydrology;
- ❖ Air Quality and Noise Ambiance;
- ❖ Biodiversity and Groundcover;
- ❖ Fauna;
- ❖ Cultural and Heritage Environment;
- ❖ Socio-economic Environment / Land Use;
- ❖ Existing Infrastructure; and
- ❖ Alternatives (if applicable) including the No-go Option.

Greenmined will use in-house as well as external specialists to review the environmental aspects which will be assessed as part of the environmental impact assessment process. The environmental aspects briefly described in the Scoping Report will be updated, and site and technology specific impacts and mitigation recommendations will be made and be reviewed by the project team, registered stakeholders and I&AP's, and competent authority (DMRE).

The significance of the impacts will be assessed in terms of the methodology described in *Section 2 j) Methodology Used in Determining and Ranking the Significance*.

e) The proposed method of assessing duration significance.

The significance of the identified impacts will be determined using the approach outlined in *Section 2 j) Methodology Used in Determining and Ranking the Significance*. The environmental significance assessment methodology is based on the Overall Consequence x Overall Likelihood.

Consequence analysis is a mixture of quantitative and qualitative information, and the outcome can be positive or negative. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale.

The determination of likelihood is a combination of Frequency and Probability.

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH or HIGH.

Qualitative description or magnitude of Environmental Significance is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritizations and decision making process associated with this event, aspect, or impact.

Assessing duration significance forms part of the environmental significance determination of the impacts and will be assessed accordingly.

f) The stages at which the competent authority will be consulted.

The environmental authorization- and prospecting right application in terms of the NEMA: EIA Regulations, 2014 (as amended) and the MPRDA, 2002 respectively were submitted to the DMRE on 12 October 2023 and accepted on 13 December 2023. The DMRE granted additional reporting days on the Scoping Report resulting in the final report being due on 29 March 2024.

As competent authority the DMRE was invited to comment on the Draft Scoping Report (DSR). No comments were received on the DSR that could be incorporated into the FSR.

Should the DMRE approve the Final Scoping Report, the draft EIA report, including all investigations, assessments, and the specialist studies, will be circulated for a 30-day commenting period. Any additional requirements received from the DMRE will be added to the Final EIA report to be submitted for approval.

As stipulated in the NEMA EIA Regulations, 2014 (as amended) read with the MPRDA, 2002, the EIA process will comprise of the following:

1. Application for Environmental Authorization and a Prospecting Right uploaded with accompanying documentation to the online SAMRAD system;
2. The DMRE accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders (including the DMRE);
4. Final Scoping Report (FSR) submitted to the DMRE;
5. The DMRE decision on FSR;
6. If the FSR is approved, the Draft EIA report is circulated for perusal by I&AP's and stakeholders (including the DMRE);
7. Final EIA report submitted to DMRE;
8. DMRE decision on Final EIA report;

9. If the FEIAR is approved, the DMRE will request the submission of the Financial Provision amount;
10. Once this financial provision amount was lodged with the DMRE, the Environmental Authorization will be issued;
11. Appeal period;
12. Approval of supporting documentation including, but not limited to, the Prospecting Works Programme; and
13. Execution of the Prospecting Right.

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

i) Steps to be taken to notify interested and affected parties.

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein).

The aspects to be assessed as part of the environmental impact assessment process were added to the Draft Scoping Report that was available to all registered I&AP's and stakeholders for a 30-day commenting period.

All the comments and recommendations received on the Draft Scoping Report were added to this report the Final Scoping Report to be submitted to the DMRE for approval.

ii) Details of the engagement process to be followed.

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings and records of such consultation will be required in the EIA at a later stage).

Public participation during the impact assessment phase of the EIA will entail a review of the findings of the EIA, presented in the Draft Scoping Report and Draft EIA and EMPr Reports. These reports was/will be made available for public comment as described above.

I&AP's were/will be advised of the availability of these reports and how to obtain it. They were/will be encouraged to comment in writing (mail or email). Any issues, comments or suggestions raised during the comment period will be added to the Comments and Response Report (CRR) that accompanies the Final Scoping Report.

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

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land.)

Upon approval of the Final Scoping Report, the Draft EIA report will be compiled. The Draft EIA & EMPr report will be circulated to the registered I&AP's and stakeholders for their perusal over a 30-days period.

The Environmental Impact Assessment Report and Environmental Management Programme Report templates prescribed by the DMRE in terms of the National Environmental Management Act, 1998 in respect of listed activities that have been triggered by this application will be used to assess the information regarding the proposed project.

The research and analysis regarding the project will be processed and interpreted to compile the information required in the abovementioned template to be distributed for public comment.

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

The EIA process for the proposed project is depicted below:

1. Application for Environmental Authorization and Prospecting Right to the DMRE;
2. The DMRE accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders;
4. Final Scoping Report (FSR) submitted to DMRE;
5. DMRE takes a decision on the FSR;
6. Impact Assessment Process:
 - ❖ Project description and site environmental baseline;
 - ❖ Impact assessment;
 - ❖ Mitigation measures and recommendations;
 - ❖ EMPr compilation;
7. Draft EIA report circulated for perusal by registered I&AP's and stakeholders;
8. Final EIA report submitted to DMRE;
9. DMRE takes a decision on the Final EIA report;
10. Submission of Financial Provision amount;
11. Announcement of Environmental Authorization and Appeal Procedure;
12. Opportunity to Appeal;
13. Execution of the Prospecting Right.

i) 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.

Table 22: Table listing the identified impacts, residual risks to be managed and monitored.

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
<p>Whether listed or not listed</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply, dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)</p>	<p>(modify, remedy, control or stop) Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc) E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.</p>	
<ul style="list-style-type: none"> ❖ Site establishment. ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Temporary loss of agricultural land earmarked for site camp establishment. ❖ Temporary loss of some agricultural land earmarked for invasive prospecting. ❖ Potential impact of invasive prospecting occurring simultaneously with mining operations within approved mining areas. 	<p><u>Control:</u> Should the proposed project be approved, the operation will temporarily obstruct some agricultural land, only to be reversed upon the decommissioning phase. The impact could be controlled through progressive rehabilitation.</p> <p>The Applicant will further have to engage the landowners regarding a co-existence agreement of separate entities on the same land.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Site establishment. ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Visual intrusion because of site camp. ❖ Visual intrusion because of invasive prospecting. 	<p><u>Control:</u> Proper housekeeping and implementation of progressive rehabilitation.</p>	<p>MEDIUM</p>
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Cumulative impacts. 	<ul style="list-style-type: none"> ❖ Potential negative impact on the identified CBA and/or ESA areas. ❖ Potential impact on sensitive/protected flora within the footprint area. 	<p><u>Control & Modify:</u> Consideration of specialist findings and recommendations, and demarcation and management of no-go areas.</p>	<p>LOW</p>

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT



ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
	<ul style="list-style-type: none"> ❖ Reduced ability to meet national conservation obligations and targets should CBA/ESA be affected. ❖ Loss and fragmentation of vegetation communities within the CBA/ESA ecosystems. ❖ Potential impact on the declaration of the Kolomela biodiversity offset area. 		
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Potential negative impact on the watercourses/wetlands and FEPA's of the study area. 	<u>Control & Modify:</u> Consideration of specialist findings and recommendations, and demarcation and management of no-go areas.	LOW
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Dust nuisance because of invasive prospecting. 	<u>Control:</u> Dust suppression methods and proper housekeeping.	LOW
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Noise nuisance because of invasive prospecting. 	<u>Control:</u> Noise suppression methods and proper housekeeping.	LOW
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Cumulative impacts. 	<ul style="list-style-type: none"> ❖ Potential impact on fauna within the footprint area. ❖ Fragmentation of ecosystems affecting safe movement of faunal species. 	<u>Control & Stop:</u> Implementing good management practices.	LOW
<ul style="list-style-type: none"> ❖ Operataional phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Infestation of the prospecting areas with invader plant species. ❖ Infestation of the reinstated areas with invader plant species. 	<u>Control:</u> Implementing soil- and invader plant control/management.	LOW

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT



ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Potential soil contamination associated with littering and/or hydrocarbon spillages. ❖ Potential impact associated with littering/hydrocarbon spillages left at the prospected areas. 	<p><u>Control & Remedy:</u> Proper housekeeping and implementation of an emergency response plan and waste management plan.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Potential impact on areas/infrastructure of heritage or cultural concern. 	<p><u>Control & Stop:</u> Implementing good management practices, as well as the chance-find protocol.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. ❖ Decommissioning phase. 	<ul style="list-style-type: none"> ❖ Erosion of denuded areas. ❖ Erosion of roads, vehicle tracks and/or denuded areas. 	<p><u>Control & Remedy:</u> Proper housekeeping and storm water management.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Deterioration of access roads due to prospecting activities. 	<p><u>Control & Remedy:</u> Maintaining the access roads for the duration of the operational phase, as well as leaving it in a representative or better condition than prior to prospecting.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Health and safety risk posed by invasive activities to prospecting employees. 	<p><u>Control & Remedy:</u> Site management and proper housekeeping.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Presence of prospector negatively affecting safety and security of the property. 	<p><u>Control & Remedy:</u> Site management and proper housekeeping.</p>	<p>LOW</p>
<ul style="list-style-type: none"> ❖ Operational phase. 	<ul style="list-style-type: none"> ❖ Increased fire risk during operational phase. 	<p><u>Control & Remedy:</u> Site management and proper housekeeping.</p>	<p>LOW</p>

DIATOMITE / KIESELGUHR / DIATOMACEOUS EARTH PROSPECTING RIGHT
FINAL SCOPING REPORT



ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
❖ Operational phase	❖ Potential impact on the railway line (Devon No 277/1)	<u>Control & Stop:</u> Site management to maintain 110 m buffer no-go area.	LOW
❖ Decommissioning phase.	❖ Safety risk due to uncapped boreholes and/or unrehabilitated bulk sampling pits/trenches.	<u>Control:</u> Implentation of concurrent rehabilitation.	LOW

j) Other Information required by the competent Authority.

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

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3, 2.11.6 and 2.12 herein)

The following preliminary potential impacts were identified that may have an impact on the socio-economic conditions of directly affected persons:

❖ **Visual intrusion associated with the invasive prospecting activities:**

The removal of the vegetation cover to sample the identified sites will impact on the visual character of the study area. The significance of this impact must be fully assessed during the EIA process taking possible layout alternatives into consideration to reduce the impact as much as possible.

❖ **Impact on the air quality and noise ambiance of the study area:**

The operation of prospecting equipment potentially increases the possibility of dust and noise related impacts on the receiving environment. The degree of impact as well as the significance of dust and noise generation must be assessed during the EIA process. By nature, these impacts require constant monitoring to be implemented throughout the operational-, and decommissioning phases of the project.

❖ **Potential impact on safety and security of properties:**

As mentioned earlier the increased concentration of people, because of the proposed project, may negatively affect the safety of the properties. Although this is a highly speculative matter, it is widely accepted that crime follows areas of higher concentration and opportunity. The Applicant must acknowledge the possibility and commit to taking part in local security forums and neighbourhood watches to alleviate the significance of the impact.

❖ **Employment opportunities and socio-economic impact:**

The proposed labour component of the activity will be 15 - 20 employees. The operation will contribute to the local economy in the area, both directly and through the multiplier effect that its continued presence will create. Equipment and supplies will be purchased locally, and wages are spent at local businesses, generating both jobs and income in the area. Although the employees will not reside on site, they will be from the surrounding community.

❖ **Potential impact of invasive prospecting on already approved/operational mining areas:**

According to correspondence received from Malan Scholes Incorporated (MSI), considering the invasive nature of the proposed prospecting operations and possible future mining operations, the anticipated socio-economic benefits outweigh other possible land uses, despite the potential environmental impacts. According to MSI this is particularly so considering KMR's existing rights in respect of the Farm Devon. The significance of this impact must be fully assessed during the EIA process taking possible layout alternatives into consideration to reduce the magnitude of the impact as much as possible.

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3, 2.11.6 and 2.12 herein)

The presence of national estate as referred to in section 3(2) of the NHRA, 1999 will be assessed by the archaeologist and palaeontologist during the EIA process. The Applicant indicated that should such areas of importance be identified the recommendations of the specialists will be heeded with changes being made to the design and or layout of the proposed project footprint.

k) Other matters required in terms of sections 24(4)(a) and (b) of the Act.

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4**)

The alternatives to be considered during the impact assessment process will be done at the hand of information obtained during the site investigation, public participation process, desktop studies as well as the specialist studies conducted of the earmarked area. As discussed earlier the following alternatives may need to be assessed in the EIAR:

c) Design and layout of the activity

The preferred drilling, trenching and pitting locations will be determined following the outcome of phases 1 & 2 and the mapping of geological survey data. The EIAR will include a list of areas (identified by specialists) that must be avoided and where no prospecting may be allowed. This list will be expanded on upon consultation with the stakeholders.

Following receipt of the correspondence that Portion 4 and 5 of Bermolli No 583 forms part of the proposed Kolomela Biodiversity Off-Set Area to be declared a nature reserve once the required

administrative processes have been completed, the Applicant and project team (including specialists) will consider the matter during the EIA phase and contemplate design/layout. This will be assessed and discussed in detail in the DEIAR.

As some of the proposed properties are actively mined/earmarked for mining, additional design/layout alternatives that take the current land uses into account will be considered, discussed, and assessed during the EIA phase.

e) Operational aspects of the activity

The operational aspects of the activity will be based on the non-invasive prospecting results. The project allows some flexibility in terms of when, where, and how the sampling and surveying is conducted. For instance, the site camp location and jeep-track routes will be determined in accordance with the landowner agreement and identified sensitive areas that must be avoided. The project can also consider mitigating impacts such as dust generation, prospecting during agriculturally important seasons etc. The DEIAR will expand on the operational aspects of the project upon receipt of the specialist studies.

f) Option of not implementing the activity (No-go Alternative)

Amongst others, the impact of prospecting on current, and future land uses of the study area will be compared to the *status quo* and will be considered as part of the EIA process and discussed in the DEIAR.

I) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I Christine Fouche herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected parties has been correctly recorded in the report.

A handwritten signature in cursive script, appearing to read 'Fouche'.

**Signature of the EAP
DATE: 27 March 2024**

m) UNDERTAKING REGARDING LEVEL OF AGREEMENT

I Christine Fouche herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorder and reported herein.

A handwritten signature in cursive script, appearing to read 'Fouche'.

**Signature of the EAP
DATE: 27 March 2024**

- END -